

Design
Thinking

Ideation



USER EXPERIENCE



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HANDBOOK

Components



Typography

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FOR GOVERNMENT APPLICATIONS

Design

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About the Handbook

India's rapid digital transformation is reshaping how government services reach its diverse population. With more departments delivering essential services digitally, the people's expectations for simplicity, reliability, and accessibility in government's digital infrastructure continue to rise.

With the wave of digitization and growing public expectations to access everything online, the government recognized the need to digitize existing services and to ensure that all new services and schemes are made available digitally.

However, it is important to understand that today, the challenge is not only to make every service available online but also to ensure that every citizen, regardless of where they live, what language they speak, their background, or their level of digital literacy or ability to access digital services, are empowered to access these services easily and independently.

This handbook aims to help product teams in designing, developing, or improving digital platforms such as websites and mobile applications. It provides actionable principles, best practices, and simple processes that one can integrate into how they build products and collaborate with other providers.

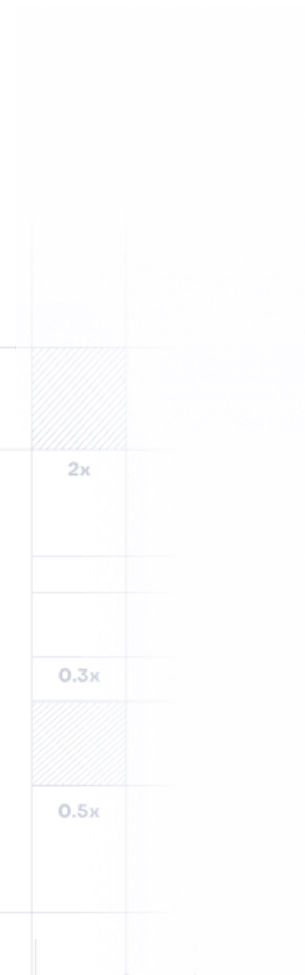
Disclaimer: The points are context-specific and if one feels that a parameter (or more than one) does not apply to their application, it can be skipped. The implementers are strongly advised to interpret the parameters in their context. Please also note these parameters are not a replacement for other guidelines (e.g. DBIM, GIGW, WCAG, etc). Implementers are advised to adhere to them for creating a wholesome experience.

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Executive Summary

The User Experience Design Handbook, an initiative by the Ministry of Electronics and Information Technology (MeitY), implemented by National e-Governance Division (NeGD), provides comprehensive parameters for developing user-centered digital platforms. The handbook ensures a seamless, accessible, and consistent user experience (UX) on both web and mobile applications, enabling product teams to meet the needs of every citizen in an evolving digital landscape.

Anchored in a mobile-first and user-centric design philosophy, the handbook establishes a standardized design system rooted in global best practices, including key principles such as typography, color theory, and layout, with compliance to international standards like WCAG for accessibility.

Key highlights of the handbook are:

1. User Experience (UX) for Government:

- Explains the concept of User Experience (UX) and its core relevance in the context of digital governance for Indian government services.
- Clarifies that UX is the overall experience citizens have when interacting with government websites, applications, and digital services—including discovery, task completion, and seeking support.
- Distinguishes between UX and User Interface (UI):
 - UX covers the complete user journey, emotional response, and service effectiveness.
 - UI is the set of visual and interactive elements (buttons, icons, forms) that a citizen directly interacts with.
 - Highlights that UI is a subset of UX—both are interdependent for effective government services.
- Introduces the five elements of user experience—Strategy (purpose and target users), Scope (features and content), Structure (user journey flow), Skeleton (screen layout and controls), and Surface (visual appearance and branding).
- Uses real-world government service examples (such as certificate application portals) to illustrate how each UX element shapes the user's experience.
- Emphasizes why good UX is essential for Indian government digital services:
 - It removes barriers to access and use.
 - It increases trust and satisfaction among citizens.
 - It supports accessibility for diverse populations and adaptability for policy, social, and technological change.

- Prepares readers for deeper coverage of UX and digital service design principles in the following chapters by building a shared understanding of foundational terms and frameworks.

2. Digital Service Design & Agile Methodology

- There are limitations in the current waterfall approach for designing digital services.
- Introduction to service design: Framing digital platforms as citizen journeys, not just isolated websites or apps.
- The importance of integrating digital and in-person touchpoints across service providers for a seamless experience.
- Using agile methodology, a cyclical, cross-functional, and user-centered model and principle of this methodology (focusing on user needs, iterative delivery, embracing change, and continuous team improvement)

3. Service Design Process:

- The 4 Key, iterative stages of the service design process: Discovery, Design, Build, Live.
- Emphasis on iteration, feedback, and learning through cycles rather than rigid phases.
- Strategies for working across departments and with policy teams.
- Regular, jargon-free communication and results-sharing for building trust.

Discovery Stage:

- Establishing scope, intent, and project context with stakeholders and multidisciplinary teams.
- Methods for understanding user needs: personas, journey mapping, contextual research, and user interviews.
- Research synthesis via affinity mapping, dot voting, “How Might We” questions, journey maps, and 5 Whys analysis.

Design Stage:

- Usability testing, service blueprinting, storyboarding, design critiques, and the use of low- to high-fidelity prototypes.
- Early testing and continuous improvement, involving users constantly in the design cycle.
- Importance of aligning project direction, KPIs, and metrics early.

Build Stage:

- Beta phases (closed/public), continuous and automated testing, accessibility and security checks, and iterative fixing.
- Preparing for live deployment with thorough readiness assessments.

Live Stage:

- Continuous improvement via agile sprints, ongoing user research, performance monitoring, and open user support channels.
- Emphasis on scalability planning, technical debt reduction, incident management, and disaster recovery.
- Sustained attention to accessibility and inclusion, prompt user support, and balancing quality with timely delivery.

4. UX Audit Process for Websites & Mobile Applications

- Provides a structured method to evaluate the user experience.
- Begins with defining the audit scope and identifying key pages or components to review for maximum impact.
- Highlights gathering qualitative user feedback through surveys, interviews, and usability tests to observe real user interactions and challenges.
- Emphasizes quantitative analysis of behavioral data from analytics tools to understand usage patterns and pain points.
- Applies recognized usability heuristics to systematically assess interface design quality including clarity, consistency, error prevention, and accessibility.
- Covers evaluation of navigation, search efficiency, content accuracy, and site performance to ensure smooth user experiences.
- Integrates accessibility standards compliance checks to equitable access for persons with disabilities.
- Stresses documentation of findings with clear, prioritized recommendations to guide action plans for UX improvements.
- Supports teams in improving digital services to be more user-centered, inclusive, and efficient, ultimately enhancing trust and satisfaction.

5. Mobile Application UX Parameters

- Focuses on best practices and unique considerations for designing government mobile applications.
- Emphasizes responsive design, touch-friendly elements, screen optimization, and intuitive navigation tailored for smaller screens.
- Highlights the importance of building and maintaining trust through proper hosting, certification, clear ownership, privacy transparency, and prominent display of national symbols.
- Details key features like user login via verified identity systems, explicit user consent management, and accessible “About Us” and grievance redressal sections.
- Stresses consistent branding, robust data security, and minimizing external links to enhance user confidence and app reliability.
- Guides design of user onboarding and walkthroughs to be clear, concise, interactive, accessible, and localized for diverse user groups.
- Offers recommendations for homepage design to prioritize key tasks, provide gateways to microservices, support search, and offer guided tours for complex content.
- Describes organization and interaction design within internal pages focusing on coherent content structure, easy navigation, readability, error handling, and multimedia accessibility.
- Covers visual layout principles such as maintaining visual hierarchy, responsive design, intuitive gestures, typography, consistency, whitespace, and accessibility across platforms.

6. Website UX Parameters

- Focuses on best practices for designing government websites and web applications optimized for desktops and larger screens.
- Emphasizes building trust and credibility through secure hosting, clear ownership information, privacy transparency, and official government branding.
- Highlights importance of user login security and explicit consent management aligning with legal requirements.
- Advocates for consistent branding and clear communication of organizational information to build user confidence.
- Stresses robust data security measures as fundamental to user trust and compliance.
- Recommends intuitive page layouts with logical navigation, clear visual hierarchy, and accessible interactive elements for seamless usability.

- Supports content strategies that prioritize concise, clear, and multilingual content suited for diverse citizen groups.
- Encourages mobile-first and responsive web design principles to ensure accessibility and performance across device types.
- Suggests continuous testing on different browsers and screen sizes to ensure compatibility and high-quality user experience.

7. Common UX Parameters for Websites and Mobile Applications

- Covers core design principles applicable to both mobile and web platforms, ensuring consistency and quality across devices.
- Emphasizes providing a frictionless user experience by allowing exploration without mandatory login, including guest modes and accessible previews.
- Highlights the importance of a seamless onboarding experience, clear navigation, and content discovery features to support user engagement.
- Details integration with National Single Sign-On (NSSO) like Meri Pehchaan for secure, easy login and signup processes with strong privacy and consent management.
- Describes robust and user-friendly search functionalities with filters, instant feedback, and accessibility support to help users find content quickly.
- Encourages personalization through user preferences, custom dashboards, notification settings, and adaptive user interfaces based on behavioral data.
- Advocates task-oriented design that simplifies workflows, minimizes distractions, and ensures users can efficiently complete key actions.
- Covers best practices for navigation and information architecture, ensuring intuitive, consistent, and accessible user journeys across complex government digital services.
- Includes guidance on lists, filters, sorting, notifications, and content quality to enhance clarity, engagement, and usability.
- Discusses micro and macro interactions, error prevention, onboarding, feedback acknowledgment, error recovery, and empowering users through self-service and education.
- Addresses accessibility in help and feedback, performance monitoring, and integration of multiple government services into unified, scalable platforms.
- Explores offline functionality to ensure continuous service availability and synchronization in low-connectivity scenarios.
- Highlights the role of clear, engaging data visualizations and infographics to enhance transparency and user understanding of government data.

- Recommends continuous optimization strategies for performance, compatibility, and security to maintain a reliable and responsive experience.
- Stresses the importance of analytics to track usage, monitor performance, and inform ongoing improvements, while adhering to privacy and compliance standards.

8. Foundations of User Interface (UI) Design

- Covers essential foundational UI elements including color, typography, iconography, and accessibility to guide the creation of inclusive, clear, and engaging government digital interfaces.
- Highlights the emotional and navigational role of color, encouraging use of multiple visual cues, adequate contrast, contextual appropriateness, and cross-platform consistency.
- Emphasizes typography as key to readability, accessibility, and visual hierarchy with recommendations on font style, sizing, case usage, alignment, and multilingual support using Noto Sans.
- Discusses iconography principles promoting clarity, consistency, context relevance, proper spacing, interactivity, and accessibility features like keyboard navigation and screen-reader compatibility.
- Stresses importance of designing interactions with clear feedback, touch targets, tooltips, and responsiveness to support diverse user needs.
- Advocates adherence to WCAG accessibility standards across all UI elements to ensure usability for persons with disabilities.
- Includes guidance on creating harmonious, scalable, and culturally sensitive UI components that align with government branding and enhance overall user experience.

9. Understanding Design Systems & Introducing UX4G Design System

- Introduces the UX4G Design System as a comprehensive, unified design framework tailored for Indian government digital products and services.
- Highlights how the system ensures consistency, accessibility, and a citizen-centric experience across all government platforms.
- Describes core components: standardized UI components and patterns designed for reusability and coherence; responsive mobile-first design for India's largely mobile user base.
- Emphasizes embedded accessibility tools and compliance with WCAG standards to serve citizens of diverse abilities and access environments.
- Supports localization with Indian language scripts and cultural customizations to promote inclusivity and trust across regions.

- Utilizes design tokens for centralized management of colors, typography, and spacing to maintain visual harmony and ease customization.
- Provides extensive documentation and onboarding resources to facilitate smooth adoption by designers, developers, and project managers.
- Offers continual updates and evolution driven by real government project feedback and policy changes, ensuring ongoing relevance and improvement.
- Facilitates fast rollout, reduces duplication of effort, and lowers costs by providing production-ready components aligned with government standards.
- Aims to strengthen public trust through consistent, accessible, and culturally sensitive digital service experiences that promote adoption and narrow the digital divide.

10. AI in Government Digital Design

- How AI can be used across all stages of creating government digital services, from discovery to live operation, to make processes faster, more accurate, and more citizen-focused.
- Highlights how during the discovery phase, AI helps analyze large amounts of citizen feedback, surveys, and interview data, turning raw information into useful insights quickly.
- Handbook recommends that in the design stage, AI supports ideation through idea generation, visual mind maps, wireframes, and user journey maps, enabling teams to explore multiple options efficiently.
- Emphasizes that in the build stage, AI assists teams, especially designers and collaborators, by automating repetitive tasks, generating mockups, and improving collaboration with developers.
- Explains how during the live operation, AI tools track real-time user behavior, identify usability issues, and support ongoing service improvements through insights and autonomous monitoring.

11. Compliance Matrix

- The handbook presents a comprehensive checklist-style Compliance Matrix that guides teams in ensuring their government apps and websites align with best UX practices and relevant guidelines.
- The matrix helps teams systematically review their products against important usability, accessibility, security, and trust parameters drawn from this handbook and other standards.
- Compliance Matrix serves as a practical tool for self-assessment, helping teams identify gaps and areas for improvement in their digital services.

The UX4G Handbook serves as a vital resource for decision-makers, developers, designers, managers and other stakeholders engaged in building government digital services, outlining a clear, actionable pathway for delivering effective, secure, and inclusive digital services tailored for the diverse needs of the Indian public. By following these guidelines, government agencies can foster trust, accelerate digital adoption, and deliver better service outcomes for the Indian citizens.

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Understanding UX

Foundations of User Experience for
Digital Governance

Understanding the meaning of UX in Government Digital Landscape

Before getting into the details, let's take a step back and first understand what "UX" means. It is a term that gets used frequently these days, but do we truly understand what it stands for?

The following chapters will be easier to grasp once you have a basic understanding of this foundational principle on which the entire idea of designing better government digital platforms is built.

UX (User Experience) Design

The globally accepted definition of **User Experience (UX)** refers to the overall experience a person has when interacting with a digital product. In our context, the digital product refers to any government platform, whether it is a website, a mobile application, or any other digital service. The experience of citizens using these services includes their entire journey from discovering a government service and understanding how to use it, to completing various tasks and seeking help or support, even months after using the service.

Throughout this journey, user experience covers everything from ease of navigation and visual appeal to the emotions and trust that users feel while interacting with a government platform.

In simple terms, **UX** is about making digital interactions easy, efficient, and pleasant. For the government, providing a good user experience is not just an added advantage. It directly supports its mission of serving the public effectively.

UI (User Interface) Design

UI stands for **User Interface**. While UX refers to the overall experience a person has while interacting with government services, User Interface encompasses all the visual and interactive elements that a person sees, hears, or interacts with.

For example, you may recall some of these visual elements from the interface of any website or mobile application: buttons, icons, menus, scrolling interactions, error messages that appear while filling out a form, text fields, and the act of typing inside those fields. All of these are part of the User Interface, and the discipline dedicated to designing them is known as **UI Design** or **User Interface Design**.

There is a great analogy that can help us better understand the whole domain of UX and where UI fits within it. User experience can be imagined and broken down into five levels:

Surface → Skeleton → Structure → Scope → Strategy

Let's look at these from bottom to top. We will use the example of a citizen-facing portal that allows people to apply for a government certificate online.

1. Strategy: Why are we building this? Who is it for?

Imagine that the government wants to make it easier for citizens to apply for a birth certificate online. At this foundational layer, teams define the problems they are trying to solve and identify the target users they are serving. For instance, citizens might currently have to stand in long queues, fill out lengthy forms repeatedly, and struggle to understand which documents to bring or which ones to get copies for. This leads to frustration and loss of trust in government services.

The goal of the government might be to reduce waiting times and improve accessibility for citizens of different languages and abilities. Success is measured by how easily citizens can apply and how few issues they face during the process.

2. Scope: What features and content are needed?

Once the strategy is laid out, teams decide what tools and information the government portal should include. For example, for certificate applications, should the portal allow users to track their status, integrate with document-fetching services, or include a guided tour for new users? Should it support multiple languages? Should it have a dedicated help or chat section? These decisions are based on the strategy defined in the previous layer.

Defining the scope helps the team stay focused, avoid unnecessary additions later, and ensure that essential details are not missed during the process.

3. Structure: How do users move through the service?

With the scope defined, teams arrange the components to create the best possible journey for users. In our example, this includes mapping out the flow: users register, fill out a form, upload documents, make a payment (if applicable), and receive notifications or updates while tracking their application.

If the structure is confusing, for example, if the forms are complex or the application status is hard to find, then the citizens will likely get frustrated and may abandon the process. At this layer, teams ensure that a clear, step-by-step structure is established so that even users who are not very tech-savvy can move forward easily.

4. Skeleton: How do we organize the screens and controls?

The team decides where buttons, fields, menus, messages, and other interface elements will appear on each screen. In our example, the team might decide to place the "Apply Now"

button prominently, divide a long form into easy-to-understand sections, and include help or guidance on every page.

A good skeleton ensures that users never have to guess what to do next. They can see a clear path and easily understand their next steps.

5. Surface: What does the portal look and feel like?

At this final layer, the team focuses on visual design elements such as colors, fonts, icons, and overall style. This is the first thing people see when they access the digital service. In our example, the team might design a clean blue-and-white interface that aligns with the department's branding, use large readable text, and include culturally familiar visuals that build trust and a sense of belonging.

The surface layer, when done well, creates a strong positive first impression. However, it can only succeed if all the layers beneath it are solid. A portal that looks attractive but is confusing or incomplete behind the scenes will not meet citizens' needs.

Note: It is also important to remember that every government digital project faces situations that cannot be anticipated in the beginning. These are factors that lie outside the team's control but still affect the project's success. They may include technical challenges, sudden budget changes, evolving legal or policy requirements, or even social and political developments that arise after planning begins. Recognizing and preparing for these uncertainties helps teams remain agile, find solutions together, and create government services that continue to function reliably even when circumstances change.

This was a foundational chapter intended to introduce you to the basic concepts of this design discipline. We will explore these topics, and many others, in greater depth in the following chapters. Any remaining questions or areas that require more clarity will be addressed as you progress through the rest of this handbook.

Why does UX matter for the Government's Digital Services?

As the government introduces new schemes and policies for the benefit of citizens, most of them are now made available digitally as the primary mode of access. People naturally expect these digital services to be simple, intuitive, and reliable. However, this is not always the case in our country.

The success of every government policy or scheme is ultimately judged by the people who benefit from it. If citizens are unable to access these services online, they are often forced to return to traditional methods. This means physically visiting government offices, relying on assisted service centers, or, in some cases, abandoning the digital option altogether.

When this happens, the government also faces an increased workload. More people begin reaching out through support channels, such as emails or phone calls, to resolve issues they face while using online services. As a result, poorly designed services end up costing more time and resources to maintain and support. These are the same valuable resources that could otherwise be invested in other important initiatives. Similarly, citizens also spend unnecessary time trying to navigate complex interfaces or fix issues that could have been avoided through better design. This inefficiency has a cumulative impact on the **nation's productivity and economy**.

In contrast, citizens use commercial digital services every day for tasks such as ordering food, booking a cab, or purchasing movie tickets. These private-sector platforms compete by offering the best user experiences possible. Government services, however, are different. Citizens usually do not have multiple options to choose from so they must rely on the official government platforms to access essential services. This makes it even more critical for government digital platforms to be designed so that users can complete their journeys easily, whether they are applying for a certificate or availing a scheme.

Many countries known for their strong digital governance, such as the United States, the United Kingdom, Australia, and Canada, consider UX an integral part of their digital service workflows. India, with its far greater population and diversity, needs to prioritize UX even more seriously.

In a country as diverse as ours, where continuous efforts are made to promote inclusivity and accessibility in every domain, the same level of attention must be given to digital services. Every individual, regardless of their background, language, financial condition, or physical ability, should be able to benefit from the government's digital initiatives without barriers.

Just like successful private organizations that achieve their goals through user-centered design, the government too has a clear mission. While its goals may not be monetary, the intention is the same: to **reach as many people as possible** and ensure that **everyone can benefit** from the services and opportunities being created for them.

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Design Process

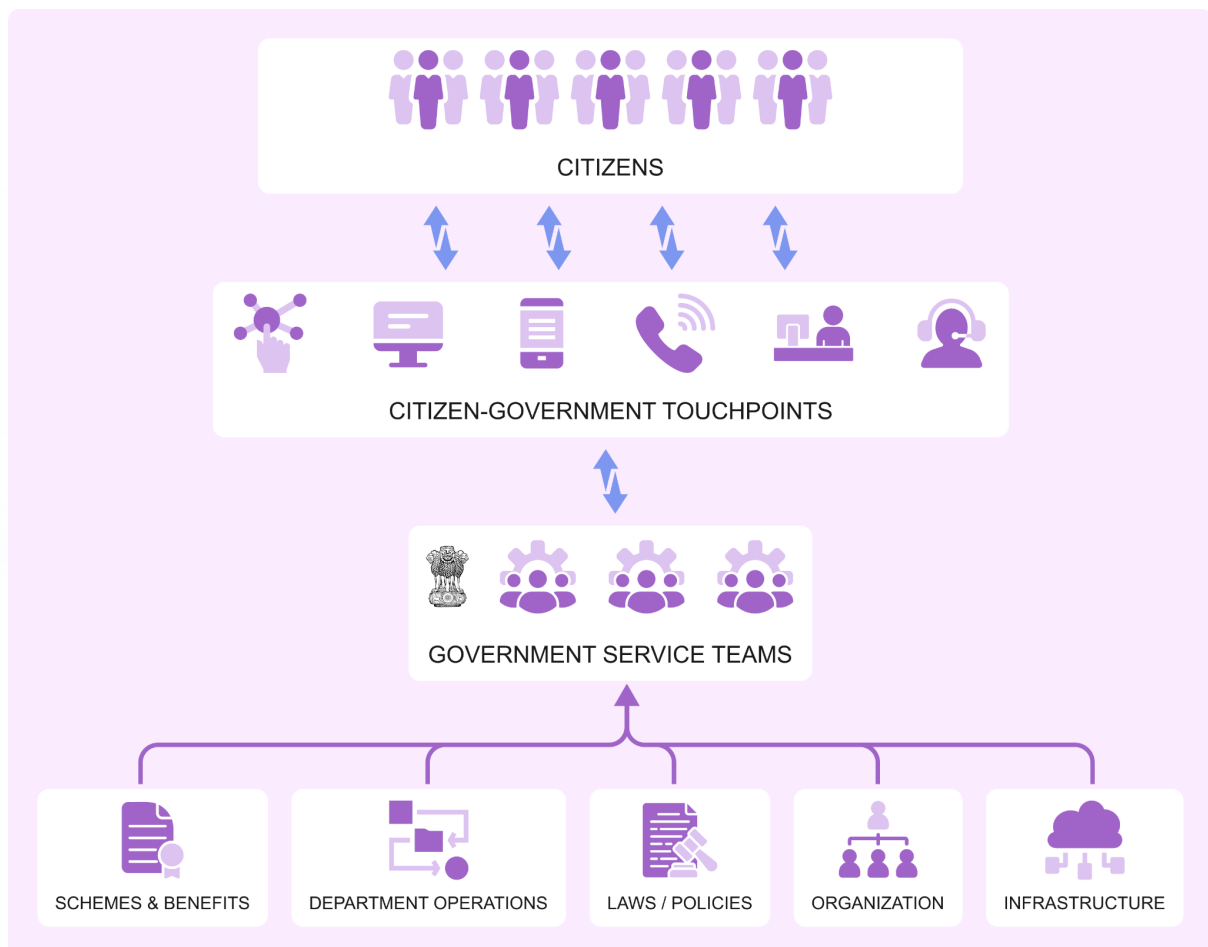
The Design Process for building
Government Digital Services

Designing Government Digital Services Using Service Design - The Process

Understanding Service Design

Most digital offerings provided by the government today are services. A significant portion of government investment and effort goes into delivering these services to citizens in ways that impact their everyday lives. In this environment, the design of each citizen-facing platform is far more than just a question of visuals or features, it is about how easily and confidently citizens can access what they need, and how efficiently the government can meet its own policy goals.

For citizens, a government “service” is simply a means to achieve an important goal. Consider a young adult turning eighteen who wants to start driving. Their goal is not to “use a platform,” but to secure a driving license, so that they can travel, work, or support their family. Achieving this goal involves multiple digital and physical steps: researching vehicle subsidies, finding licensed driving schools, understanding application processes, booking and taking the driving test, receiving their license, and routinely accessing follow-up services such as renewing a license or paying related taxes.



Successful government service delivery is therefore not a single event or interaction. Instead, it is an end-to-end journey, usually composed of activities that span multiple government departments and websites. Unfortunately, people often encounter disconnected experiences, making the journey difficult. They may have to jump between portals, fill out duplicative forms, or hunt for the right information. These are the problems that arise from designing platforms as isolated projects rather than as integrated services centered on the user's real goals and context.

This is why "**service design**" is the guiding approach for Indian digital government today. Rather than narrowly focusing on how a single webpage looks or works, service design means holistically understanding what people need from the government, both digitally and in person. It means mapping the full citizen journey, analyzing which steps already exist and which new ones must be created, and then redesigning or connecting these touchpoints in ways that make sense to the **user**, not just to the departments involved.

Service design involves co-creation: citizens provide vital feedback on pain points and needs, and government teams collaborate across traditional boundaries to solve problems together. The process is not about theoretical models or rigid phases, but about learning from real experiences, identifying barriers, and using evidence to improve systems over time.

In practice, designing good digital government services in India requires three things. First, a deep understanding of user needs and the context of their journey, whether that means digital or physical interactions. Second, a commitment to analyzing and improving the many steps (new and old) that form the foundation of every service. Last, a focus on seamlessly connecting these steps so citizens can achieve results without confusion and with a sense of trust, inclusion, and efficiency.

The following sections of this chapter break down the process of service design, offering a practical approach for improving and connecting government digital platforms. Each phase is grounded in the real journeys Indian citizens undertake every day, ensuring services are not just delivered, but experienced as truly useful and meaningful.

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“Agile” Methodology for Building Government Services

The traditional approach to building digital services in India has long relied on the waterfall method. In this model, teams work through a fixed sequence of steps, where each phase is completed before moving to the next one. The process flows in a single direction, like a waterfall cascading down, and moves from high-level concepts through definition, development, deployment, and finally to launch. While this may sound organized, it results in a workflow that is not flexible or iterative.

In the context of government digital services, this rigidity causes real problems. Resources are often limited, timelines are tight, user needs frequently shift and new inputs from stakeholders regularly come up as projects unfold. The waterfall method leaves little room for mid-course corrections or feedback during the process. As a result, teams may reach the end of development only to discover that the service does not actually meet the needs of citizens, or that important problems were not identified until it is too late.

This is where **Agile** methodology becomes a better fit for government projects. Agile is an approach where teams plan, design, develop, test, and gather feedback continuously, often working on several of these activities at the same time. The process is cyclical and encourages teams to release updates in small, manageable increments. Each cycle provides an opportunity to learn from stakeholders, adapt quickly to new information, and make improvements throughout the project timeline rather than waiting until the end. Agile promotes cross-functional collaboration and values input from the full team as well as end users. Every round of feedback and refinement brings the service closer to what citizens actually need. When using Agile, a team can go live with an improved, user-centered service as soon as they have confidence it meets key needs, while continuing to build in further enhancements and fixes over time.

By moving towards Agile processes, government digital teams can deliver more successful projects, respond faster to citizen and stakeholder feedback, and avoid the stagnation and wasted resources that often accompany the old waterfall way of working. This is how today's most effective digital government services across the globe are being built.

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Principles of Agile

1. Focus on User Needs

In every cycle, put citizens' real needs at the center of your decisions. Begin by understanding user goals, behaviors, and challenges. Gather ongoing user feedback and use real-world data to guide priorities, rather than relying on assumptions or the opinions of stakeholders.

2. Deliver Iteratively and Release Regularly

Build your service in small, functional pieces that can be tested and improved quickly. Avoid long development cycles with only one big launch at the end. Release early and often, using each release to gather feedback, test assumptions, and refine your direction.

3. Keep Improving Your Service

Treat every stage as an opportunity to learn and make the service better. Continuous improvement should be a habit. Regularly ask users for feedback, act on it, and move quickly to improve what matters most to citizens. Regular, small updates help keep the service relevant and responsive.

4. Improve How Your Team Works

Agile is as much about people as process. Support and empower team members to share, reflect, and adapt. Use retrospectives and regular check-ins to identify what helps or hinders progress. Work together to solve problems, break down silos, and improve as a group.

5. Embrace Change and Learn Quickly

Expect that change will happen. Respond to new information and shifting needs by experimenting safely and learning from mistakes at a small scale, rather than risking large failures. Use short feedback loops and data-driven decisions to adapt, refine, and improve your approach.

6. Keep Planning, Stay Flexible

Planning never stops in agile. Review plans regularly as a team, respond to what's working or not, and update direction based on new findings from user data and project outcomes. Stay flexible, balancing a long-term vision with the ability to adjust quickly.

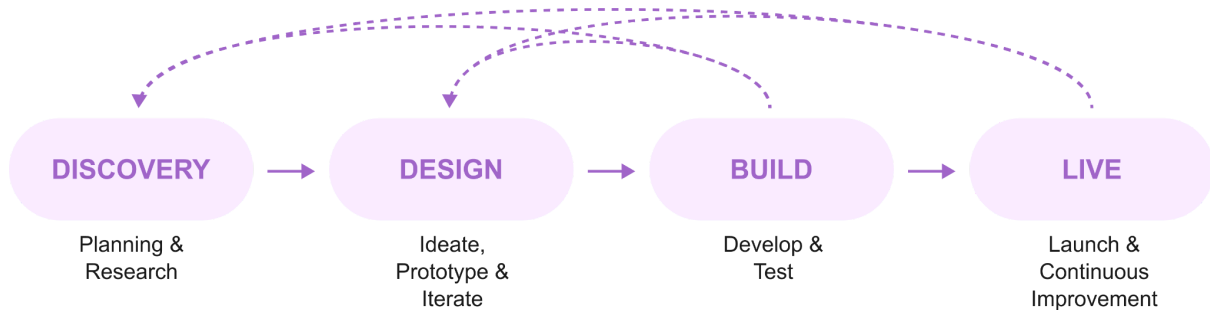
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Service Design Process

Now that we have a solid understanding of service design and Agile methodology, it is important to look at the key stages that structure the Agile process in designing government services for citizens:



These stages are iterative and interconnected. They guide teams through understanding user needs, developing and testing solutions, building robust services, and continuously improving after launch. In the following sections, we will explore each stage in detail, providing practical guidance to help government teams design digital services that truly work for their users.

Communicating The Value of Design Process to Stakeholders

Successfully communicating the benefits of the design process to stakeholders is critical to gaining their support and securing the resources and time necessary for a truly citizen-centric outcome. Government stakeholders are often hesitant to invest in user research, prototyping, and iterative testing because these may seem time-consuming or difficult to justify compared to traditional approaches. It's essential, therefore, to clearly articulate what the design process achieves & why it is indispensable for delivering effective, inclusive, and sustainable services. Follow these:

1. Show it follows best practices

Modern digital government standards emphasize putting people at the center of service design, aligning with global best practices followed by leaders like Australia and the UK. Articulating this alignment helps show that thorough design, research, and collaboration are not “extras,” but expected elements for success of digital services.

2. Explain how it saves time and money

Talking to users early helps you build the right thing the first time. This means less fixing later. It also means fewer support calls and complaints after launch.

3. Use examples and proof

Show them what happens when teams skip user research. Then show examples of

services that worked well because teams did proper design work. Real examples are powerful.

4. Keep it simple

Don't use design jargon. Instead of saying "stakeholder alignment," say "getting everyone on the same page." Use everyday words

5. Show results regularly

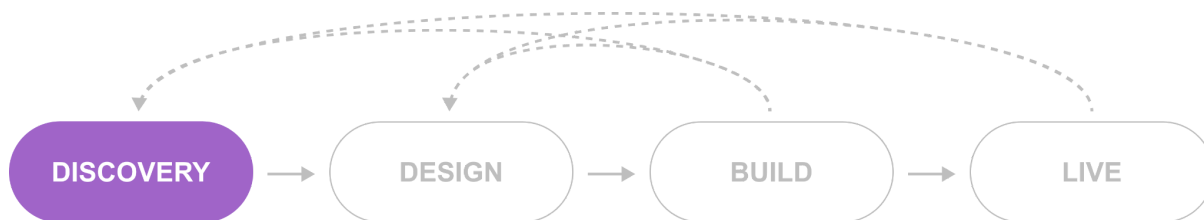
Share what you learn from users. Show prototypes. Let leaders see the progress. This builds trust over time.

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1. Discovery: Planning & Research



Discovery is the critical starting point for any digital government service. Before any design or development work begins, it is essential to understand exactly what problem needs to be solved, whom it affects, and what constraints or opportunities exist in the broader environment. This stage is about learning and planning, not jumping to solutions.

How to Go About “Discovery” Stage

1. Start by clarifying the origin of the project

Is it driven by a new policy, initiative or scheme, a change to an existing service, or improvement requested by leadership?

Meet stakeholders, understand their goals, and address any expectations or assumptions they bring. Ask challenging questions that help reframe the brief and dig for unspoken concerns.

Understanding the Government's Intent

Before your team starts design work, make sure you know what the government wants to achieve. Every project has a reason. Maybe it's solving a problem, helping a group of citizens, or meeting a goal set by the policy leaders.

Ask these questions:

- **What change does the government want to make?**
- **Who are the people that will be affected?**
- **How will we know the project is working?**

Look for a clear statement of purpose. This might be in the PRD (Project Requirement Document), policy papers, guidance notes, official speeches, or even news stories. If it's not easy to find, talk to the people in charge and ask them directly.

Why this matters:

- **Knowing the real goal helps you design better solutions.**
- **It guides your team to focus on what is most important.**
- **It helps avoid misunderstandings and wasted effort.**

Working with policy teams and leaders can help you fill in any gaps and make sure everyone agrees on the intent before you move forward. This gives your project the best chance to succeed.

2. Assemble a multidisciplinary team

This usually includes a product manager, a coordinator to organize cross-department work, service or product designers, researchers, UI designers, content experts, and a subject-matter expert. Make sure that consultation with developers and testers start early in this stage itself, this helps avoid surprises later.

Recommended Team Composition for Service Design Projects

To create better digital services, it's important to have a team with a mix of skills and roles. A good government service design team should include:

- **Product Manager:** Leads the team, sets direction, makes sure work meets government goals.
- **Project Coordinator:** Handles communication between departments and clients, schedules meetings, keeps things running smoothly.
- **Service/Product Designer:** Designs how the service works from end to end, making sure it's easy to use.
- **User Researcher:** Finds out what citizens need and tests ideas with real users.
- **UI Designer:** Works on the look and feel of screens, focusing on clarity and accessibility.
- **Content Writer:** Creates simple, clear language for websites, apps, and forms.
- **Subject Matter Expert:** Brings deep knowledge of the policy area or citizen group being served.

The team should also work closely with:

- **Developers and Testers:** Build the service and check that it works well.
- **Operations or Support Staff:** Help make the service work in real life and fix practical issues.
- **Privacy/Legal Advisors:** Ensure compliance with security and legal rules.
- **Analytics or Data Specialist:** Tracks service performance and helps use data for improvement.

3. Map out all relevant constraints

Are there policy, legal, or technical limitations? How do existing processes, team structure, or legacy systems affect what is possible? List which of these are fixed and which can be challenged or improved. If there are hard barriers, such as a lack of required data, non-negotiable timelines, or missing funding, raise these directly with decision-makers. Forcing the project ahead without resolving them can waste valuable time & resources and create an ineffective solution for the citizens.

Working Across Departments

Many government services need people from different departments to work together. This is because most problems cannot be solved by one office alone. Working as one team helps you:

- Use everyone's knowledge and skills
- Make sure your service works for all citizens, not just one group
- Avoid repeating work or missing important steps

How to work well with other departments?

- Set a clear shared goal so everyone understands what you are trying to achieve
- Involve key people from each department early, especially during planning and testing
- Hold regular meetings or check-ins to share updates and solve problems together
- Make it easy to share information, documents, and ideas quickly (not just through email)
- Respect each department's needs, timelines, and ways of working

4. Understanding users

Understand your users by building personas, mapping user journeys, and conducting interviews, surveys, and desk research. The goal is to see what citizens are trying to accomplish, where they struggle, and what a great outcome looks like to them. Always connect the immediate problem to the broader user journey. For example, requests for a driving license status tracker are just one step in the much larger journey of becoming a driver in India. Identify all the digital and offline touchpoints spanning other departments or ministries to ensure your solution is holistic rather than siloed.

Understanding Citizen Needs

Before building a government service, take time to understand what the people actually need and how they currently use services. Do not guess based just on your assumptions or what others think. Start by gathering and reviewing any data already

available like reports, surveys, feedback, or what project stakeholders know from their experience.

The best way to learn is by talking directly to a mix of citizens: people who will use your service, people of different ages, abilities, and backgrounds, and those who might find digital services difficult. Make your research diverse and inclusive.

User needs can be learned from:

- Data and insights shared by different departments, call centers, or previous projects
- Feedback from stakeholders who know the field
- Direct interviews or group talks with actual users (“user research”)

Keep learning about user needs at every stage, not just at the start. Government projects change, and new needs can appear at any time.

Be sensitive to privacy: Always get consent before you collect information from people, and protect their answers.

Why is research critical?

- If you don’t know what citizens really need, you may design the wrong thing.
- Research helps you write down clear user needs. These guide your team and help make journey maps.
- Including citizen needs early means fewer surprises, less waste, and better results later.

How to do it?

- Talk to real users, not just department staff.
- Include people with disabilities, older users, and anyone who might struggle.
- Try out existing platforms together and watch how people use them.
- Ask open questions like: “What are you trying to do here?”, “What’s hard about this step?”, “Do you use another way to get this done?”
- Don’t just try to please everyone; decide what matters most and set focus.

The better you understand citizen needs, the more likely you are to design a government service that actually works for people

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Personas

Personas are simple stories about imaginary people who might use your service. But they're not just guesses, they're based on what you learn from research, interviews, and real feedback from citizens.

The best way to learn is by talking directly to a mix of citizens: people who will use your service, people of different ages, abilities, and backgrounds, and those who might find digital services difficult. Make your research diverse and inclusive.

A persona shows what a typical user is like:

- Their name, age, background, and where they live
- What they want to achieve when using a government service
- How they usually do things and the tools they use (computer, mobile, etc.)
- Their challenges, attitudes, and what makes things hard or easy for them.

Why do we use personas?

- They help everyone on the team understand who they are designing for
- They remind us to focus on real people, not just technology or rules
- They help spot patterns in the needs, hopes, and barriers users face
- They make it easier to explain design choices to each other, and to leaders
- They stop us from designing just for ourselves or “the average user”

How to create personas?

- Collect information from interviews, surveys, data, and feedback
- Write short, clear profiles that feel realistic: give each persona a name and a simple description
- Include things that affect how the person uses the service, like disability, language, or internet access
- Focus your design on making things better for your key personas

Example personas:

1. Sunita: 48-year-old teacher from rural Rajasthan. She uses her mobile phone to fill out forms online for her family. She prefers Hindi, feels unsure about using official websites, and worries she'll make mistakes she can't fix.

Goal: renew ration card without travel.

Challenge: low confidence with English and complex government terms.

2. Rohit: 32-year-old Mumbai-based IT worker. Checks government portals for business tax payments using a laptop.

Goal: pay on time, quickly.

Challenge: page errors, inconsistent site logins, wishes for faster help options.

As you design, go back to your personas often. Ask: “Would this work for Priya, who doesn’t have a smartphone?” or “How would Raj, who uses the service in Hindi, get through this form?” This keeps the team grounded in real user needs and helps create better, more usable government platforms for everyone.

Contextual Research and User Journey Mapping

To improve public services, you first need to learn how citizens complete their tasks today: where they struggle, and what transactions are involved. One of the best ways to learn this is by observing real people doing these tasks in their own setting, this is called "contextual research." Watch users fill out forms, ask for certificates, or get help at counters. Note what they do, how long it takes, who helps them, and what gets in their way.

Through this, you learn:

- The exact steps users have to take (even ones teams might not expect)
- What tools, documents, and information they use or need
- Their challenges, workarounds, and emotional journey
- Opportunities for simplifying or improving the process

What is a user journey map?

A user journey map is a simple picture (or chart) showing all the steps a person takes when trying to use a service, from the very beginning to the end. It helps teams spot what is working, where people struggle, and what could be made easier.



Journey maps help:

- Spot problems in current services
- Compare what users actually do with what teams think happens
- Design better, more useful services that save time and solve real pain points

How to create a user journey map:

- Pick a real task: Choose something citizens do, like applying for a license or paying a bill.
- Watch citizens do the task: Notice where they start, what information or documents they need, what steps they take, and what problems they face.
- List all the steps: Write down every action the user takes, big or small, in the order they do them. Include offline steps like traveling or queuing. For examples, for “Apply for a birth certificate” - the user’s journey may start with searching for information, gathering documents, visiting a government office, filling out forms, waiting for approval, and finally receiving the certificate.
- Mark the feelings: For each step, note if users feel confused, happy, stuck, or relieved.
- Add touchpoints: Record where each step happens (in person, on a website, via phone, etc.).
- Show pain points: Highlight the places where most people get frustrated or stuck.
- See the opportunities: Spot where things could be smoother or simpler for the user.

Keep your journey maps simple and clear. Update them as you learn more. Use what you see in real life, not just what’s written in manuals.

Usability Testing on Existing Systems

During Discovery, usability testing is used to observe how people currently interact with existing services and identify barriers, pain points, and areas needing improvement. This early testing helps understand real user challenges and gather evidence on what is not working well.

Detailed guidance on usability testing methods and practices will be provided in the next stage, “Design”.

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Mapping Service Blueprint

What is a Service Blueprint?

A service blueprint is like a big picture map that shows everything involved in delivering a service. It shows how citizens use the service **and** all the behind-the-scenes work government teams do. It helps you see:

- The steps citizens take, both online and offline.
- The touchpoints and channels they use, such as websites, mobile apps, service counters, or phone support.
- The backend processes and which government staff are involved.
- The evidence or documents users must provide at each step.

Service blueprints show the whole journey for both citizens and the government, making it much easier to understand where and how to improve the service. Many issues, like delays or errors, are caused by internal process gaps or poor coordination between departments which makes this activity highly essential.

How to Map a Service Blueprint

- List each user step: Write each action the user takes, like filling a form, uploading documents, visiting the office, checking status, or collecting their card.
- Identify evidence at each step: Record what users see or get at each step. This includes confirmation messages, slips, SMS, receipts, or the final certificate.
- Describe employee actions. Note what government staff do visibly with users, like answering questions or verifying documents, plus tasks done behind the scenes such as data entry and approvals.
- Show the support systems and processes. List the software, apps, databases, payment systems, or other technology used at each step by both users and staff.
- Add documents needed: Mention any proofs, receipts, or required documents users must submit or get during the process.
- Highlight problem spots and responsibilities: Draw lines to separate what users see from backstage actions. Mark delays, bottlenecks, and who is responsible for each step.
- Look for bottlenecks. Mark steps where processes get stuck, communications are delayed, or citizens wait the longest.

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Example: Online Ration Card Application

	Register Online	Upload Documents	Visit Office	Track Status	Receive Card
EVIDENCE What user sees/ gets	Confirmation Email/ SMS	Screenshot	Token Slip	SMS/Email	Ration Card
ACTIONS What user does	Fill Form	Scan / Upload	Submit Original Docs	Checks Portal	Collects/Receives
LINE OF INTERACTION					
FRONSTAGE What staff does in front	Helpdesk Validates	Staff Reviews Docs	Issue Acknowledgment	Update Status	Issue Card
LINE OF VISIBILITY					
BACKSTAGE What staff does in the back	Data Entry	Check Database	Verify Background	Approve/Reject	Print/Dispatch
LINE OF INTERNAL INTERACTION					
SUPPORT Which tools/ systems support	Database	Notification System	Queue System	Approval System	Printing/Mailing Department

Why do this?

- Fix the real cause of problems, not just the visible issues. Blueprinting helps you find weak points within the system, making it easier to solve the right problem.
- Spot areas where teams can work better together, reduce waste, and use technology more smartly. Improvements often help more than one project.
- Build a shared understanding across teams. A service blueprint gives everyone a clear, common view that makes discussion and planning easier.

Tip: Bring people from different teams together when you make the blueprint. Get help from customer care, IT, administration, policy, and support teams. Their input fills in the gaps and helps answer tricky questions.

5. Analyzing Research Insights

As research findings emerge, use a research board to document themes and patterns. This helps define which user needs and problems are most critical and establishes the real priorities for the project. At the end of Discovery, write a clear, well-defined problem statement and scope. Make sure it prioritizes what users need, not just what the government wants to offer. Align and secure sign-off from all stakeholders on scope and success criteria upfront to prevent time-consuming changes later.

Analyzing Research Findings

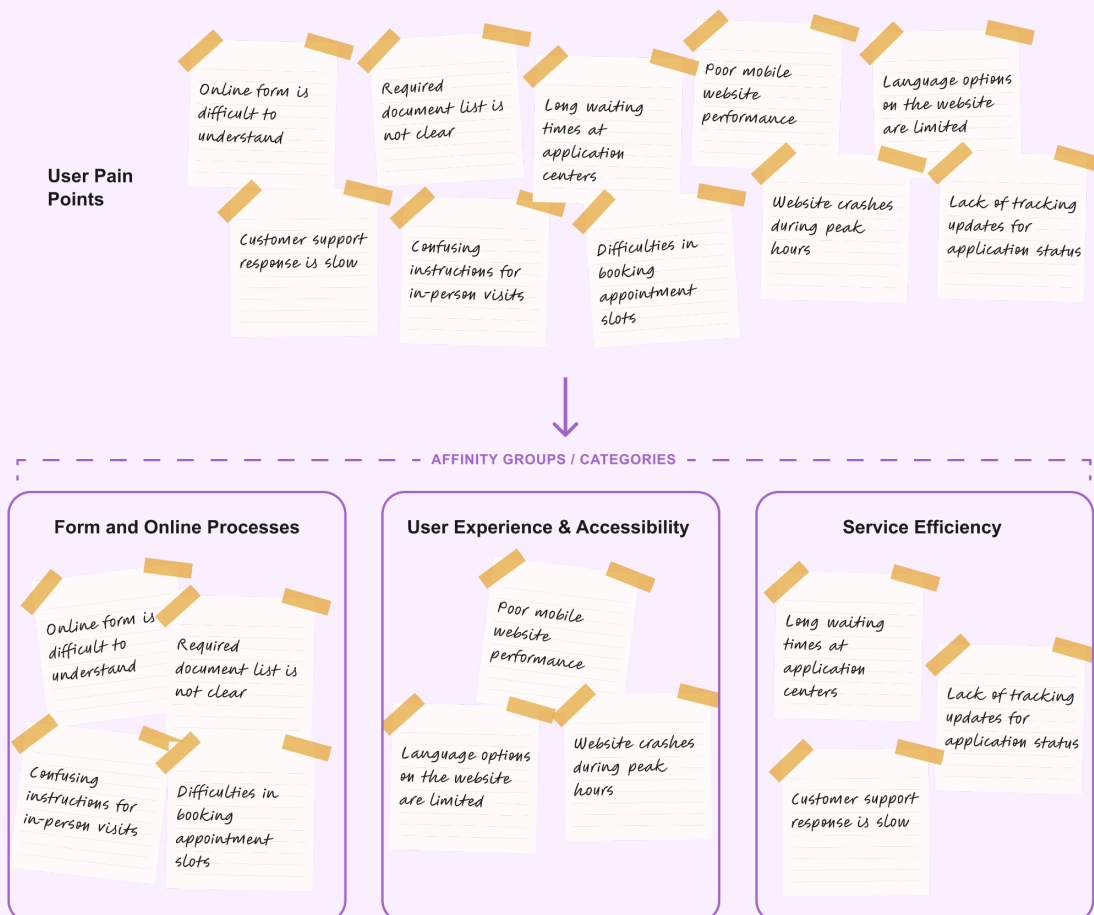
After gathering research, the most important job is to make sense of it as a team. Start by placing all notes, pain points, needs, and observations on a wall or digital board for everyone to see. Look for recurring issues and repeated themes. Some pain points may be faced by only a few users and are still important, but focus first on “big problems” that block or frustrate many people. These are usually where you can make the most difference by improving the service.

Affinity Mapping

Write down every user need, pain point, and interesting finding on sticky notes or digital cards, one idea per note. Place all the notes on a large wall or virtual board, so everyone can see them.

Next, work as a group to move and cluster similar notes together. Each group should represent a common theme or problem you notice in your findings. This process helps you see patterns and understand which issues are coming up most often, even if you talked to different types of users.

Example: Affinity Mapping of Passport Application Service Pain Points



Once your clusters are set, look for:

- Problems or needs that affect many people (these are your big priorities)
- Unique issues that only a few people face (these can still matter, especially for inclusion)
- Themes that touch on policy, government value, or technical limits

To decide what to fix first, you can use a simple ranking matrix. For each problem, discuss as a team:

- How much does solving it help users and the government?
- Is it required by policy or law?
- How hard is it to change with today's tools and systems?
- Does it help more people use the service (for example, older citizens or people with disabilities)?
- Is there data showing how often it happens, or the impact it causes?

Also check if a problem is caused by something specific to one department or if it points to a bigger, system-wide issue. Being clear about this helps you focus your efforts in the right place.

When you analyze together, you create a shared understanding of the real challenges and opportunities, which helps the team and stakeholders agree on which problems to tackle first.

Importance of Defining Scope and Problem Statement

Defining the scope and problem clearly is one of the most important steps when designing a government service. It means agreeing exactly what will be included in the project and what will not. When everyone, especially stakeholders, understands and signs off on this early, it helps prevent changes that cause delays or costs later.

Without a clear scope, there is a big risk of **scope creep**, where new features or ideas get added without enough validation. This can make the project bigger, more complex, and harder to manage. It also wastes time and resources on things that may not be useful.

Clear scope and problem definition make it easier to:

- Keep everyone on the same page and aligned on goals
- Manage change requests in an organized way
- Focus on solving the right problems, avoiding distractions
- Deliver the most valuable and necessary features first
- Save time, money, and effort by preventing unnecessary work

Getting all stakeholders to agree on the problem and scope early acts like a contract that guides the project. It helps teams work confidently and reduces the chance of surprises during development.

Working with Stakeholders

Stakeholders are people who have a say or an interest in your project. They may include managers, subject matter experts, other government departments, and partners outside your team. Treating stakeholders like users by listening to their ideas and concerns is key to successfully designing government services.

- **Start together, stay aligned**

Begin every project by bringing the team and stakeholders together to talk openly about the problem, who you are solving it for, and what success will look like. This helps everyone agree on the main purpose and keeps hidden assumptions from creating issues later.

- **Stay in touch regularly**

Don't just update stakeholders at the end. Hold regular check-ins to share findings, discuss options, and make joint decisions. This helps people feel heard, builds trust, and keeps the team focused. When new challenges or questions come up, you can address them early instead of letting them grow.

- **Focus on big decisions**

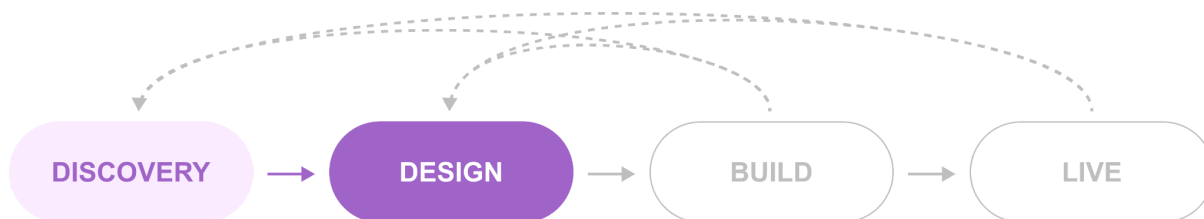
When stakeholders understand and agree on the basic design and user needs, small details become easier to solve. Aim for high-value discussions that keep the project moving, and use design systems or shared patterns to avoid wasting time debating minor issues.

Good relationships with stakeholders make your work faster and smoother. They help you act quickly if you need support and avoid last-minute disagreements.

Best Practices for “Discovery” Stage

- Treat Discovery as a learning phase, not a stage for validating a pre-set solution.
- Seek feedback from real users, not only from reports or people from the department.
- Be flexible as the research unfolds, but align and confirm the scope before moving forward.
- Focus on understanding the problem rather than assuming the solution in early stages.
- Consider the broader user journeys, as many government service needs cross multiple agencies.
- Raise critical unresolved constraints early instead of pushing ahead blindly.

2. Design: Ideate, Prototype & Iterate



The Design stage is about generating ideas, building prototypes, and testing different approaches to find out what works best for citizens. The goal is to produce a Minimum Viable Product (MVP): a basic but functional version of the service that acts as evidence for further development. This MVP is not the final product, but rather a foundation to learn from and improve upon.

How to Go About “Design” Stage

1. Encouraging Creativity and Exploration

This phase encourages creative thinking and innovation. It is a time for divergence, where teams explore a broad range of possible solutions, including those that challenge existing assumptions or seem unconventional. Skeptical or “out-of-the-box” ideas are valuable at this stage because they can reveal new paths forward.

How Might We (HMW) Statements

“How Might We” (HMW) questions are a creative tool to turn problems and insights into opportunities for design solutions. HMW helps teams reframe challenges as open-ended questions, which invites many possible answers.

- **What are HMWs?**

They are simple, positive questions starting with “How might we...” that focus on possibilities instead of problems. For example, instead of saying “Users get confused by the form,” you ask, “How might we make the form easier to understand?”

- **How to create them?**

Gather your team, review key insights, then rewrite problems as HMW questions. Use sticky notes or digital boards to collect everyone’s questions. Group similar questions and pick the most useful to guide ideation.

Tip: Keep questions broad enough to allow many solutions. Avoid suggesting an answer in the question. Phrase questions positively to spark creative thinking.

Example HMWs for: Long Delays in Public Grievance Redressal



The 5 Whys: Finding the Root Cause

The 5 Whys is a simple but powerful tool to get to the bottom of a problem by asking “Why?” repeatedly (usually five times) to explore cause and effect. This helps your team uncover the true root cause of an issue instead of just fixing surface symptoms.

- **How to use it**

Begin with a clear problem statement. Ask “Why?” and write down the answer. Then ask “Why?” about that answer. Repeat this process up to five times until you find a root that no longer leads to another why. This root is usually where your design should focus.

- **For example, “Users find it hard to navigate the app.”**

Why? Because they have trouble finding the search function.

Why? Because the search is hidden inside a menu.

Why? Because the main screen contains many elements, and essential features are not given clear priority.

Why? Because visual hierarchy and navigation guidance are unclear.

Why? Because the information architecture was not well designed or tested.

Solution: Improve the information architecture by prioritizing key features like the search bar with clear visual hierarchy and usability testing.

This approach helps your team focus design fixes on root causes that create real improvements in user experience. Use the 5 Whys along with How Might We statements to frame the right challenge before ideation and prototyping.

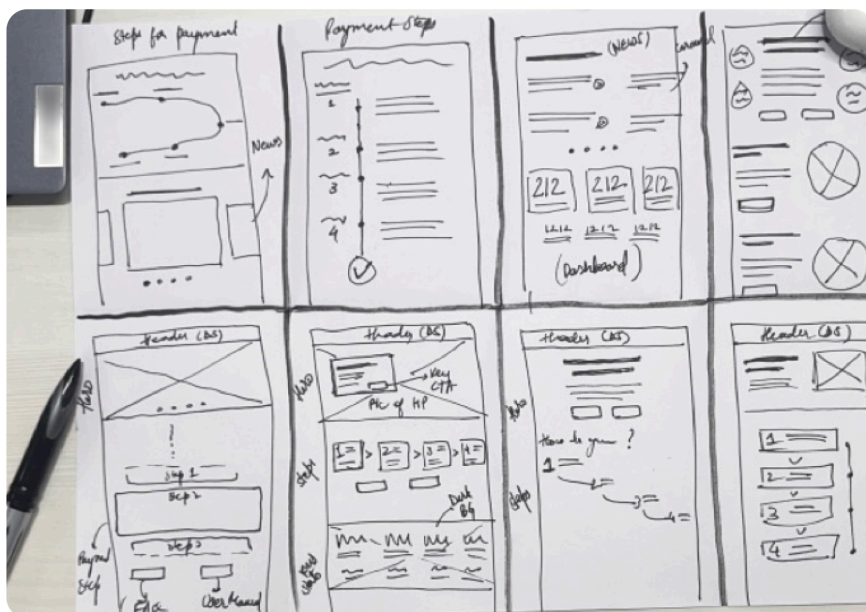
Crazy 8s for Rapid Idea Generation

Crazy 8s is a quick and energizing sketching exercise where each participant sketches eight different ideas, spending no more than one minute per sketch. The goal is to push everyone to think beyond their first idea and spark creativity.

How to run Crazy 8s:

1. Give each participant a sheet of paper and a pen.
2. Fold the paper into eight sections or use a digital board with similar sections.
3. Set a timer for eight minutes total (one minute per idea).
4. Start the timer and have participants sketch one idea in each section quickly and quietly. Encourage them to get ideas out without judging or perfecting.
5. When time is up, have everyone share their top ideas with the group.
6. Use dot voting to select the most promising ideas.
7. Consider doing another round to build on or refine ideas, if time allows.
8. Move the best ideas forward for prototyping and testing.

Crazy 8s Example



Everyone participates: You don't have to be an artist to take part. The focus is on getting ideas out, not making perfect drawings. Simple sketches and rough notes work fine.

8 Ideas in 8 Minutes: The time limit helps overcome overthinking and perfectionism. Sketching ideas forces abstract thoughts into something visual, making sharing and discussion easier.

By including everyone and focusing on quantity of ideas, Crazy 8s uncovers different perspectives and sparks innovation in government service design.

2. Considering the Entire User Journey

A key consideration during design is to always maintain awareness of the entire user journey, especially when the part you are working on is just one segment of a larger government service. For example, a digital flow for booking a driving test must connect and make sense alongside other platforms for applying for licenses, paying online challans, or renewing any license or permit. Mapping these touchpoints roughly ensures that both users and stakeholders understand the context when reviewing a prototype.

Storyboarding

Storyboarding is a way to visualize how users interact with a service step-by-step, like a comic strip showing scenes in a story. It helps teams understand the context of user actions, feelings, and challenges over time. For government projects, storyboards help reveal hidden problems and show how services fit into people's real lives.

By using storyboards, teams can communicate ideas clearly without relying on long reports or abstract descriptions. This saves time and effort in later stages, reducing misunderstandings and costly rework.

Why spend time making storyboards?

Storyboards are not just about drawing comics. They are a powerful way to visually tell the user's story step-by-step, making complex journeys easy to understand at a glance.

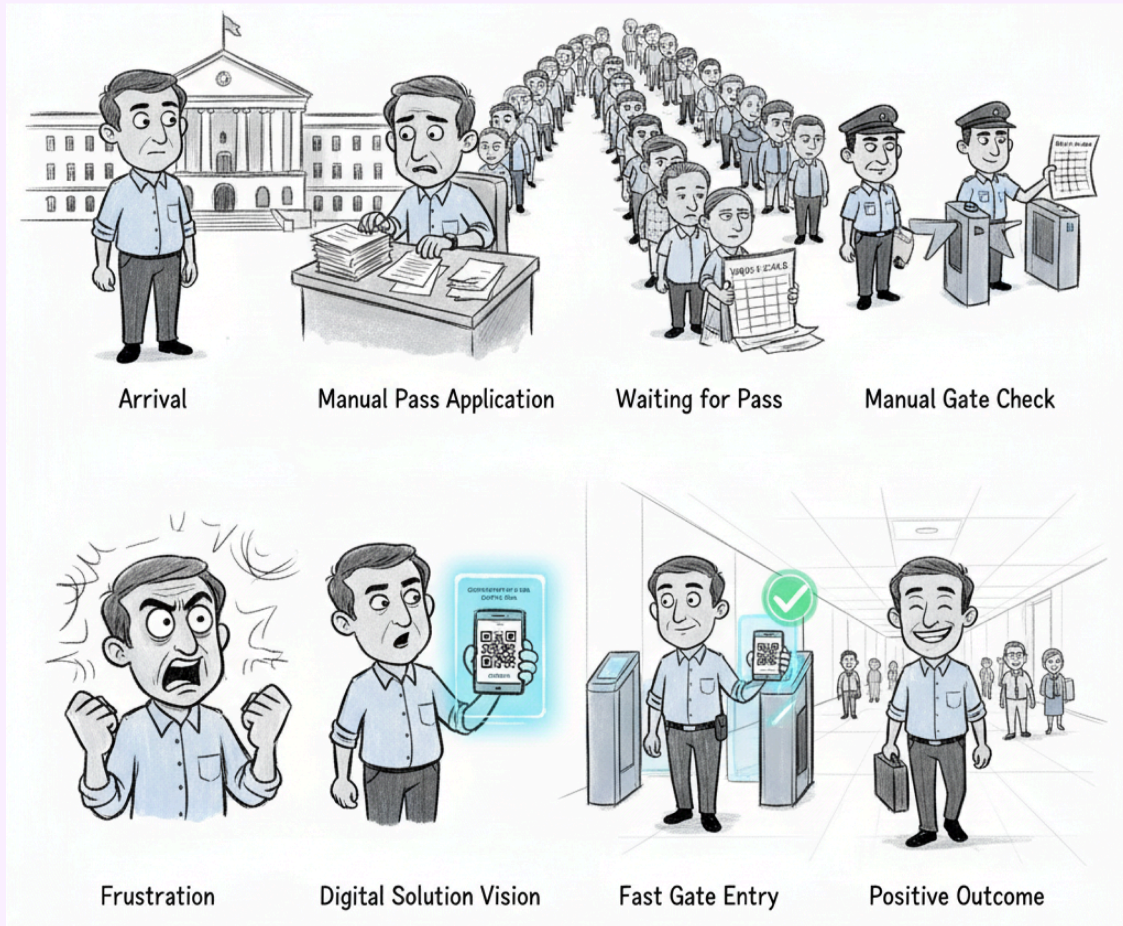
How to create storyboards?

1. Identify key moments or scenes in the user's journey.
2. For each moment, sketch or describe what the user is doing, thinking, and feeling.
3. Include any important touchpoints with the service or staff.

Using AI-powered tools

It's not necessary to draw, AI powered tools can be leveraged to transform descriptions or rough ideas into visual storyboards quickly, helping anyone express their thoughts without needing artistic skills.

Example of a storyboard visualized using an easily available AI tool



Impact Mapping

Impact Mapping is a strategic planning tool that helps teams connect their work to desired outcomes. It shows how features, activities, or projects contribute to what matters most, both for citizens and for government goals.

How to create an Impact Map:

1. Start with the main goal or objective for the service (e.g., "Improve user satisfaction for online applications").
2. Identify actors who can help reach this goal, like citizens, staff, partner agencies.
3. List desired impacts or behaviors you want from these actors (e.g., "Users complete forms without errors").
4. Brainstorm features or initiatives that can support each impact (e.g., "Clearer instructions on forms", "Live chat help").

Impact Mapping Example

GOAL What user sees/gets	ACTORS Who can influence this goal?	IMPACTS Desired behaviors or changes	DELIVERABLES Features or actions to achieve impacts
Simplify and speed up the housing subsidy application process to increase successful applications.	Applicants (citizens) Customer support staff Technical team maintaining the platform Partner agencies verifying eligibility	Applicants submit complete and accurate forms. Applicants track their application status easily. Support staff respond quickly to inquiries. Verification processes are timely and efficient.	Clear and user-friendly online application form. Real-time application status dashboard for users. Integrated help chat or FAQ for users. Automated verification data exchange with partner agencies.

Benefits for government services

Impact Mapping helps avoid building features just because they are possible or interesting. It keeps teams focused on activities that create measurable value for citizens and government. It also provides a shared vision to align diverse teams and stakeholders.

3. Aligning Design with Government Objectives

While user needs remain the priority, government objectives must also be integrated into the design vision. It is important that Business Analysts collaborate closely with design teams to ensure that the proposed solutions align with organizational goals and policies.

Definition of KPIs & Success Metrics

Key Performance Indicators (KPIs) and Success Metrics are measurable signs that your service is delivering value and meeting its objectives. Defining them clearly helps teams know what success looks like and guides ongoing improvements.

What are KPIs?

KPIs are specific numbers or scores that show how well a service is performing. Examples include the percentage of users completing an application, average time to complete a task, or user satisfaction ratings.

Why define KPIs early?

Setting KPIs at the start focuses the team on outcomes rather than just features, ensuring the service solves real problems and delivers intended benefits to the citizens and the government. Clear KPIs and success metrics also enable teams to demonstrate value to stakeholders and ensure government digital services keep improving.

How to choose KPIs:

1. Align KPIs with the main goals of the government service.
2. Pick metrics that are measurable and meaningful for users and government teams.
3. Include a mix of quantitative data (e.g., completion rates, speed) and qualitative insights (e.g., satisfaction surveys).
4. Consider accessibility and inclusivity in metrics to ensure equitable service.

Examples of KPIs for government digital services:

- Task completion rate (how many users finish a form or process)
- User satisfaction score (from surveys or feedback)
- Digital take-up (percentage of users choosing online channels)
- Average page load time or service response time
- Compliance score on accessibility & UX best practices (Find on ux4g.gov.in)
- Number of support requests or calls related to the service

Regularly monitor these metrics to spot issues early. Review and evolve KPIs as the service grows and user needs change, fostering a cycle of data-driven improvements.

4. Exploring Collaboration Opportunities

At times, the Design stage brings an opportunity to explore collaborations with other departments or private sector partners. These potential partnerships should be tested during this phase to evaluate their viability and added value.

Using Impact Mapping to Explore Collaboration Opportunities

As explained earlier, Impact Mapping helps teams connect their work to clear goals and outcomes. One powerful use of Impact Mapping is to visualize how different stakeholders and partner organizations contribute to achieving these outcomes together.

In government service design, collaboration often involves multiple departments, agencies, or private sector partners. Impact Mapping allows you to:

- Identify each collaborator's role and influence on the shared goal
- Understand how their actions drive or support desired user behaviors
- Spot potential gaps or overlaps in responsibilities early

- Build a shared roadmap that aligns all parties around common priorities and metrics

By co-creating and regularly updating the Impact Map with all collaborators, you improve communication, reduce silos, and increase the chances of delivering seamless, user-centered services.

5. Early User Testing and Feedback

User testing begins early in this stage. Gathering feedback from actual users and decision-makers helps identify strengths, weaknesses, and unexpected issues quickly. Sharing the vision behind the design alongside the prototypes improves comprehension and fosters broader buy-in.

Usability Testing

Usability testing involves watching real users interact with your prototype or service to see where they succeed or struggle. It provides direct, actionable insights that help teams refine their designs to be more user-friendly and effective.

Why it matters

Usability testing uncovers issues that might not be obvious through surveys or interviews. It shows exactly how users navigate your service, where they encounter problems, and what improvements are needed.

Types of usability testing:

- **Moderated testing**
A facilitator observes users performing tasks, asking them to 'think aloud', sharing their thoughts, frustrations, and successes in real time. This provides rich insights into user thinking and behavior.
- **Unmoderated testing**
Users complete tasks independently using digital tools, suitable for quick, large-scale feedback but with less opportunity to probe deeper.

Steps to conduct usability testing

1. **Define what to test:** Decide if you are testing an existing service, an early prototype, or a comparison between two options.
2. **Plan the participant flow and focus points:** Define the specific flow or user journey the participant will take during the test. Identify key points along this flow where you want to observe behavior or ask questions to uncover deeper insights.
3. **Recruit representative users:** Recruit diverse, representative users who reflect your target audience's age, abilities, experiences, and languages.

4. **Design realistic tasks:** Create scenarios that reflect real-life situations and user goals, such as “Apply for a subsidy online” or “Book an appointment.”
5. **Plan the session logistics:** Agree on location, duration (typically 30-60 minutes), and recordings if needed. Ensure accessibility for participants and observers.
6. **Conduct the test:** Observe users completing tasks, asking them to ‘think aloud’ to understand their thought process, frustrations, and confusion.
7. **Analyze and act:** Review recordings and notes to identify issues, then prioritize and implement improvements.

Benefits of Usability Testing

Regular usability testing helps catch major issues early, improves user satisfaction, and reduces costly redesigns later. By systematically observing users in realistic settings, government teams can make evidence-based improvements that lead to more accessible and effective public services.

Dot Voting to Prioritize Ideas and Feedback

Dot Voting is a simple and effective group technique to quickly prioritize ideas, features, or feedback. It allows everyone in the team or group to have an equal voice in deciding what matters most.

Participants receive a number of dot stickers or digital dots to place next to their favorite or most important options from a list. The options with the most dots rank highest in priority.

How to run Dot Voting:

1. Prepare a list of all ideas or feedback items on a visible board or sheet.
2. Give each participant a set number of dots (for example, 3 for every 10 options).
3. Ask participants to place dots on the options they think should be prioritized—they can place all dots on one item or spread them out.
4. Count the dots for each item to see which ones have the most support.
5. Discuss the results as a group to understand priorities and decide next steps.

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Example of Dot Voting



Dot Voting is inclusive, fast, and transparent. It helps government teams quickly narrow down complex choices and build consensus, saving valuable time and focusing efforts on high-impact improvements.

Design Critique Sessions

Design Critique Sessions are focused discussions where the team reviews and provides feedback on design work. Their goal is to improve the design by sharing diverse perspectives and constructive suggestions, ensuring it meets user needs and project goals.

How to run a design critique:

1. Share what the critique will cover, the scope of feedback, session length, and roles (facilitator, presenter, note-taker).
2. The designer or presenter explains the problem being solved, user needs, business goals, and the current stage of the design.
3. The presenter walks through the design, highlighting key areas and decisions.
4. Participants share observations, questions, likes, challenges, and improvement ideas, ideally using structured methods like feedback matrices or post-its.
5. Group similar feedback and discuss action steps. Identify critical fixes and potential enhancements.
6. Conclude with a clear summary of feedback and next steps to refine the design.

Tips for effective critiques:

- Encourage open, respectful dialogue.
- Focus feedback on design goals and user outcomes, not personal preferences.
- Facilitate equal participation to avoid dominance by any individual.
- Prepare and share design work in advance for thoughtful review.

Design critiques are a vital part of continuous improvement. They help catch problems early, surface new ideas, and create shared understanding among designers, developers, and stakeholders. Critiques promote collaboration, reduce silos, and improve the overall quality of the design.

6. Progressing from Low to High Fidelity

Regarding prototype fidelity, it is advisable to start with low-fidelity designs. These simple, often black-and-white wireframes or sketches focus on flow and function rather than colors or styles. Low-fidelity prototypes help keep discussions grounded in core issues instead of superficial aesthetics. Once concepts have been sufficiently explored and iterated, higher-fidelity prototypes, including color and brand style, can be introduced.

Annotated Prototypes: Communicating Design Decisions Clearly

While presenting or sending design prototypes, they should be enhanced with notes and explanations that describe design decisions, user interactions, and expected functionality. This helps everyone involved, from designers and developers to stakeholder, understand how and why the design works the way it does.

Why use annotated prototypes?

Annotating prototypes remove ambiguity about design intent and functionality. Without annotations, team members may misinterpret interactions or features, leading to errors, rework, and delays. Annotations provide a shared language that aligns understanding, reducing the need for repeated clarifications

What to include in annotations:

- The purpose of components or sections (e.g., why a button is placed in a specific area).
- How interactive elements behave (e.g., hover states, error messages).
- Accessibility considerations and navigation aids.
- Any assumptions or constraints influencing design decisions.

Tips for effective annotations:

1. Keep notes short and to the point for easy scanning.
2. Focus on how the design benefits users and meets requirements.

3. Use numbered markers linked to annotation text, placed consistently (like in a column to the right of the prototype).
4. Consider separating annotations into a toggle-able layer in design tools to keep prototypes clean when needed.

Annotating is a small extra step with big returns, enabling your team to communicate design intent clearly and avoid costly misunderstandings.

7. Creating and Validating the MVP

The Design stage concludes when the team feels confident that major feedback and insights have been incorporated, resulting in a prototype MVP that is ready to be transitioned into detailed development. This MVP should have the sign-off of key stakeholders, including users, designers, analysts, and other teams.

Usability Testing & Critique Sessions

To ensure your prototype MVP is truly ready for development, it is essential to validate it thoroughly. This includes conducting usability testing to observe real users interact with the prototype and gather actionable feedback, and holding design critique sessions within the team to review, discuss, and refine design decisions collaboratively. Both these practices help integrate diverse insights, uncover issues early, and create shared understanding among stakeholders.

For detailed guidance on usability testing and design critique sessions, please refer to the dedicated snippets provided earlier.

8. Defining Technical and Resource Requirements

Before moving to the “Build” phase, the team should define a rough technical scope and identify resources required to develop the service fully. Sometimes, projects may pause or end here, for example, if an existing government service already covers most user needs, or if costs outweigh benefits. In such cases, teams should consider improving the existing solution rather than building anew.

Best Practices for “Design” Stage

- Embrace a broad and creative exploration of ideas, testing multiple concepts and assumptions to discover the most effective solution, rather than validating a single pre-chosen path.
- Ground your design in comprehensive user research, involving diverse users including those facing barriers, and plan for continuous research in subsequent stages.
- Focus on the entire user journey, ensuring your designs fit smoothly within the broader government service ecosystem and related touchpoints.
- Collaborate closely with business analysts and policy experts to align design solutions with government objectives and constraints.

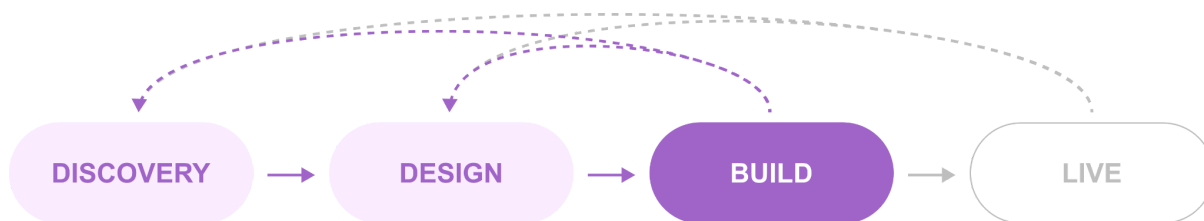
- Use low-fidelity prototypes initially to test flows and functionalities, postponing high-fidelity visual details until core experience challenges are addressed.
- Check if working with other departments or partners can make your service better and test these ideas during this stage.
- Check if working with other departments or partners can make your service better and test these ideas during this stage.
- Set clear goals for success and be ready to stop or change the project if something better already exists or the cost is too high.

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3. Build: Develop & Test



In the Build stage, the service is developed end-to-end based on the MVP designed in the previous stage. This phase involves expanding the team to include experts such as developers, data analysts, cyber security specialists, accessibility professionals, and testers to ensure a well-rounded and robust service.

How to Go About “Build” Stage

1. Start with Beta Testing

The goal remains to test thoroughly before launch. Testing can begin with a closed beta, where a limited group of users provide feedback and identify issues. Alternatively, a public beta may be launched, clearly marked as such to communicate that the service is still being refined and some issues may exist.

Usability Testing in Beta

During the beta testing phase, usability testing plays a crucial role in gathering real user insights on the prototype or live service. This helps identify gaps, pain points, and areas for improvement before full launch.

All core information on what usability testing is, its methods, and benefits have been provided earlier in the handbook.

Beta Test Planning: Closed vs Public Beta Considerations

The beta phase is when your service is tested with real users in a controlled environment before full launch. Proper planning ensures you maximize learning and minimize risks.

- **Closed Beta:**

Start with a limited group of invited users, such as internal staff, trusted external partners, or stakeholders. This allows controlled testing, quick feedback cycles, and low risk while the service is still evolving.

- **Public Beta:**

Once closed beta feedback is addressed, open the service to a broader audience. Public beta invites real citizens at scale, while clearly marking the service as “in beta” so users understand it is still being refined and may have issues. This phase

is critical for stress testing, operational readiness, and gathering diverse real-world insights.

Planning tips:

- Ensure your team can support ongoing learning and iteration throughout beta.
- Coordinate with support and operational teams to handle new users and potential issues.
- Communicate clearly about the beta status, expectations, and how to provide feedback.
- Align with wider organizational goals, such as transition from legacy systems and integration with existing channels.
- Include regular accessibility testing with disabled users and publish accessibility information during public beta.
- Prepare for assessments or approvals required before moving to live phase.

2. Specialized and Automated Testing

Specialized testing is critical during this phase to ensure usability, accessibility, security, and performance standards are met. Automated end-to-end testing and continuous monitoring help identify problems early, enabling the development team to fix bugs promptly.

Bug Testing: Automated and Continuous Integration

Automated bug testing is vital for catching errors early and maintaining high quality in government digital services. By incorporating automated test suites into your development process, every code change undergoes a series of checks to identify bugs or regressions instantly.

Continuous integration (CI) tools automatically run these tests whenever new code is committed, providing immediate feedback to developers. This proactive approach ensures bugs are detected and fixed before they reach users, reducing the risk of issues causing service disruptions or user dissatisfaction.

Common types of automated tests include unit tests, which verify small pieces of code work correctly, and end-to-end tests, which simulate real user interactions to ensure the whole system functions seamlessly. Using CI/CD pipelines to automate these checks streamlines development, accelerates delivery, and helps meet government standards for reliability and security.

3. Address Usability Issues Iteratively

Usability issues commonly emerge during testing, which is a positive outcome because these can be addressed before the service goes live. In such cases, designers iteratively improve their prototypes and collaborate closely with developers to implement solutions.

Test-Refine Cycles & Design Critique Sessions

Usability issues are a common and valuable outcome during the Build stage. Each issue discovered provides an opportunity for improvement before the service goes live.

To address these effectively, teams should adopt test-refine cycles, where usability testing (as explained in the earlier in the handbook) is conducted repeatedly to uncover fresh insights and validate fixes.

Simultaneously, internal design critique sessions (also explained earlier in the handbook) enable collaborative review and refinement of design solutions with the whole team, fostering diverse perspectives and better decision-making.

This iterative approach of continuously testing with users and refining through team feedback helps build a more usable, accessible, and effective government service aligned with user needs.

4. Focus on Accessibility and Security

Accessibility and inclusive design receive thorough attention during Build, with real users testing features to ensure the service is usable by everyone, including those with disabilities. Data security is also rigorously tested in cooperation with governance and information security teams.

Accessibility Testing

Accessibility testing ensures that government digital services can be used by everyone, including people with disabilities such as visual, hearing, motor, and cognitive impairments.

Things to consider:

- Test early and often throughout the development cycle, not just at the end.
- Use a combination of automated tools and manual testing to cover all types of accessibility issues.
- Involve real users with disabilities to gain authentic feedback on usability challenges.
- Ensure compliance with standards like WCAG 2.2 (Level AA minimum) and legal requirements such as the Disability Rights Acts.
- Regularly test compatibility with common assistive technologies like screen readers and voice recognition software.
- Address accessibility not only in code but also in design, content clarity, and navigation.
- Conduct formal accessibility audits before public beta launch and publish accessibility statements.

Security Testing Methods

Security testing is essential to protect government services and user data from threats & comply with the Digital Personal Data Protection (DPDP) Act and other privacy regulations. It involves identifying vulnerabilities and verifying that security controls are effective throughout the service lifecycle.

Key methods include:

- **Penetration Testing:** Authorized simulated cyberattacks to uncover weaknesses before malicious actors do. Recommended before launch, after major changes, and regularly during operation.
- **Vulnerability Assessments:** Automated or manual scans to find security gaps, assess their risks, and suggest fixes. These should be ongoing to address new vulnerabilities as they emerge.
- **Static Application Security Testing (SAST):** Analyzing source code for security flaws early in development without running the program.
- **Dynamic Application Security Testing (DAST):** Testing running applications from an external perspective to find runtime vulnerabilities.
- **Interactive Application Security Testing (IAST):** Combines SAST and DAST for real-time vulnerability detection within running applications.

Effective security testing includes continuous evaluation, coordination with governance teams, and prompt remediation to reduce risks in government digital services.

5. Balance Quality and Timeliness

While striving for quality, teams should resist the urge to delay launch indefinitely seeking perfection. Delivering a good, functional service that provides value to citizens is preferable to waiting for a perfect solution that may never arrive. However, given the resource and time constraints typical in government projects, it is especially important to focus testing efforts on critical functionality and major usability issues to avoid delivering half-baked solutions.

MVP Definition and Prioritization

A Minimum Viable Product (MVP) is the simplest version of your service that delivers core value to users while allowing you to test and learn quickly. Building an MVP helps balance delivering quality with timely launch by focusing on essential features first.

Define your MVP by identifying the key user needs and prioritizing the features that address them most effectively. Avoid overloading the initial release with non-critical functions that delay launch or complicate testing.

Iteratively refine the MVP based on user feedback, continuously improving the service in manageable steps. This approach mitigates risks and ensures resources focus on delivering real value to citizens sooner.

Dot Voting for Prioritizing

Dot Voting, a method explained earlier in this handbook, can also be used during the Build stage to help teams decide which bugs to fix first or which features to release in the next update.

Run a quick dot voting round when multiple issues or improvement ideas surface after testing:

- List the identified bugs or proposed fixes.
- Give each team member a few votes (dots).
- Let them vote on the options they believe will have the biggest user impact or are most urgent to resolve.

6. Prepare for Live Deployment and Beyond

Ultimately, the Build stage prepares the service for live deployment by ensuring it meets quality standards and user needs, while setting up the team for continuous improvement after launch.

KPIs and Success Metrics: Setting Up for Launch

As the Build stage draws to a close, teams should define the KPIs and success metrics that will be used to measure the service's performance once it goes live. Establishing clear metrics before launch provides a baseline for comparison later, helping teams and stakeholders understand what "good" looks like and where early improvements might be needed.

Steps to prepare KPIs before launch:

- **Confirm key success criteria:** Revisit your service goals and user needs defined in earlier phases. Ensure the metrics you track directly relate to them.
- **Identify baseline measurements:** Record pre-launch data (like average task time or test success rates) as starting points for tracking improvement post-launch.
- **Align with data collection tools:** Make sure analytics systems, feedback forms, and monitoring dashboards are in place and functioning correctly before launch.
- **Agree on ownership and review frequency:** Clarify who will monitor metrics and how often results will be reviewed after deployment.

- **Plan for sharing insights:** Prepare communication channels (like dashboards or reports) for sharing results with teams and decision-makers.

Best Practices for “Build” Stage

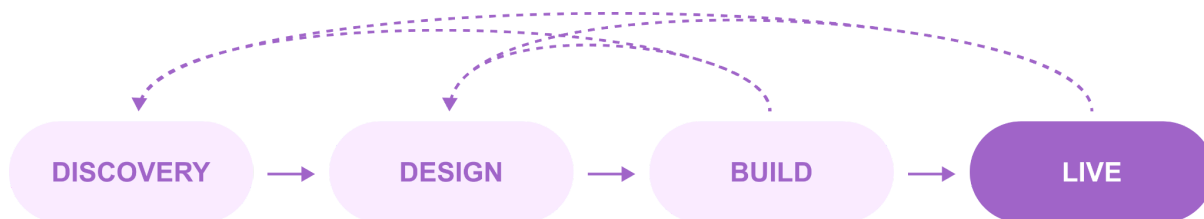
- Include specialists like developers, security experts, accessibility professionals, and data analysts to cover all aspects of the service.
- Begin testing early with a private Beta involving a limited group to get quick feedback in controlled settings.
- Expand to a public Beta when confident, allowing wider user access alongside existing services while continuing to gather insights.
- Conduct thorough accessibility and inclusive design testing, ensuring the service can be used by people with various needs.
- Use automated tests and continuous integration tools to catch bugs and performance problems quickly.
- Prioritize fixing major usability issues revealed during testing before launch.
- Resist waiting for perfection; launch when the service meets core needs and provides value.
- Develop clear plans for ongoing monitoring, maintenance, and continuous improvement once live.

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4. Live: Launch & Continuous Improvement



The Live stage marks the full public launch of the service, transitioning from Beta to a stable, operational digital government offering. This phase is not the end but the beginning of ongoing learning, adaptation, and enhancement.

How to Go About “Live” Stage

1. Ensuring Accessibility, Security, and Support

At launch, the team ensures the service is accessible, secure, and scalable, ready to handle real user demand. Clear communication with users about the service, its capabilities, and how to get help is crucial. User support channels, feedback mechanisms, and assisted digital options should be actively maintained and improved.

User Support Best Practices

Providing excellent user support is key to helping citizens successfully use government digital services. Well-designed support systems build trust, resolve issues quickly, and enhance overall user satisfaction.

Key elements:

- **Multiple channels:** Offer help through online forms, email, phone, and live chat to cater to different user preferences.
- **Clear communication:** Explain service capabilities, support hours, and how users can get assistance.
- **Accessibility:** Ensure support channels are accessible to everyone, including users with disabilities.
- **Efficient triage:** Use first-line support to handle common inquiries promptly and route complex issues to specialized teams.
- **Proactive feedback loops:** Gather and act on user feedback to continuously improve both the service and support experience.
- **Support team readiness:** Train teams to be knowledgeable, empathetic, and responsive to user needs.

2. Continuous Performance Monitoring and Feedback

Teams track key performance indicators (KPIs), usage data, and user feedback to identify pain points, failures, or improvement opportunities. This data-driven approach ensures the service remains effective and relevant over time.

Monitor and Improve Continuously

In the Live stage, success metrics become your ongoing guide to ensure the service remains effective, accessible, and valuable to users. Building on KPI definitions and launch preparations from earlier stages, focus now shifts to actively monitoring, analyzing, and acting on key data.

What to do at this stage:

- Continuously track core KPIs like task success rates, user satisfaction, and system performance to spot trends and issues early.
- Combine quantitative data with qualitative inputs from user feedback and usability research to get a full picture of service health.
- Share insights openly with stakeholders to maintain transparency and encourage data-driven decision making.
- Adjust measurement methods thoughtfully over time, keeping historical data integrity for accurate comparisons.
- Plan regular service reviews where teams reflect on data, identify improvements, and prioritize releases in an agile manner.

3. Ongoing User Research and Agile Improvements

Ongoing user research complements technical monitoring, capturing emerging needs and new barriers users might encounter. Agile practices allow the team to prioritize fixes, feature enhancements, and refinements in regular release cycles. This means the service progressively evolves and adapts to better meet citizens' needs.

Iterative Usability Testing and Agile Service Delivery

In the Live stage, usability testing becomes a continuous, iterative process tightly woven into agile service delivery. Teams cycle rapidly between testing and refinement to respond to real user feedback and emerging needs.

How it works:

- Usability testing gathers insights from users interacting with the live service. It helps highlight pain points, barriers, and emerging opportunities.
- These insights flow back to designers and developers who prioritize fixes, feature enhancements, or design improvements.

- Agile cycles (sprints or releases) implement these changes incrementally, enabling quick validation and further refinement.
- Cross-functional collaboration between UX experts, developers, and product owners ensures testing data drives meaningful improvements aligned with user needs and policy goals.

This dynamic back-and-forth fosters a service experience that evolves responsively and remains user-centered over time.

Sprints

Sprints are short, focused work periods, held to quickly act on user feedback and data gathered from the live service. This agile approach enables the service to evolve continuously, addressing issues, adding features, and refining user experience in manageable steps.

Each sprint begins with planning based on prioritized insights and ends with a review of completed work, ensuring every cycle delivers value aligned with user needs and government goals. This structured rhythm allows government teams to respond rapidly to change, manage resources effectively, and keep the service reliable and user-centered over time.

Sprint Process during Post-launch:

- **Plan**
The team reviews user feedback, performance metrics, and support issues to identify and prioritize what to fix or enhance next.
- **Build**
Designers, developers, and testers collaborate to develop improvements within the sprint timeline.
- **Test**
New features or fixes undergo usability and technical testing to ensure quality and usability.
- **Review**
At sprint end, the team evaluates progress, gathers feedback internally, and adjusts the plan for the next sprint.

This process ensures the service evolves responsively, balancing urgent fixes with long-term enhancements.

4. Government Collaboration and Shared Learning

Collaboration across government departments remains vital to ensure the service stays integrated within the broader ecosystem and benefits from shared learning.

Cross-departmental Collaboration in Live Stage

After launch, collaboration across departments and government offices remains crucial to ensure the service works seamlessly within the larger government ecosystem. A well-structured collaboration framework helps maintain alignment and shared progress.

Key practices:

- **Regular coordination meetings:** Organize periodic meetings to discuss service performance, emerging challenges, and improvement opportunities involving all relevant departments.
- **Shared information systems:** Use common platforms to exchange service data, user feedback, incident reports, and progress updates securely.
- **Joint handling of incidents:** Coordinate response efforts for outages, data incidents, or security concerns to minimize impact.
- **Collective problem-solving:** Bring together experts from different departments to jointly address operational or policy challenges.
- **Knowledge sharing:** Document and circulate learnings, success stories, and helpful templates for continuous improvement across government units.

5. Risk Management and Incident Response

Risk and incident management processes must be in place to quickly identify and resolve unexpected outages, data breaches, or security threats. Planning for major events, backups, and disaster recovery helps maintain trust and reliability.

Incident Response Planning and Disaster Recovery

In the Live stage, robust incident response and disaster recovery plans are critical to maintaining trust and reliability in government digital services.

Incident Response Planning:

- Prepare a clear process to quickly identify, report, and resolve incidents like outages, data breaches, or security threats.

- Coordinate closely with national agencies such as CERT-In (Indian Computer Emergency Response Team), which leads cyber incident handling in India by issuing alerts, advisories, and providing remedial guidance.
- Establish designated points of contact (PoC) within your team for effective communication with other authorities.
- Conduct regular drills and updates to ensure readiness for cyber incidents and maintain compliance with government regulations.

Disaster Recovery Checklists:

- Maintain up-to-date backups with detailed recovery procedures to restore services swiftly after failures or attacks.
- Plan for major events, including contingencies for infrastructure failures or natural disasters that could disrupt service delivery.
- Regularly test disaster recovery plans to ensure they work effectively in real scenarios.
- Embed learning from incidents and drills into process improvements and capacity building.

Together, these practices support resilience and swift risk mitigation, safeguarding citizen data and service availability in the complex digital government landscape of India.

6. Multidisciplinary Team Support and Quality Enhancements

The multidisciplinary team from earlier stages continues to support the service's operation, maintenance, and improvement whenever needed. They work to reduce technical debt and gradually enhance quality, sustainability, and user experience.

Technical Debt Management

Technical debt refers to the cost and effort required to fix shortcuts or quick solutions implemented during development. In the Live stage, managing this debt is crucial to maintaining and improving service quality, sustainability, and user experience over time.

Key practices for managing technical debt:

- **Identify and document technical debt:** Maintain a clear inventory of known issues, legacy code, and outdated components.
- **Prioritize based on risk and impact:** Focus first on debt that affects service stability, security, or user experience.
- **Schedule regular remediation:** Allocate time in each sprint or maintenance cycle to address technical debt systematically.

- **Invest in modernization:** Use automation, code refactoring, and updated technologies to reduce debt burden and improve efficiency.
- **Balance innovation and maintenance:** Avoid halting new feature development but ensure technical debt does not accumulate excessively, impacting long-term outcomes.
- **Collaborate across teams:** Developers, testers, and product owners should together evaluate and plan debt reduction initiatives.

Effective technical debt management sustains service reliability and agility, ensuring government digital services remain robust and responsive as they scale and evolve.

Service Scalability Planning

As government digital services grow, planning for scalability ensures they continue to serve increasing user demand smoothly and efficiently.

Considerations for scalability:

- **Assess current capacity:** Understand the service's existing infrastructure and resource limits.
- **Forecast demand:** Analyze usage patterns and upcoming policy changes to anticipate spikes or steady growth.
- **Design for flexibility:** Build modular and cloud-based architectures that allow easy scaling up or down based on real-time needs.
- **Optimize performance:** Address potential bottlenecks in software and hardware to maintain speed and reliability.
- **Monitor continuously:** Implement tools to track performance and trigger automatic resource adjustments.
- **Plan for cost-effectiveness:** Balance scaling decisions to optimize costs without compromising user experience.
- **Coordinate disaster recovery:** Ensure scalable systems also support quick recovery from failures or attacks.

7. Delivering a Resilient, User-Centered Service

Ultimately, following the whole process, the team delivers a government digital service that is user-centered, resilient, continuously improving, and responsive to the evolving landscape of public needs and technologies.

Best Practices for “Live” Stage

- Ensure the service is accessible, secure, and scalable to handle real user demand from day one.
- Maintain clear communication with users about the service status, updates, and support options.
- Provide and continuously improve user support channels, including assisted digital support for users who need help.
- Monitor real-time service performance using key metrics, feedback, and usage data to spot issues and opportunities.
- Conduct ongoing user research to understand emerging needs and adapt the service accordingly.
- Use agile methods to prioritize and implement regular updates, fixes, and feature improvements.
- Collaborate across government departments to keep the service integrated and aligned with broader public service ecosystems.
- Have robust risk and incident management processes, including disaster recovery plans, to maintain trust and service reliability.
- Retain a multidisciplinary team to support continuous maintenance, development, and quality improvement over time.

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UX Audit Process

Conducting UX Audit of Government
Platforms - Websites / Applications

UX Audit Process for Government Websites & Applications

Performing a UX audit for a department website or application is a systematic process that involves several steps to ensure a comprehensive evaluation of the user experience. Here's a detailed guide on how to conduct a UX audit:

Define the Scope

- **Identify Specific Areas:** Determine the specific pages or sections of the website that will be evaluated. This could include landing pages, forms, checkout processes, etc.
- **Set Goals and Objectives:** Clearly outline the goals and objectives of the audit to provide focus and direction.

Gather User Feedback

- **Surveys:** Conduct surveys to gather insights from users about their experiences with the website.
- **User Testing:** Perform user testing sessions to observe how real users interact with the interface.
- **Behavioral Data:** Analyze user behavior data from tools like Google Analytics to identify patterns and pain points.

Evaluate Usability Heuristics

- **Usability Heuristics:** Apply established usability heuristics, such as Nielsen's 10 heuristics or Shneiderman's eight golden rules, to evaluate the interface design.

Evaluate the Design

- **System Status:** Assess elements like visibility of system status.
- **User Control:** Check for user control and freedom.
- **Consistency:** Ensure consistency in design elements across the website to provide a cohesive user experience.
- **Error Prevention:** Evaluate measures for preventing errors.
- **Visual Design:** Assess the visual design elements including layout, typography, color scheme, and imagery.
- **Visual Hierarchy:** Check for visual hierarchy to prioritize important content and guide users' attention effectively.

Evaluate Navigation

- **Navigation Structure:** Examine the website's navigation structure to ensure it's intuitive and easy to use.

- **Menu Organization:** Evaluate menu organization, labeling, and placement for clarity and ease of navigation.
- **Search Functionality:** Test search functionality to ensure users can easily find what they are looking for.

Evaluate Accessibility

- **Accessibility Standards:** Assess the website's compliance with accessibility standards such as WCAG 2.1.
- **Accessibility Features:** Check for features like alternative text for images, keyboard navigation, and proper semantic structure for screen readers.

Evaluate Performance

- **Loading Speed:** Measure the website's loading speed and response time across different devices and network conditions.
- **Performance Optimization:** Ensure that the website is optimized for performance to minimize user frustration due to slow loading times.

Evaluate Content

- **Content Accuracy:** Review the website's content for accuracy, relevance, and freshness.
- **Broken Links:** Check for broken links, outdated information, and spelling or grammar errors that can impact the user experience negatively.

Create a Report

- **Summary of Findings:** Summarize the findings from each evaluation area in a comprehensive report.
- **Recommendations:** Provide prioritized recommendations for improving the user experience, addressing both critical issues and areas for enhancement.
- **Actionable Steps:** Include actionable steps that stakeholders can take to implement the recommended changes effectively.

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UX Parameters for Mobile Applications

4. Mobile Application Parameters

These parameters focus on the unique requirements and best practices for designing mobile applications. It addresses key aspects such as responsive design, touch-friendly elements, screen optimization, and navigation patterns specific to mobile devices. Designers working on mobile projects should start here after understanding the design foundation to ensure their designs are optimized for smaller screens and touch interactions.

4.1 Trust & Credibility

Building trust and credibility in mobile user experiences is essential for fostering user confidence and ensuring the success of a mobile application. Trust is a critical component that influences users' willingness to engage with, and rely on, your app.

4.1.1 Hosting and Certification

Ensuring that mobile applications, particularly those related to government services, are properly hosted and certified is crucial for maintaining security, accessibility, and reliability.

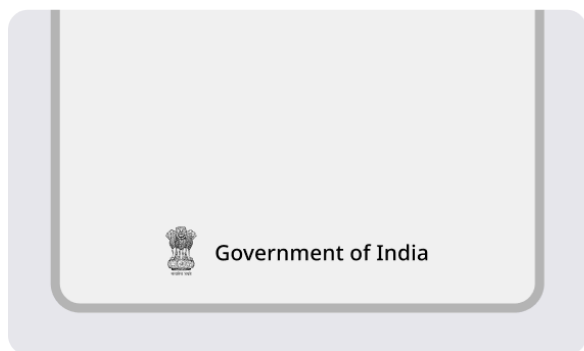
- All mobile applications for government programs and services must be hosted on the Government App Store (GOV.IN App Store). Additionally, they may be hosted on platform-specific app stores such as Google Play Store and Apple App Store.
- Follow defined processes, security points, and established certifications when hosting applications on GOV.IN App Store, Google Play Store, and Apple App Store.



4.1.2 Ownership Information

Displaying ownership information prominently within a mobile application is essential for establishing credibility, trust, and authority. This is especially important for government-related applications, where users need assurance about the authenticity and reliability of the application.

- Display ownership information on the splash screen. For example, if the app belongs to the Government of Uttar Pradesh, show the Uttar Pradesh State emblem with the label "Government of Uttar Pradesh." (Authority and Familiarity Bias)



4.1.3 Privacy and Terms

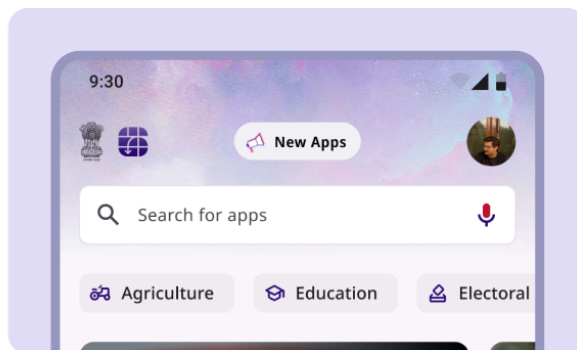
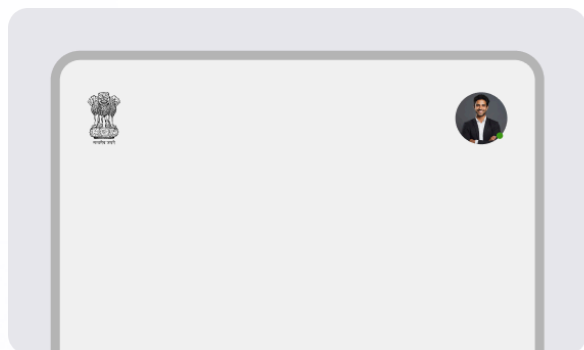
Ensuring transparency about privacy practices and terms of service is critical for building trust and safeguarding user data.

- Make the “Privacy Policy” and “Terms and Conditions” available to users before they land on the homepage and also accessible from the side/profile menu.

4.1.4 National Emblem

The national emblem represents the authority and identity of a country. It is a symbol of the state’s sovereignty and governance. Using the national emblem appropriately in mobile applications, especially those related to government services, reinforces the legitimacy and official nature of the application.

- Display the National Emblem of India on the homepage of all government apps. (Authority and Familiarity Bias)



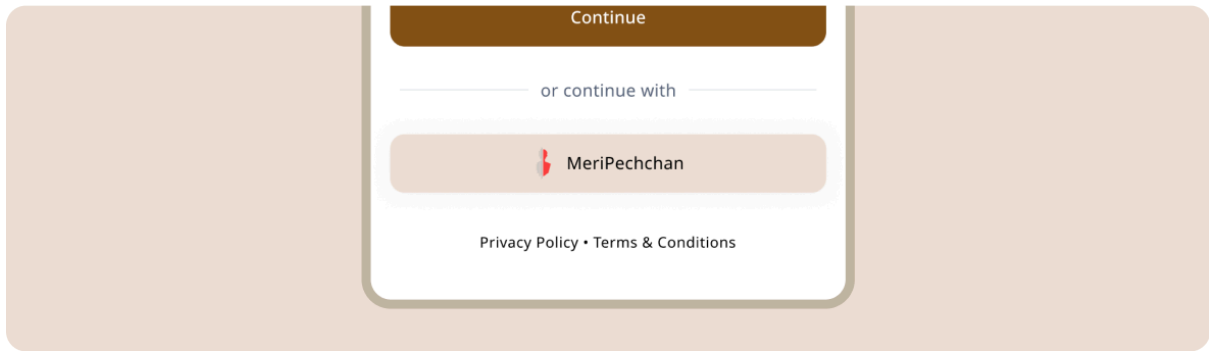
4.1.5 User Login

- If the app requires login, it should be done using “MeriPehchaan.”

4.1.6 User Consent

User consent is a fundamental aspect of privacy and data protection. Obtaining explicit consent from users ensures that their data is collected, used and processed in accordance with legal requirements and ethical standards. Properly managed consent not only builds trust but also enhances user control over their personal information.

- Do not store any user data without explicit consent from the user.



4.1.7 About Us Section

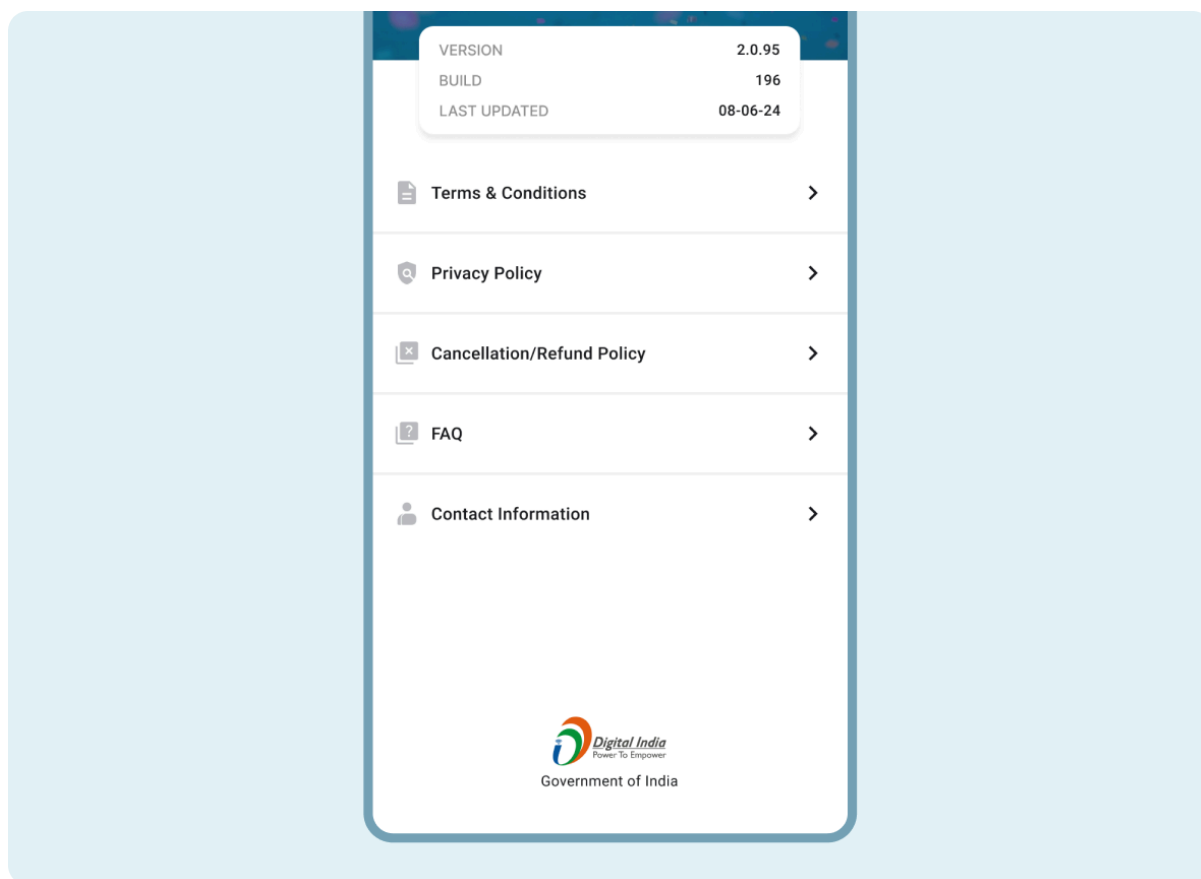
The "About Us" section provides users with insights into the organization or entity behind the application. It builds trust and transparency by sharing information about the mission, values, and people involved. This section helps users understand who they are interacting with and what the organization stands for.

- Include an "About Us" option in the side/profile menu containing:
 - Last Updated
 - Build Number
 - Owner Information
 - Contact Details
 - Terms and Conditions
 - Privacy Policy
 - FAQs

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4.1.8 User Grievances

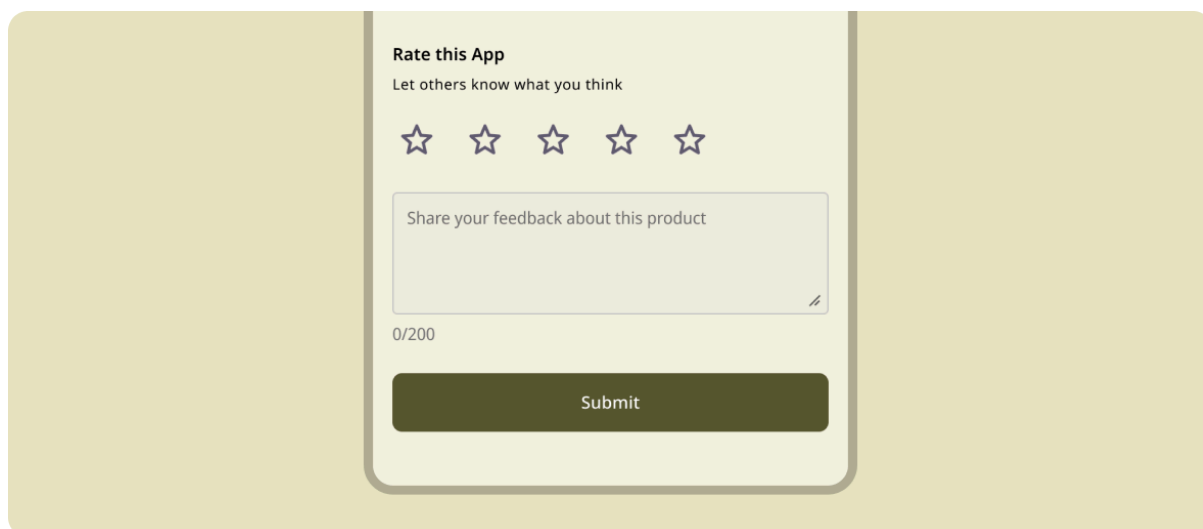
The User Grievances section is designed to provide users with a clear and straightforward process for addressing concerns, issues, or complaints related to the application or service. It helps to maintain transparency, improve user satisfaction and ensure that user feedback is effectively managed and resolved.

- Implement clear mechanisms for users to file grievances, track their applications, and receive satisfactory resolutions.

4.1.9 User Feedback

The User Feedback section is crucial for gathering insights and opinions from users about their experience with the application or service. It helps identify areas for improvement, measure user satisfaction, and make data-driven decisions to enhance the overall user experience.

- Allow users to leave reviews and ratings within the app. Positive feedback can help build trust for new users.



4.1.10 Consistent Branding

Consistent branding ensures that the visual and experiential elements of your application align with the organization's identity and values. It helps in building brand recognition, trust, and a cohesive user experience across all touchpoints.

- Maintain consistent branding across all pages of the mobile application to help users identify and recognize the platform.

4.1.11 Data Security

Data security is critical for protecting sensitive and personal information from unauthorized access, breaches, and misuse. Ensuring robust data security measures helps maintain user trust, comply with legal requirements, and safeguard against potential threats.

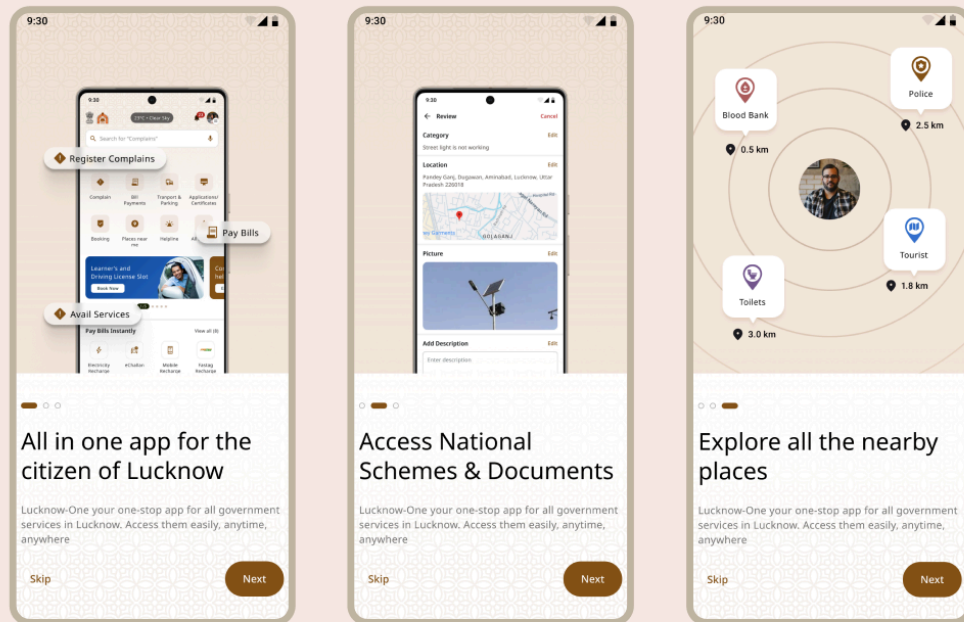
- Implement robust data security measures as defined in the Government Security points to protect user data. Clearly define data handling and privacy practices to ensure user trust and comply with relevant regulations.
- Keep users well-informed and always obtain consent regarding the data being collected and the safety mechanisms in place to protect their information.

4.1.12 External Links

- Avoid links to external pages to maintain trust and ensure user security.
- If an external link is necessary, clearly inform users that they will be redirected to another site.

4.2 Walkthrough Screens

Walkthrough screens guide users through the initial setup or onboarding process of an application. They introduce key features, demonstrate functionality, and help users understand how to use the application effectively. Well-designed walkthrough screens can enhance user experience, reduce confusion, and increase user engagement.



4.2.1 Purpose and Clarity

- Explain the major functions of the app in a simple and easy-to-understand manner, helping users quickly grasp the app's core features.
- Keep the information on each screen concise and focused, avoiding information overload.

4.2.2 Visual Appeal

- Use engaging and visually appealing graphics or animations to illustrate app features, making the walkthrough visually stimulating.
- Maintain a consistent visual style that aligns with the app's overall design and branding.

4.2.3 User Guidance

- Introduce the app's features step-by-step, guiding users through the essential functionalities one at a time.
- Focus on highlighting the key features that will provide the most value to users.

4.2.4 Interactivity

- Include interactive elements, such as swipes, taps, or animations, to keep users engaged and enhance understanding.
- Provide clear progress indicators (e.g., dots or numbers) to show users their position in the walkthrough and how many steps remain.

4.2.5 Accessibility

- Ensure text is readable with appropriate font size, color contrast, and legible fonts.
- Include voiceover support for visually impaired users to ensure accessibility.

4.2.6 Skippable Option

- Offer a skip button that allows users to bypass the walkthrough if they prefer to explore the app on their own.(Reactance)

4.2.7 Length and Timing

- Keep the walkthrough short and to the point, ideally under 4 screens, to maintain user interest.
- Present the walkthrough at the first launch of the app, but provide the option to view it later.

4.2.8 Consistent Messaging

- Ensure the messaging on the walkthrough screens is consistent with the app's tone and style, reinforcing the brand's voice.
- Use a motivational and friendly tone to encourage users and make them feel confident about using the app.

4.2.9 Localization

- Localize the walkthrough screens to support multiple languages and cultural contexts, ensuring all users have an equally good onboarding experience.

4.3 Home Page

The home page serves as the main entry point for users and provides an overview of the application. It should facilitate easy navigation, highlight key features or services, and guide users toward their goals.

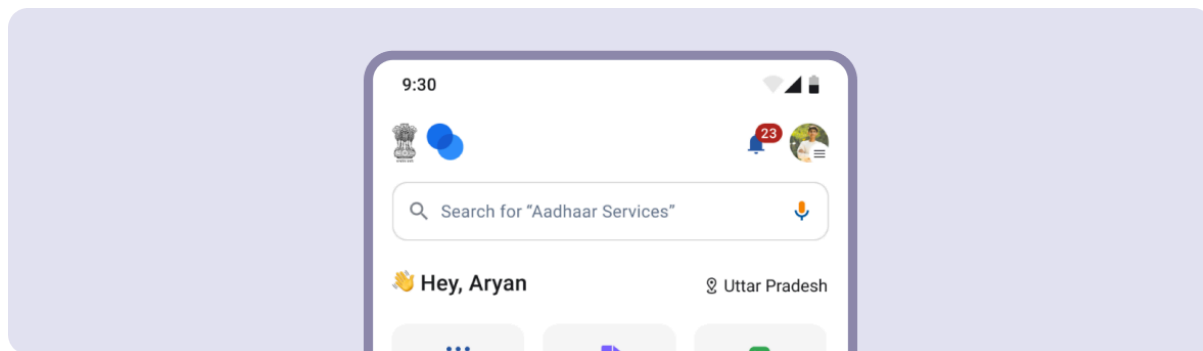
4.3.1 Distinctiveness and Branding

- Design the homepage to stand out from all other pages in the mobile application, ensuring it captures user attention and sets the tone for the app.
- Place the “National Emblem” and “App Logo” prominently in the top left corner of the homepage for immediate brand recognition.

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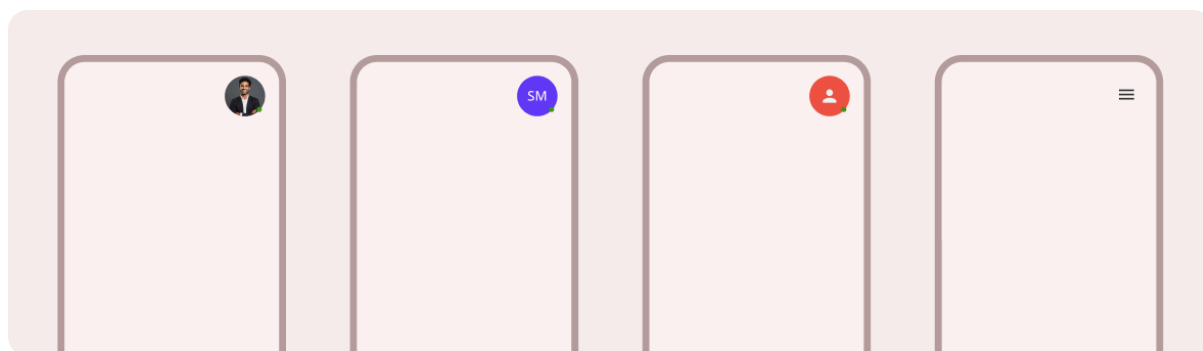
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4.3.2 Navigation and Accessibility

- Position the Hamburger/Profile/Side Menu icon in the top right corner of the homepage for easy access to additional features and settings
- Ensure that the items on the homepage are clearly focused on the most important tasks for the users, guiding them towards key actions and features.



4.3.3 Highlighting Key Tasks

- Highlight the most important tasks on the homepage so that users have a clear starting point, making it easy to navigate and engage with essential functions.

4.3.4 Gateway to Microservices

- Include gateways to all microservices on the homepage, providing users with quick access to the various functionalities offered by the app.

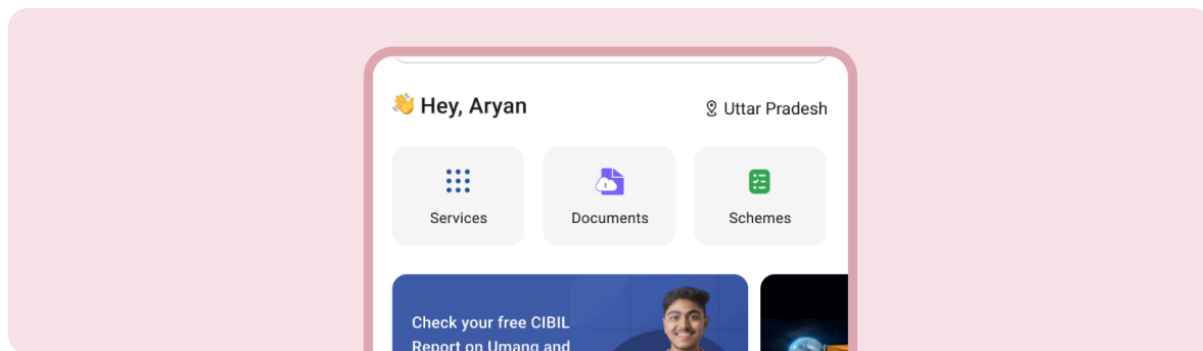
4.3.5 Categories and Information

- List all major categories and relevant information on the homepage if applicable, allowing users to easily find and explore different sections of the app.

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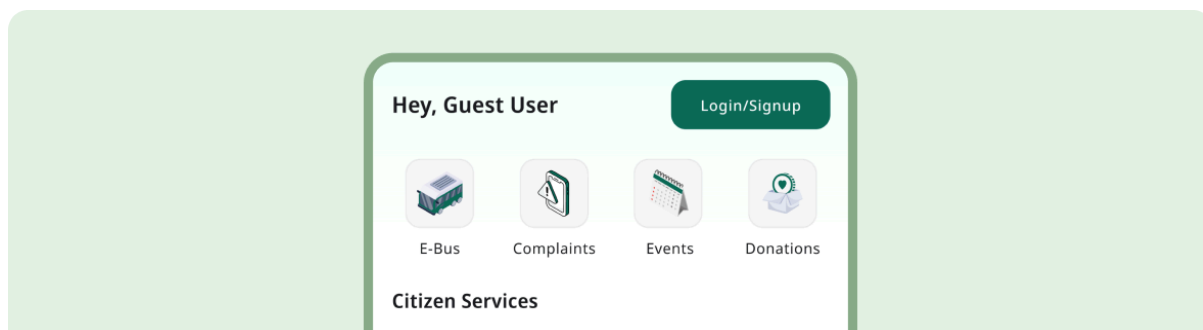
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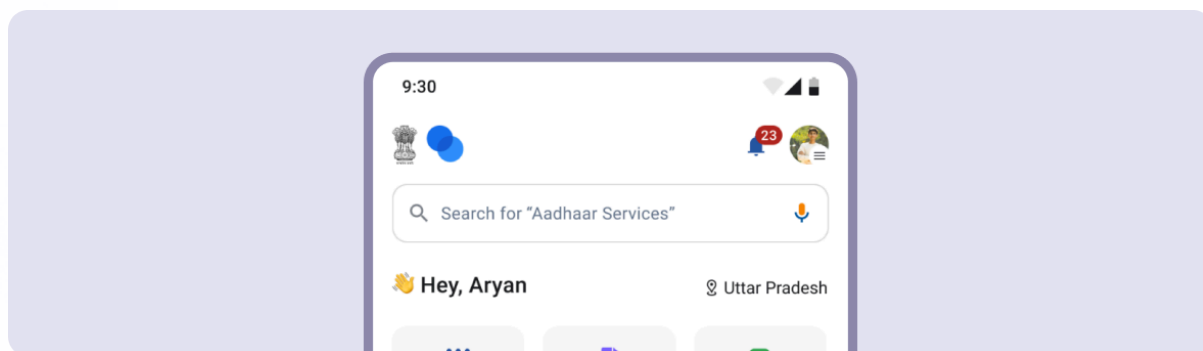
4.3.6 Action-Focused Design

- Design the homepage to be action-focused, enabling users to quickly retrieve information or perform actions they desire with minimal effort.



4.3.7 Search Functionality

- If the mobile application is large and/or complex, include a search box on the homepage to help users easily find the content they are looking for.



4.3.8 User Guidance

- Provide tours and walkthroughs on the homepage for apps with complex functionalities, helping users understand and navigate the app effectively.

4.3.9 Scannability and Organization

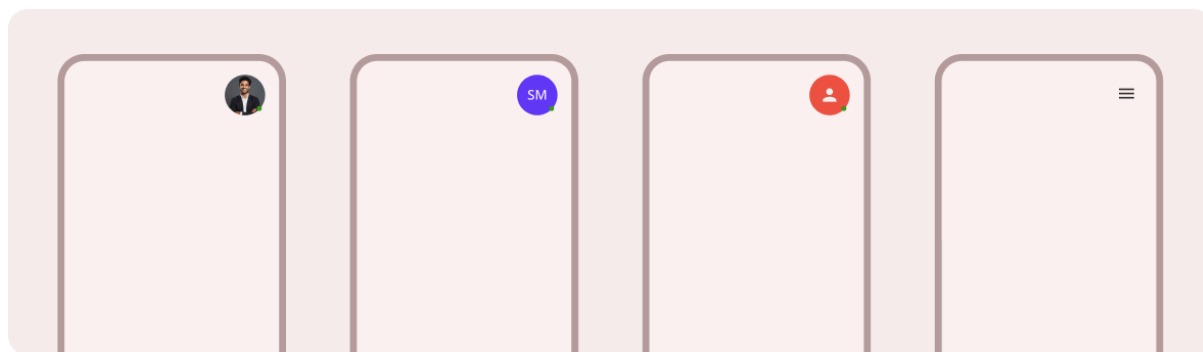
- Ensure the homepage is easily scannable with proper section labels, allowing users to quickly locate and access different parts of the app.

4.4 Side/Profile/Avatar Menu

The side/profile/avatar menu provides users with easy access to their personal information, account settings, and application features. It helps streamline navigation and allows users to manage their profiles and preferences efficiently.

4.4.1 Accessibility and Visibility

- Ensure the side/profile/avatar menu is easily accessible, should be placed in the top-right corner of the app interface. (Recognition Over Recall)
- Use a universally recognized icon, such as a hamburger menu, User Initials or an avatar/profile picture, to indicate the menu's presence.



4.4.2 User-Centered Content

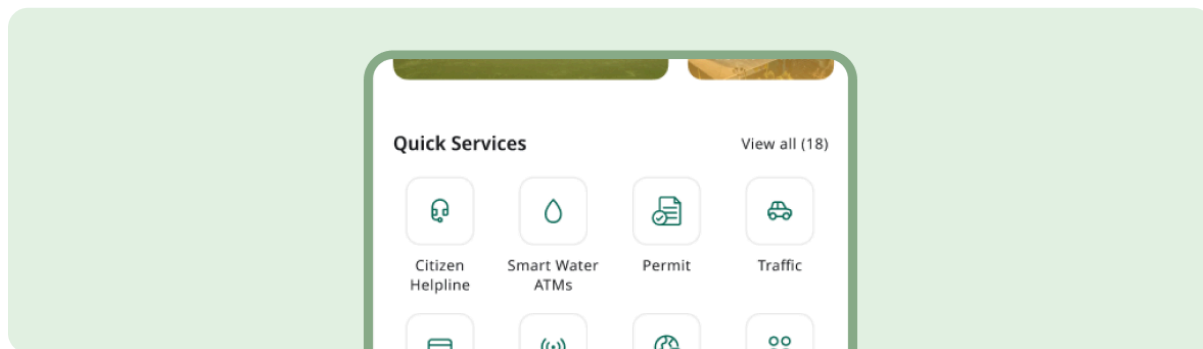
- Display personalized information, such as the user's name, profile picture, and relevant account details.

4.4.3 Clear Organization

- Organize menu items into logical groups or sections, such as Account, Settings, Help, Security etc.
- Use clear and descriptive labels for each menu item to ensure users understand their purpose.

4.4.4 Easy Navigation

- Keep the menu structure simple and avoid deep nesting of items to make it easy for users to find what they need.
- Provide quick access to important and frequently used features, such as account settings, notifications, and logout.



4.4.5 Interactive Elements

- Ensure all menu items are easily tappable, with sufficient spacing to prevent accidental taps.
- Provide visual feedback, such as highlighting or color changes, when a menu item is selected to confirm user actions.

4.4.6 Important Information and Actions

- Display key profile information, such as user name and avatar, at the top of the menu for easy identification.
- Include important action items such as Edit Profile, View Transactions, About us, Language and Accessibility Options, Help & Support, Security and Privacy and Logout.

4.4.7 Supporting Documentation

- Include links to help and support resources, such as FAQs, contact support, and user guides.
- Provide an "About Us" section with information about the app, version number, and company details.

4.4.8 Security and Privacy

- Include options for users to manage their privacy settings and control data sharing preferences.
- Ensure access to sensitive areas, such as account settings and payment information, requires authentication (e.g., password, biometrics).

4.4.9 Feedback and Updates

- Provide a mechanism for users to give feedback or report issues directly from the menu.

4.4.10 Efficiency and Performance

- Ensure the menu opens and functions smoothly without delays or lag.

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4.5 Internal Pages

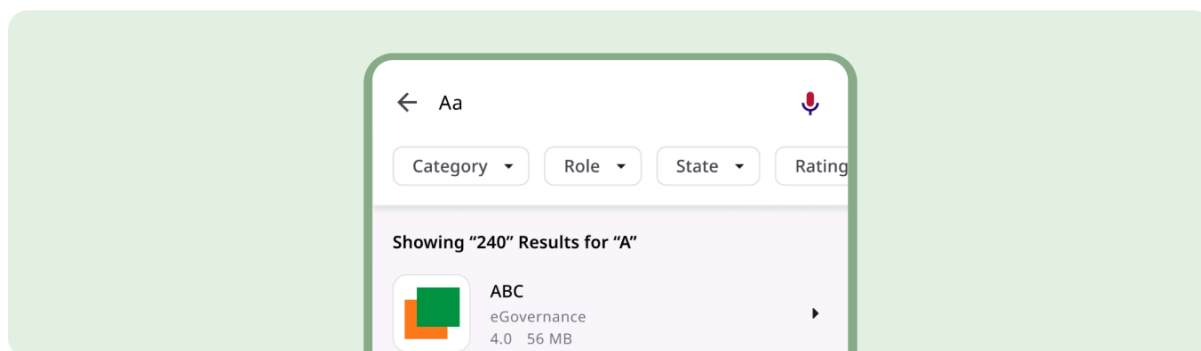
Internal pages in a mobile user experience (UX) are the core components that constitute the content and functionality of a mobile application or website beyond the home or landing page. These pages are crucial for delivering a seamless, engaging, and efficient user experience. Effective design and organization of internal pages can significantly impact user satisfaction and retention.

4.5.1 Consistent Design Language

- Maintain a consistent design language across all internal pages, including fonts, colors, and spacing, to provide a cohesive user experience.
- Incorporate brand elements such as logos and colors consistently throughout the app to reinforce brand identity.

4.5.2 Navigation and Layout

- Ensure intuitive navigation within internal pages, with visible navigation controls (e.g., back button, breadcrumbs, tabs) to help users move between sections easily.
- Organize content in a logical flow that guides users through tasks or information sequentially, enhancing usability.



4.5.3 Content Organization

- Establish a clear hierarchy of information with headings, subheadings, and sections to aid users in understanding the structure of each page.
- Prioritize content based on relevance and user needs, ensuring the most important information is prominently displayed.

4.5.4 Readability and Accessibility

- Use legible fonts and appropriate font sizes to ensure text is easy to read on mobile devices.
- Maintain sufficient color contrast between text and background to accommodate users with varying visual abilities.

4.5.5 Interactive Elements

- Ensure interactive elements such as buttons, links, and form fields are easily identifiable and responsive to user interactions.
- Provide visual feedback (e.g., button press animations, color changes) to confirm user actions and enhance usability.

4.5.6 Performance Optimization

- Optimize page loading times to minimize waiting periods and provide a smooth user experience.

4.5.7 Error Handling and Messaging

- Display clear and actionable error messages when users encounter issues or validation errors.
- Use tooltips or inline help text to guide users on completing forms or interacting with complex features.

4.5.8 Multimedia Integration

- Integrate multimedia elements (e.g., images, videos) appropriately to enhance content presentation and engagement.
- Ensure multimedia content is accessible to all users, including those with disabilities, through alternative text descriptions or captions.

4.5.9 User Guidance and Assistance

- Provide contextual help text or tooltips alongside complex fields to assist users in completing forms accurately and efficiently.
- Display clear progress indicators within the stepper interface to inform users of their current step and overall completion status.

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4.6 Page Layout and Visual Design

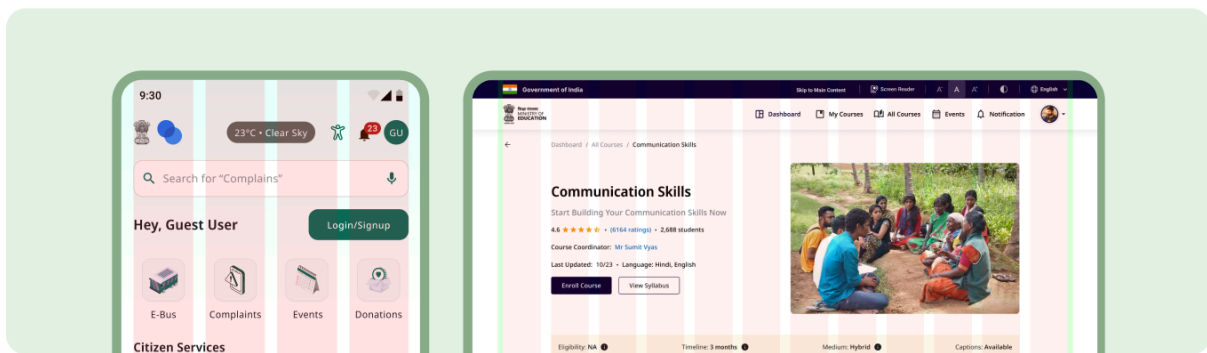
Page layout and visual design for mobile UX focus on organizing content within containers, ensuring visual appeal, and creating an intuitive flow that enhances user interaction with the application or website. Given the smaller screen size and touch-based interaction of mobile devices, it's essential to design layouts that are both functional and visually engaging.

4.6.1 Consistent Visual Hierarchy

- Arrange elements in order of importance to guide user attention effectively.
- Use hierarchy cues such as size, color, and positioning to establish a clear visual flow on each screen.

4.6.2 Responsive Design Principles

- Design layouts that adapt seamlessly across different screen sizes and orientations.
- Utilize responsive grid systems to maintain consistency and alignment of elements across various devices.



4.6.3 Intuitive Navigation

- Implement familiar navigation patterns (e.g., Bottom Navigation, Side Menus) for easy access to different sections of the app.
- Incorporate intuitive gestures (e.g., swipe, pinch-to-zoom) to enhance user interaction and navigation efficiency.

4.6.4 Typography and Readability

- Use legible fonts such as Noto Sans for optimal readability across different devices and screen resolutions.
- Establish a clear typographic hierarchy with appropriate font sizes, weights, and spacing to improve content scanning and comprehension.

4.6.5 Visual Consistency and Branding

- Maintain consistent use of colors, typography, and visual elements that align with the app's brand points.

- Develop and adhere to a design system that documents UI components, patterns, and interactions to ensure visual consistency.

4.6.6 Space and Layout

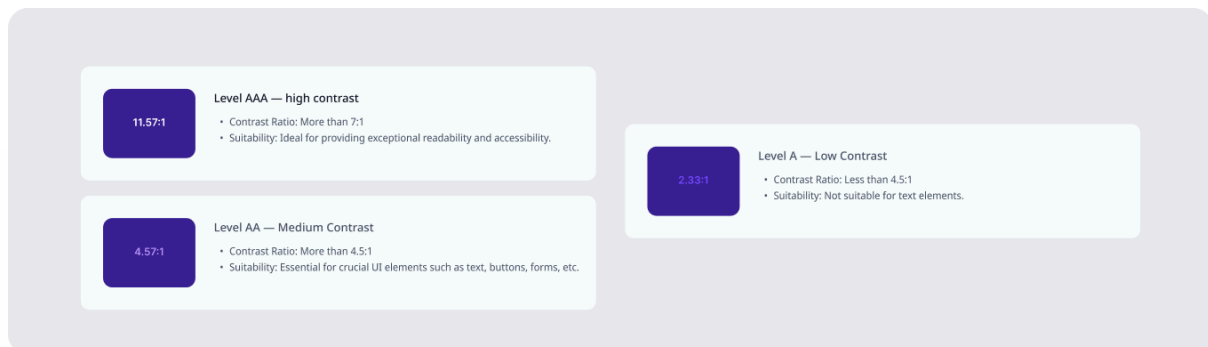
- Use ample whitespace (negative space) to improve content legibility, reduce visual clutter, and create a balanced visual composition.
- Balance content density by grouping related information and utilizing collapsible sections or accordions for detailed content.

4.6.7 Accessibility Considerations

- Ensure sufficient color contrast between text and background elements to meet accessibility standards (e.g., WCAG).
- Design interactive elements (e.g., buttons, links) with touch-friendly sizes and states, accommodating users with motor disabilities.

4.6.8 Visual Feedback and Affordance

- Provide visual feedback (e.g. tap effects, animations) to indicate interactive elements and user actions.
- Design elements with clear visual cues that suggest their functionality



- Integrate multimedia elements judiciously to enhance content engagement and storytelling, ensuring they complement rather than overwhelm the interface.
- Optimize multimedia files for fast loading times and minimal impact on app performance, particularly for users on mobile data.

4.6.9 Cross-Platform Considerations

- Adapt UI elements and interactions to suit platform conventions (e.g., iOS vs. Android) while maintaining brand consistency.
- Test page layouts and visual designs across multiple devices and operating systems to ensure consistent user experience.

4.6.10 Performance Optimization

- Optimize images, icons, and other visual assets to minimize file size and improve app performance, especially for slower network connections.
- Prioritize content loading to ensure critical information appears promptly, enhancing user engagement and satisfaction.

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05

UX Parameters for Websites

5. Website Parameters

These parameters provide detailed instructions for designing web applications and websites. It includes best practices for desktop and larger screen layouts, grid systems, typography for the web, and interactive elements. Designers should refer to this section after the design foundation to ensure their web projects are optimized for various desktop and laptop screen sizes.

5.1 Trust and Credibility

Building trust and credibility on government websites is vital for fostering user confidence and ensuring the success and effectiveness of the online services provided. Trust is a crucial factor that influences users' willingness to engage with and rely on a website or mobile application.

5.1.1 Hosting and Certification

Proper hosting and certification are essential for maintaining security, accessibility, and reliability on government websites/mobile applications

- Adhere to defined security processes and points. Utilize Secure Socket Layer (SSL) encryption (e.g., <https://xyz.gov.in>) and obtain necessary certifications to ensure data protection and trustworthiness..

5.1.2 Ownership Information

Displaying ownership information is crucial for establishing credibility and transparency. This helps users verify the authenticity of the website and understand who is responsible for its content.

- Clearly display ownership information on the homepage and other key pages, typically in the footer section. This includes details about the organization responsible for the site, contact information, and any relevant legal or official details.

5.1.3 Privacy and Terms

Transparency regarding privacy practices and terms of service is essential for building trust and protecting user data.

- Privacy and Terms Access: Ensure that the "Privacy Policy" and "Terms and Conditions" are readily accessible to users from the homepage and side/profile menu. Users should be able to review these documents before engaging with the website.

5.1.4 National Emblem

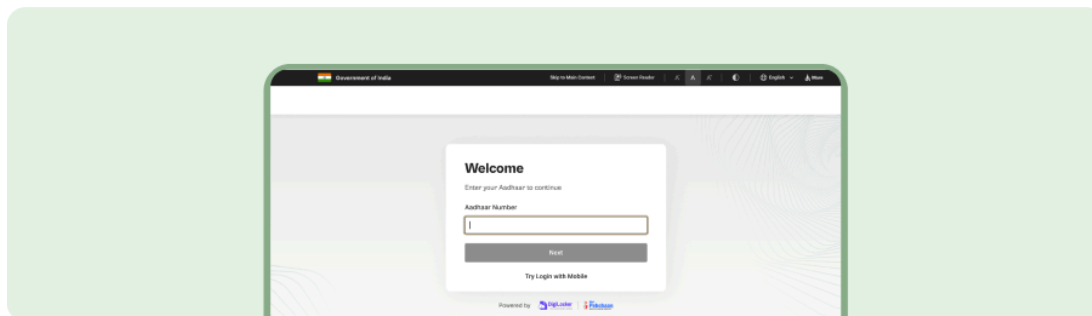
The national emblem signifies the authority and legitimacy of government websites.

- The National Emblem must be displayed prominently in the header strip at the top-left corner on all central government webpages

5.1.5 User Login

If the website requires login credentials, it should utilize secure and recognized systems for user authentication.

- Implement trusted login systems like “MeriPehchaan” to ensure secure and reliable user access.



5.1.6 User Consent

Obtaining explicit consent for data collection is fundamental for privacy and legal compliance.

- Do not collect or store user data without explicit consent. Ensure users are informed about what data is being collected and how it will be used.

5.1.7 Footer Section

The footer of every government website must include clear and trustworthy information that enhances transparency, authenticity, and accessibility:

- Last Updated Date
- Owner / Department Information
- Contact Details
- Terms & Conditions
- Privacy Policy
- FAQs
- Copyright Statement
- National Emblem / Government Branding

5.1.8 User Grievances

Providing a clear process for addressing user grievances helps maintain transparency and user satisfaction.

- Implement straightforward mechanisms for users to file complaints, track their status, and receive resolutions.

5.1.9 User Feedback

Gathering user feedback is essential for continuous improvement and user satisfaction.

- Allow users to leave reviews and ratings. This helps in identifying areas for improvement and builds trust with new users.

5.1.10 Consistent Branding

Consistent branding across the website helps in building recognition and a cohesive user experience.

- Use a standardized design system to maintain consistency in visual elements, typography, colour palette, and messaging across all pages, reinforcing the organization's identity and values.

5.1.11 Data Security

Protecting user data through robust security measures is critical for maintaining trust and compliance.

- Implement strong security practices as per Government Security points to protect user data. Clearly communicate data handling and privacy practices.

5.1.12 External Links

Managing external links is important for maintaining user security and trust.

- Minimize the use of external links to avoid distracting or misleading users.
- If external links are necessary, inform users clearly about the redirection and ensure they understand they are leaving the official site.

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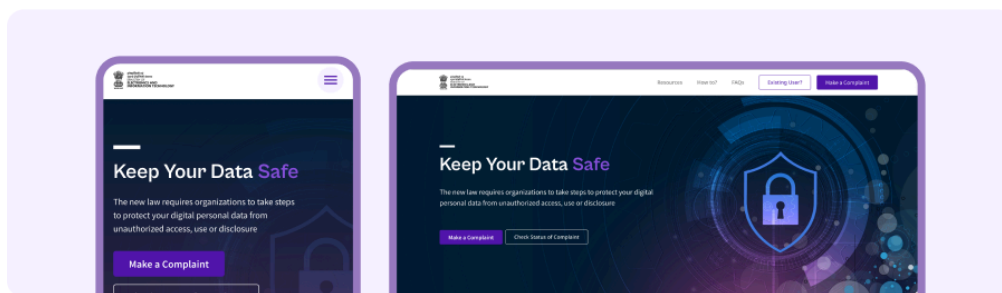
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5.2 Mobile First Approach

The mobile-first approach prioritizes designing for mobile devices before scaling up to larger screens like tablets and desktops. This ensures that websites are accessible, usable, and efficient on the most commonly used devices. For websites, adopting a mobile-first approach is essential to reach the broad and diverse population that relies heavily on mobile internet access.

5.2.1 Design Principles

- **Prioritize Core Content**
 - Ensure the most important information and functions are easily accessible on mobile devices.
 - Avoid unnecessary content that can clutter the mobile user experience.
- **Responsive Design**
 - Use responsive web design techniques to ensure the website adapts seamlessly to different screen sizes.
 - Implement flexible grids, fluid images, and media queries to adjust layouts and content dynamically.
- **Touch-Friendly Interface**
 - Design for touch interactions with appropriately sized buttons and touch targets.
 - Ensure sufficient spacing between interactive elements to prevent accidental taps.

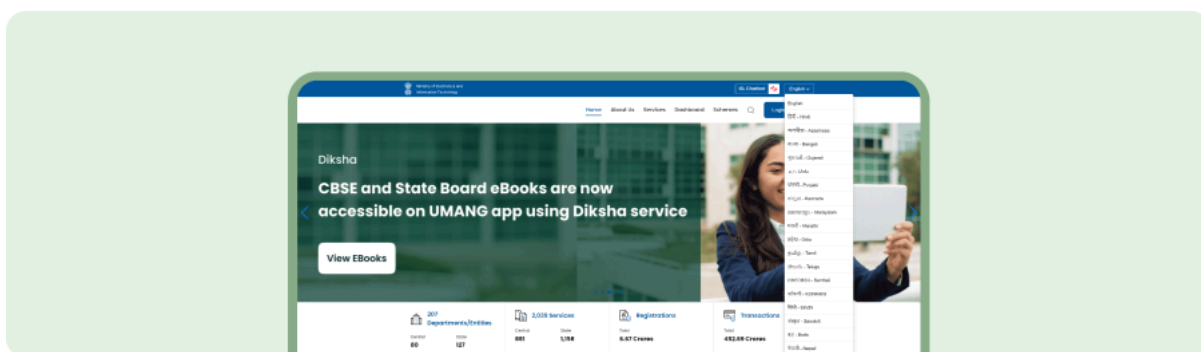


- **Simplified Navigation**
 - Use mobile-friendly navigation patterns such as hamburger menus, bottom navigation bars, or expandable sections.
 - Keep navigation options concise and organized to facilitate easy access to different sections of the website.
- **Optimized Performance**
 - Minimize loading times by optimizing images, using efficient coding practices, and leveraging content delivery networks (CDNs).
 - Implement lazy loading for images and other resources to improve initial load performance.

5.2.2 Content Strategy

- **Concise and Clear Content**

- Keep text concise and to the point to accommodate smaller screens.
- Use headings, bullet points, and short paragraphs to improve readability.
- **Progressive Disclosure**
 - Reveal information progressively to avoid overwhelming users with too much content at once.
 - Allow users to expand sections to view additional details as needed.
- **Multilingual Support**
 - Provide content in multiple languages to cater to the diverse linguistic demographics of India.
 - Ensure that language selection is easily accessible on mobile devices.



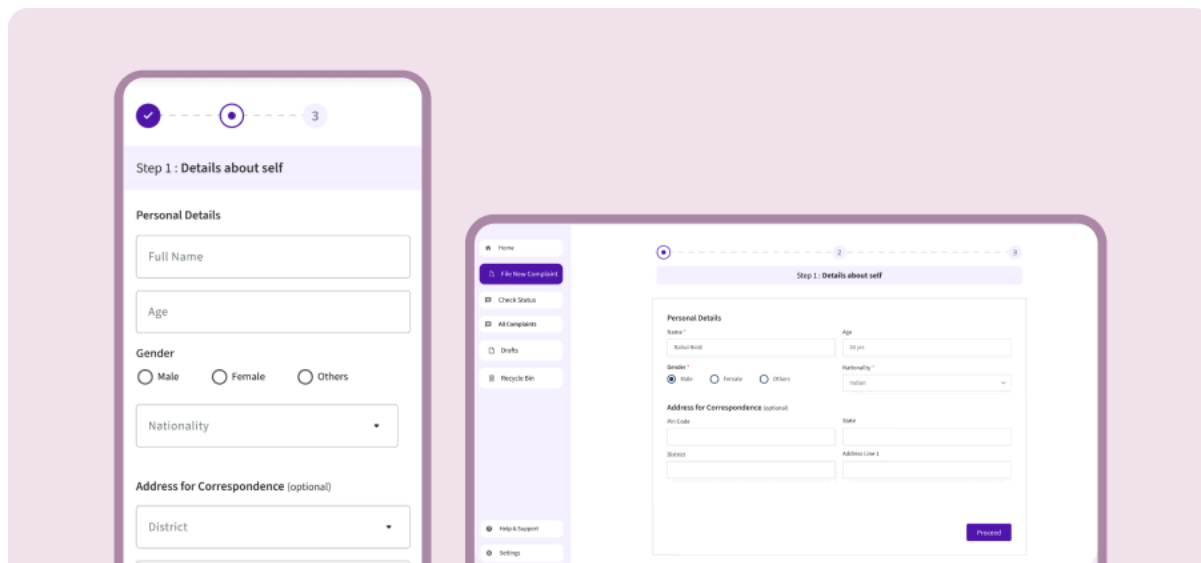
5.2.3 Visual Design

- **Scalable Typography**
 - Use scalable typography that adjusts to different screen sizes and resolutions.
 - Ensure sufficient contrast between text and background for readability.
- **Color and Contrast**
 - Use high-contrast colors to improve visibility, especially in bright outdoor conditions.
 - Adhere to accessibility standards (WCAG) to ensure content is readable for all users, including those with visual impairments.
- **Consistent Branding**
 - Maintain consistent branding elements such as logos, colors, and fonts across all devices.
 - Ensure the website reflects the identity and credibility of the Indian government.

5.2.4 Interaction and Feedback

- **User Feedback**
 - Provide immediate feedback for user actions, such as button presses and form submissions.
 - Use loading indicators, success messages, and error alerts to keep users informed.
- **Accessible Forms**
 - Design forms that are easy to use on mobile devices with touch-friendly fields and controls.

- Implement validation and error handling to guide users through form completion.



5.2.5 Technical Implementation

- **Progressive Enhancement**
 - Start with a basic, functional version of the website that works on all devices, then enhance it with advanced features for larger screens.
 - Ensure that the core functionality is accessible even on older devices and slower internet connections.
- **Mobile-First CSS**
 - Write CSS styles with mobile-first principles, using media queries to adjust styles for larger screens.
 - Optimize CSS to reduce file sizes and improve loading times.
- **Testing Across Devices**
 - Test the website on a variety of mobile devices and screen sizes to ensure compatibility and usability.
 - Use emulators and real devices to identify and fix any issues specific to certain devices or browsers.

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5.3 Homepage

The homepage is vital for a positive User Experience, being the first point of contact for users. It must be user-friendly and tailored to the target audience's needs. It must act as a gateway to the platform and serve as a website directory for platforms with multiple pages, directing users to relevant content and services.

5.3.1 Standout Design

- Ensure the homepage design stands out from other pages. It captures user attention immediately and emphasizes the homepage's significance.

5.3.2 Focus on Important Tasks

- Highlight the most important tasks clearly on the homepage. It allows users to quickly identify and access primary actions, streamlining their experience.

5.3.3 Prominent Search Box

- Include a prominent search box if the site has a wide range of content. It facilitates quick content discovery and improves user navigation.



5.3.4 Display Multiple Services/Products

- Prominently display all available services or products on the homepage. It provides users with a clear view of available options for easier access and selection.

5.3.5 Access to Valuable Content

- Ensure valuable content is presented on the homepage or within one click. It keeps users engaged by making important information easily reachable.

5.3.6 Direct Access to High-Priority Tasks

- Provide direct access to high-priority tasks from the homepage. It streamlines user interactions by making essential functions immediately available.

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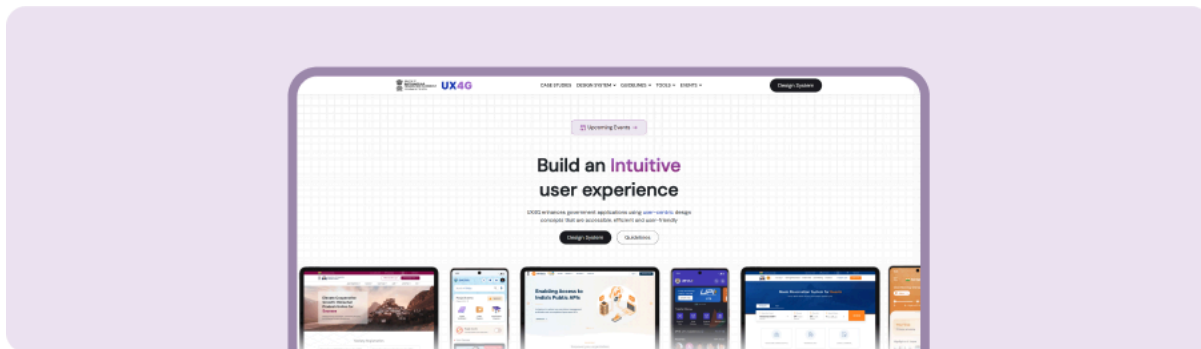
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5.3.7 Showcase of Actual Content

- Use the homepage to showcase real examples of the website's content. It engages users more effectively and encourages exploration of the site.

5.3.8 Keyword Placement

- Place relevant keywords at the beginning of each homepage link. It improves SEO and helps both users and search engines understand the page's focus.



5.3.9 Recent and Archival Content

- Include a list of recently featured items and a link to archival content. It keeps content dynamic and accessible, enhancing user engagement.

5.3.10 Clear Value Proposition

- Communicate the site's value proposition clearly, such as with a tagline or welcome message. It quickly informs users of the site's purpose and benefits, aiding their understanding.

5.3.11 Appropriate Homepage Title

- Use an appropriate title for the homepage to enhance search engine visibility. It helps improve search engine rankings and makes the page easily recognizable.

5.3.12 Logical Navigation Arrangement

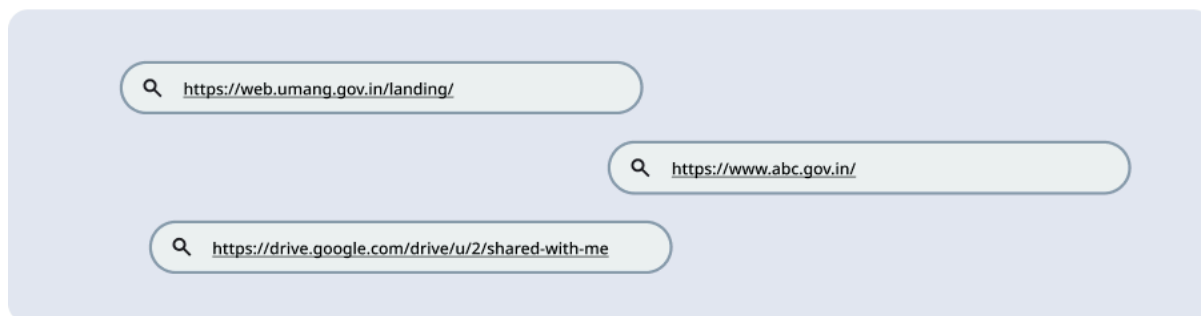
- Arrange navigation options based on their logical or task-oriented significance. It ensures users can easily find key information and tasks by prioritizing important content.

5.3.13 Organizational Information

- Group organizational or departmental information into a separate section like "About Us." It keeps the homepage focused on user-centric content while providing necessary background details.

5.3.14 Relatable URL

- Use a relatable URL for the homepage, reflecting the website's purpose.



5.3.15 Professional Design

- Design the homepage professionally to leave a positive first impression.

5.3.16 Contact Us Link

- Include a "Contact Us" link on the homepage to provide users with easy access to support and ensure they can get help when needed.

5.3.17 Privacy Policy Link

- Include a link to the Privacy Policy on the homepage if user data is collected.

5.3.18 Motivating Browsing

- Design the homepage to motivate users to browse and explore further.

5.3.19 Informative Graphics

- Use graphics to convey meaningful content rather than for decoration.

5.3.20 Fast Scanning Optimization

- Optimize the homepage design for fast scanning by:
 1. Using clear visual hierarchy (headings, subheadings, and distinct section breaks).
 2. Applying F-shaped or Z-shaped layout patterns.
 3. Keeping key information above the fold.
 4. Using concise text with bullet points and short paragraphs.

5.3.21 Good Visual Hierarchy

- Establish a good visual hierarchy on the homepage to arrange elements by importance, making information easier to find.

5.3.22 Visible Search Bar

- Ensure the search bar is always visible on the homepage. It facilitates easy access to search functionality for users seeking specific content.



5.3.23 Search Auto-Suggestions

- Provide search auto-suggestions as users type. It improves search efficiency and helps users find what they're looking for more quickly.

5.3.24 Scanning Patterns

- Use scanning patterns like F-shaped or Z-shaped to guide navigation. It aligns with natural user behavior to improve usability and navigation.

5.3.25 Prioritize Key Elements

- Highlight crucial pieces of information or actions on the homepage.

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5.4 About Us

The "About Us" page is essential for fostering trust and credibility with users, offering a glimpse into the company's values, mission, and story. It must be engaging and informative, reflecting the brand's personality and ethos. This page serves as a vital touchpoint for users seeking to understand the organization's background, vision, and goals, helping to build a connection with the audience.

5.4.1 Clear Purpose

- Define the purpose of the About Us page clearly. It helps users understand the mission, vision, and values of the organization, establishing transparency.

5.4.2 Organization Overview

- Provide a detailed overview of the organization or entity. It offers users background information about who is behind the site, building credibility and trust.

5.4.3 Leadership Information

- Include information about key leaders and their roles.

5.4.4 Mission and Vision

- Clearly state the mission and vision of the organization. It helps communicate the organization's goals and aspirations, helping users align with its purpose.

5.4.5 Achievements and Milestones

- Highlight significant achievements and milestones. It demonstrates the organization's track record and success, building trust and authority.

5.4.6 Contact Information

- Include contact details for inquiries related to the organization. It provides a channel for users to reach out for more information or support, enhancing accessibility.

5.4.7 Visual Elements

- Use relevant images or videos of the team or office. It adds a personal touch and helps users connect with the organization visually.

5.4.8 Team Members

- Introduce key team members with a brief description. It personalizes the page and builds trust by showing the individuals behind the organization.

5.4.9 Organizational Values

- Clearly outline the core values of the organization. It provides insight into the principles that guide the organization's actions and decisions.

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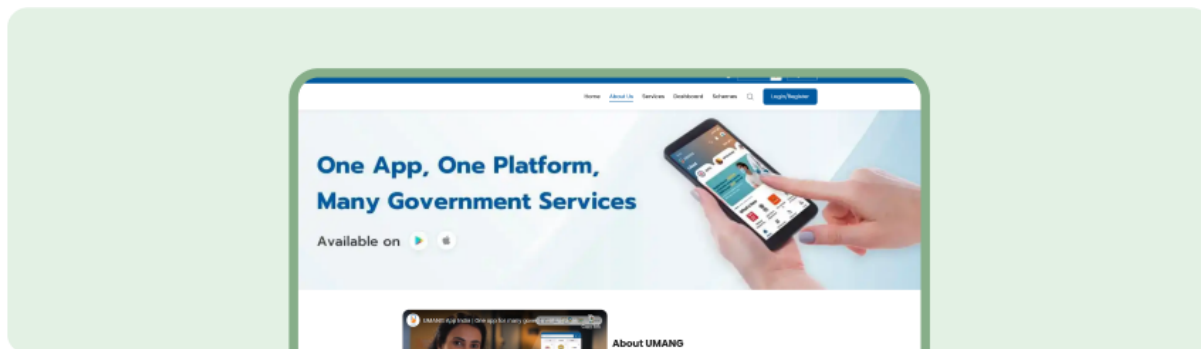
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5.4.10 Historical Background

- Include a brief history of the organization. It gives users context on the organization's origins and evolution, adding depth to its story.

5.4.11 Clear Navigation

- Ensure the About Us page is easy to find and navigate. It enhances user experience by making it simple for users to locate information about the organization.



5.4.12 Relevant Links

- Provide links to related sections, such as careers or press releases. It encourages users to explore other relevant areas of the website, increasing engagement.

5.4.13 Transparency

- Be transparent about the organization's operations and goals. It builds trust by being open and honest about the organization's practices and objectives.

5.4.14 Consistent Branding

- Maintain consistent branding and visual style on the About Us page. It reinforces brand identity and ensures a cohesive user experience across the site.

5.5 Page Layout and Visual design

An effective page layout and cohesive visual design are crucial for creating an engaging and user-friendly experience. The page layout should organize content logically and intuitively, balancing aesthetics with functionality and placing key elements where users expect to find them. Visual design should align with the brand's identity, using colors, typography, and imagery consistently to appeal to the target audience. Together, these elements enhance readability, usability, and accessibility, making the website more inviting and easier to navigate.

5.5.1 Screen Density

- The screen density should be suitable for the target users and the activities they will be performing to enhance readability and usability.

5.5.2 Guided Layout

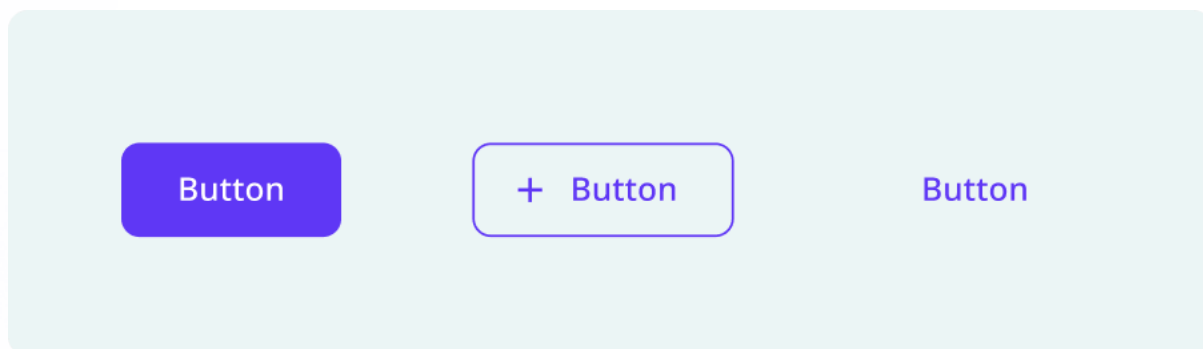
- The layout should guide the user's focus on the next action/step to ensure a smooth and intuitive user journey.

5.5.3 Above the Fold

- Important information, like commonly used features, should appear on the first screen of all pages (above the first section) to improve efficiency.

5.5.4 Clickable Items

- Clickable items, such as buttons, should be clearly recognizable as interactive elements to enhance usability and reduce ambiguity.



5.5.5 Non-clickable Attributes

- Non-clickable items should not possess attributes that may indicate they are interactive to prevent user confusion and frustration.

5.5.6 Labeling Controls

- Buttons and controls should have labels or designs that clearly indicate their intended function to improve user interaction.

5.5.7 Hyperlinked Texts

- Hyperlinked texts should be readily identifiable (e.g., underlined) without requiring the user to search for them to ensure they are easily found.

5.5.8 Consistent Font Style

- The same font style should be used throughout the website or mobile application to maintain visual consistency.

5.5.9 Control-Action Relationship

- The relationship between controls and their corresponding actions should be clear and apparent to enhance user understanding.

5.5.10 Appropriate GUI Components

- GUI components, such as radio buttons and checkboxes, should be used appropriately and whenever necessary to ensure proper functionality.

5.5.11 Standard Icons and Graphics

- Icons and graphics should be standard and intuitive (i.e., recognizable and commonly understood) to improve user comprehension.

5.5.12 Visual Starting Point

- Every page should have a clear visual starting point to guide the user's navigation.

5.5.13 Consistent Layout

- The layout should be consistent on all pages of the website and mobile application to provide a cohesive experience.

5.5.14 Print-Friendly Pages

- The pages of the website and mobile application should be print-friendly or have a printable version separately available for user convenience.

5.5.15 Avoid Italics and Underlining

- Italic text should be avoided, and underlining should be reserved solely for hyperlinked texts to prevent confusion.

5.5.16 Information Density and White Space

- There should be a good balance between information density and the use of white space to enhance readability.

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5.5.17 Avoid False Headings

- Pages should not have elements, such as headings, that create the false impression of reaching the top or bottom of a page when there is still more content to be viewed to ensure a clear structure.

5.5.18 Legible Fonts

- The fonts and their sizes should be legible and easy to read to ensure accessibility.

5.5.19 Color Organization

- Colors can be used to organize and group items on the page to enhance visual hierarchy.

5.5.20 Emphasize Categories

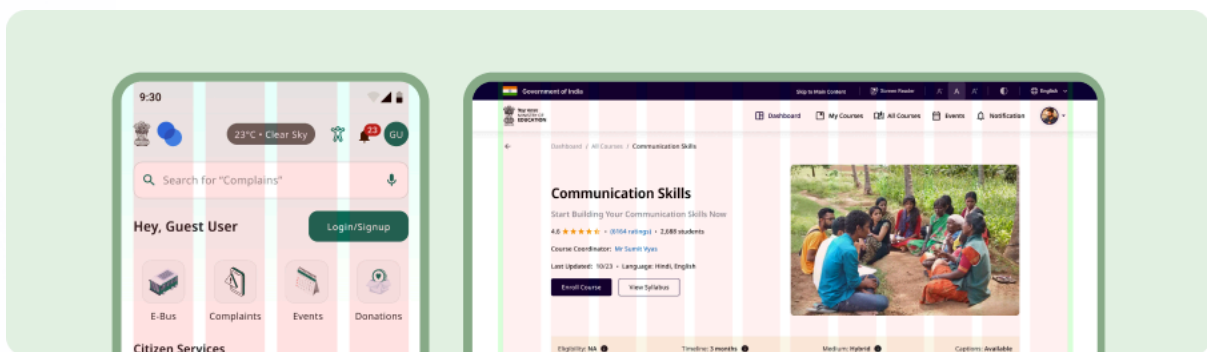
- Important topic categories can be emphasized by using bold text or a slightly bigger font size than regular text to draw attention.

5.5.21 Line Length

- Content pages should have line lengths that are neither too short (less than 50 characters per line) nor too long (over 100 characters per line) when viewed on a standard browser window width to improve readability.

5.5.22 Underlying Grid System

- The pages should be designed using an underlying grid system to ensure proper alignment of items and widgets both horizontally and vertically for a structured layout.



5.5.23 Group Functional Blocks

- To help users recognize a set of items as a discrete functional block, meaningful labels, effective background colors, and appropriate use of borders and white space should be used for clarity.

5.5.24 Harmonious Color Scheme

- The color scheme used should be visually harmonious, with an emphasis on avoiding complicated or distracting backgrounds, and should comply with the color ratios of WCAG points to ensure accessibility.

5.5.25 Standard Elements Accessibility

- Standard elements such as page titles, site navigation, page navigation, privacy policy, etc., should be easily accessible and recognizable to users for consistent navigation.

5.5.26 Consistent Logo Placement

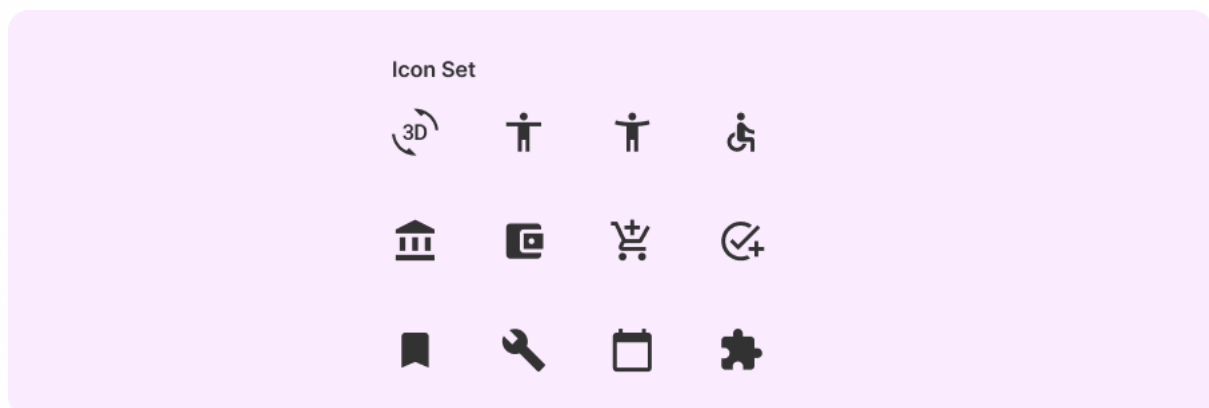
- Consistency in the placement of the organization's logo on every page is important, as clicking on the logo should lead the user to the homepage to reinforce brand identity.

5.5.27 Sparing Use of Attention-Grabbing Elements

- Attention-grabbing elements (such as animation, bright colors, and size differences) should be used sparingly and only when necessary to avoid overwhelming users.

5.5.28 Distinct Icons

- Icons should be visually and conceptually distinct while remaining harmonious (clearly part of the same library) to ensure clarity.



5.5.29 Group Related Information

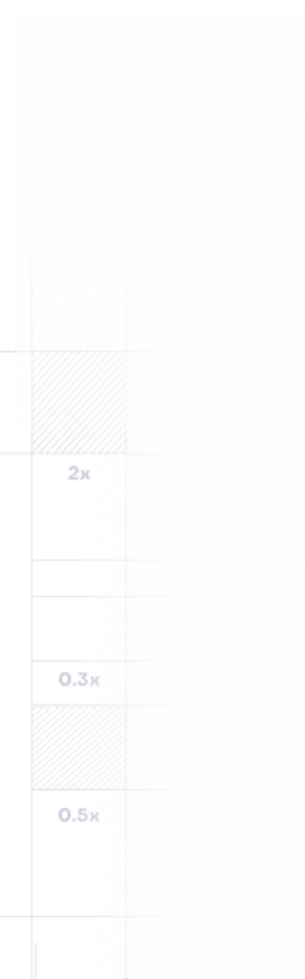
- Information and functions that are related should be grouped together so that each group can be scanned in a single go to enhance user efficiency.

5.5.30 Well-Structured Pages

- A web page should be well-structured to assist users in locating each element on the user interface. Examine similar websites for common design patterns and use familiar design patterns to fit with user expectations.

5.5.31 Layout Grid

- A layout grid divides a page into major areas and establishes size and position connections between items to create a cohesive layout.



5.6 Responsive Design

Responsive design is essential for ensuring an optimal user experience across various devices and screen sizes. It involves creating web pages that adjust seamlessly to different screen dimensions, providing a consistent and user-friendly interface whether accessed on a desktop, tablet, or smartphone. By employing flexible grids, adaptable images, and CSS media queries, responsive design ensures that content is easily readable and navigation is intuitive, regardless of the device.

5.6.1 Priority+ Navigation

- Use the "Priority+" pattern for navigation across breakpoints. This kind of navigation takes advantage of the available screen real estate; as screen real estate rises, so does the number of exposed navigation choices, improving visibility and increasing engagement.

5.6.2 Optimized Images

- Ensure images are the right size for platforms and screens. A website must adjust to display flawlessly across all devices and screen resolutions to maintain visual integrity and performance.

5.6.3 Simplified Navigation

- Use clear, intuitive menus and navigation bars, and consider implementing navigation patterns like the hamburger menu. Simplified navigation saves screen space and enhances user experience by making navigation straightforward and accessible.

5.6.4 Breakpoints

- Define and use breakpoints effectively. Breakpoints are essential for creating responsive designs that adjust seamlessly across different screen sizes, ensuring content remains accessible and readable.

5.6.5 Responsive Containers

- Use responsive containers to manage layout. Containers help to maintain a consistent structure and align content properly, adapting to various screen sizes and ensuring a cohesive design.

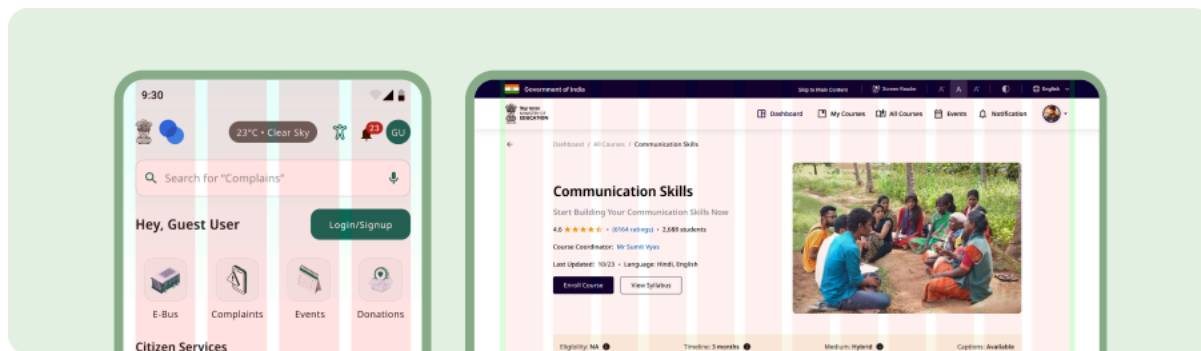
5.6.6 Grid System

- Utilize a flexible grid system. A grid system provides a structured layout that adapts to different screen sizes, maintaining a balanced and organized design.

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5.6.7 Flexible Media

- Make media elements flexible. Flexible media elements, like images and videos, should resize within their containers to avoid breaking the layout on smaller screens.

5.6.7 Viewport Meta Tag

- Include the viewport meta tag in the HTML. The viewport meta tag controls the layout on mobile browsers, ensuring the website adapts to different screen widths appropriately.

5.6.8 Text Size and Line Height

- Adjust text size and line height for readability on different devices. Ensuring text is legible on all screen sizes improves user experience by making content easier to read.

5.6.9 Touch-Friendly Elements

- Design touch-friendly elements with appropriate spacing. Ensuring buttons and links are easy to tap on touchscreens prevents user frustration and enhances interaction.

5.6.10 Adaptive Layouts

- Implement adaptive layouts that change based on the user's device capabilities. Adaptive layouts provide a tailored user experience, optimizing performance and usability for each specific device.

5.6.11 Testing Across Devices

- Test the design on various devices and screen sizes. Regular testing ensures the responsive design functions correctly and provides a consistent user experience across all devices.

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5.6.12 CSS Media Queries

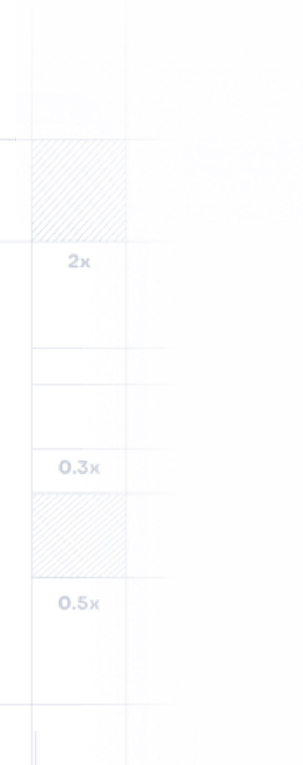
- Use CSS media queries to apply different styles for different screen sizes. Media queries enable responsive design by allowing styles to change dynamically based on device characteristics like width, height, and orientation.

5.6.13 Fluid Layouts

- Create fluid layouts using relative units like percentages. Fluid layouts adjust smoothly to different screen sizes, providing a flexible and consistent user experience.

5.6.14 Performance Optimization

- Optimize performance for mobile devices by minimizing file sizes and using efficient coding practices. Fast loading times and smooth performance are critical for retaining users on mobile devices.



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Common UX Parameters

Parameters for Websites & Mobile
Applications Alike

6. Common parameters for mobile applications and website/app

These parameters highlight principles and practices that apply universally to both mobile and web platforms. These points address areas such as consistency, user feedback, performance optimization, and security. This section ensures that, regardless of the platform, the core aspects of user experience are maintained.

6.1 Exploration Without Login

Allow users to explore the app or website without requiring an immediate login. This provides a frictionless entry experience, enabling users to browse content, understand the core features, and evaluate the value of the product before committing to sign up. Offering a guest mode or limited access helps build trust and engagement, ultimately increasing the likelihood of user registration.

6.1.1 Accessible Content Preview

- Ensure a significant portion of website and app's content is accessible without requiring login, allowing users to explore and understand the product offerings.(Trust and Reciprocity, Discoverability)
- Provide teaser content or previews of premium features to encourage users to create an account or log in for full access.(Persuasive Design: Scarcity)

6.1.2 Seamless Onboarding Experience

- Allow users to explore the product without mandatory registration or login, promoting a frictionless onboarding experience.
- Offer a guest mode or demo mode that provides limited access to features and content without requiring account creation.(Persuasive Design: Scarcity)

6.1.3 Clear Navigation and Structure

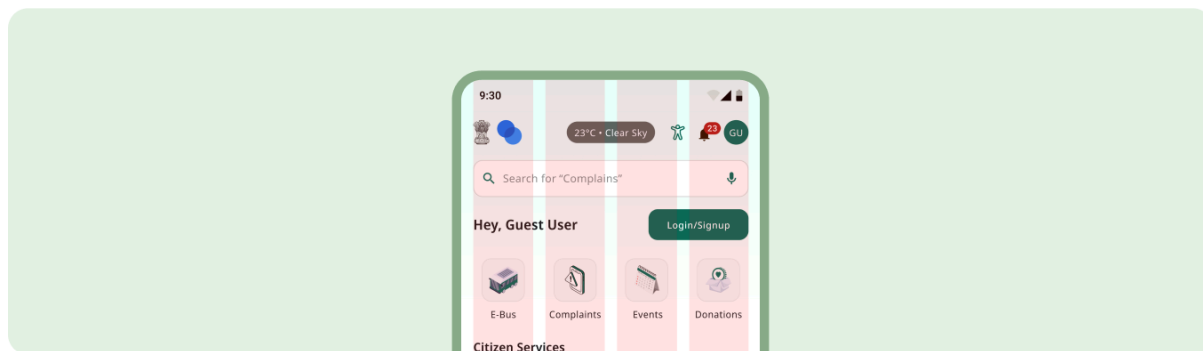
- Design intuitive navigation paths that guide users through available content sections and features easily.

6.1.4 Content Discovery Features

- Include a search feature (if required) that allows users to find specific content or features easily without logging in.
- Organize content into categories or use filters to help users refine their exploration based on their interests.

6.1.5 Personalization and Recommendations

- Offer personalized content recommendations based on user behavior or trends, even without user login.(Such as Location, Mostly Used, Top Services etc)



6.1.6 Limited Interactivity

- Limit interactive features (e.g., applying, commenting etc) for non-logged-in users to maintain simplicity and security.
- Enable sharing of app content through external platforms or social media

6.1.7 Performance Optimization

- Optimize app performance to ensure fast loading times for content and features accessed without login.
- Provide offline access to previously viewed content or cached information where feasible.

6.1.8 Educational Resources

- Offer guided tours or tooltips that introduce key app features and functionalities during the exploration phase.
- Include an accessible FAQ section or help center to address common user questions and support self-service exploration.

6.1.9 Conversion and Engagement

- Prompt users to create an account or log in when they attempt to access restricted features or content.
- Offer incentives such as exclusive content or discounts to encourage users to register or log in for enhanced benefits.(Persuasive Design)

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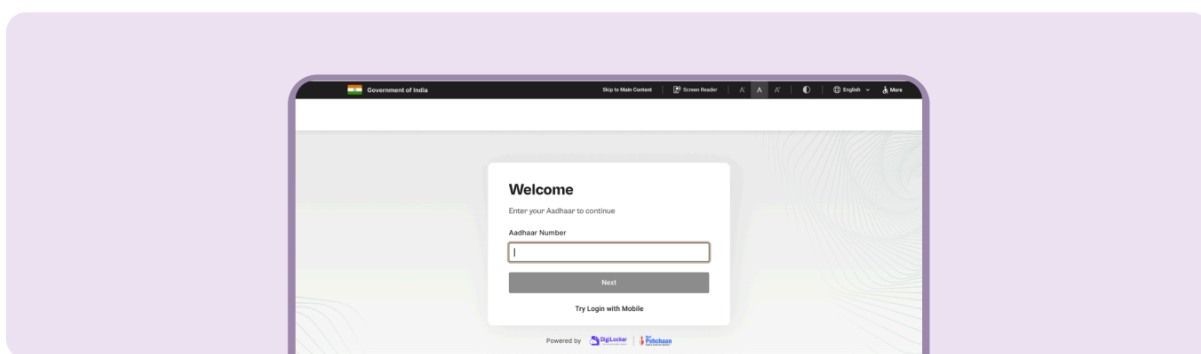
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6.2 Login and Signup using National Single Sign-On

Implementing National Single Sign-On (NSSO) for login and signup streamlines the user authentication process by allowing users to access your platform with their existing government-approved credentials. This integration enhances security, reduces the need for multiple passwords, and provides a seamless user experience, encouraging higher user adoption and trust while ensuring compliance with national security standards.

6.2.1 Integration with Meri pehchaan

- Integrate MeriPehchaan APIs into your product to enable seamless single sign-on (SSO) capabilities.
- Follow the official Meri pehchaan integration documentation to ensure proper implementation and compliance with security standards.



6.2.2 User Experience

- Place the Meri pehchaan login and signup buttons prominently on the login screen for easy access.
- Use the official Meri pehchaan branding and logos to maintain consistency and user trust.

6.2.3 Security and Privacy

- Ensure that the authentication process adheres to the highest security standards to protect user data.
- Clearly communicate the data privacy policies associated with using Meri pehchaan, ensuring users are informed about how their data will be used and protected.

6.2.4 User Consent

- Obtain explicit user consent before initiating the SSO process, explaining what data will be accessed and how it will be used.
- Provide easy access to your app's privacy policy and terms of service during the login/signup process.

6.2.5 Error Handling and Feedback

- Display clear and user-friendly error messages for any issues encountered during the login or signup process.
- Offer guidance on how to resolve common issues, such as incorrect credentials or connectivity problems.

6.2.6 Account Linking

- Allow users to link their existing app accounts with their Meri pehchaan credentials to streamline the login process.
- Ensure a seamless transition for users linking their accounts, maintaining their data and preferences.

6.2.7 User Interface Design

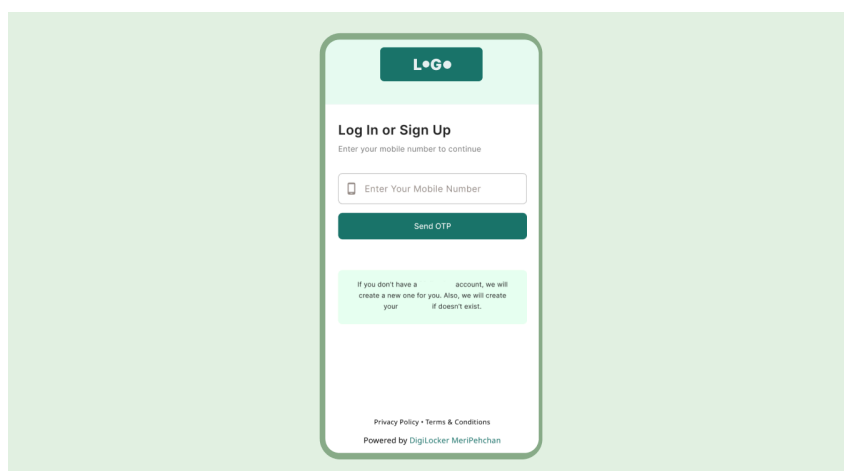
- Design an intuitive user interface that simplifies the login and signup process, minimizing the steps required to authenticate.
- Ensure the login/signup interface is responsive and works well on different devices and screen sizes.

6.2.8 Accessibility

- Ensure the Meri pehchaan login/signup interface is accessible to users with disabilities, supporting screen readers and other assistive technologies.
- Support keyboard navigation for all interactive elements in the login/signup process.

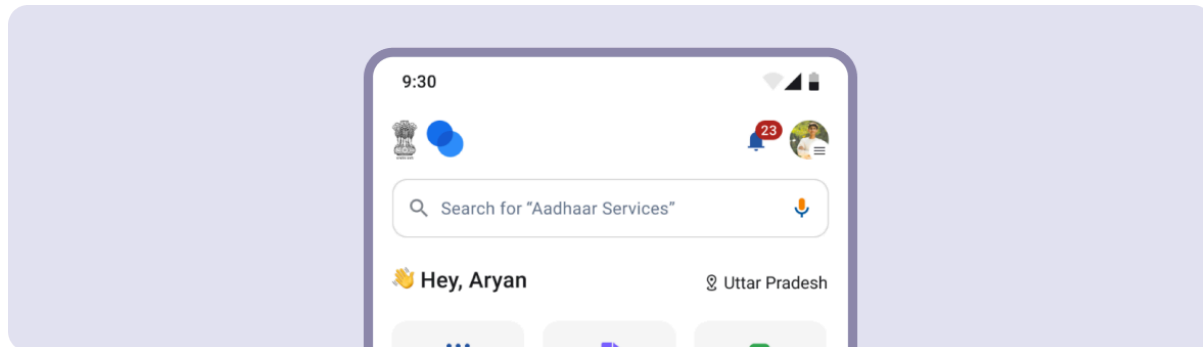
6.2.9 Branding and Customization

- Incorporate your app's personal branding alongside the Meri pehchaan branding to build trust and credibility. Ensure that your product's logo, colors, and branding elements are visible and harmoniously integrated with Meri pehchaan elements.
- Use trust indicators such as security badges and endorsements to reassure users about the safety and legitimacy of the login process.



6.3 Search

The search functionality allows users to quickly find specific content or features within the product. A well-designed search feature enhances user experience by providing a convenient way to access information and streamline navigation.



6.3.1 Positioning and Visibility

- If the Product is large and requires exploration, the homepage should include a search box to help users easily find the content they are looking for.
- Ensure the search bar is prominently placed, typically at the top of the screen, so it's easily accessible.
- Decide whether the search bar should be persistent (always visible) or accessible through a search icon. Persistent search bars are useful for content-heavy apps, while an icon can save space in minimalist designs.

6.3.2 Placeholder Text

- Use placeholder text in the search bar to guide users on what they can search for, e.g., "Search products, categories, or brands."
- Keep the placeholder text concise and informative, avoiding jargon.

6.3.3 Search Scope Indicators

- Indicate the scope of the search clearly, whether it's global or local. For local searches, ensure the context is evident, such as "Search within this list."
- The Search Bar can have AI functionalities depending upon the scope of the product.

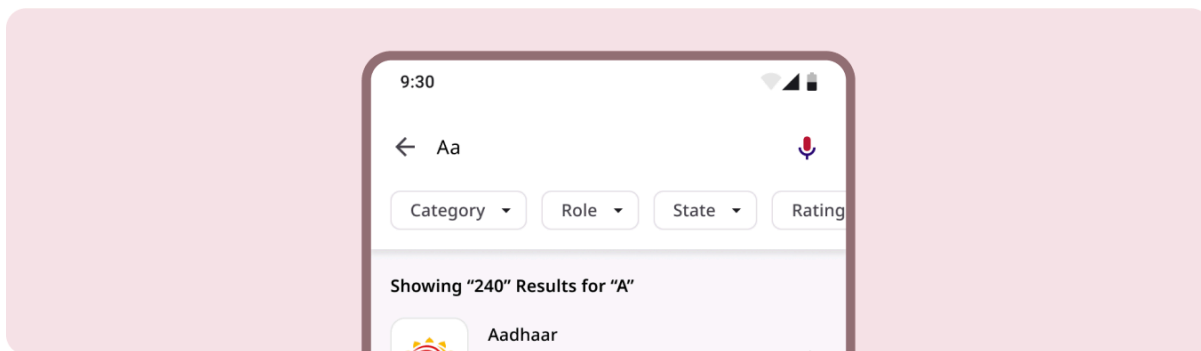
6.3.4 Filters and Categories

- Allow users to filter their search results or select categories to narrow down the search, enhancing the search experience.

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6.3.5 Instant Feedback

- Provide real-time search suggestions as users type, helping them find what they're looking for faster.

6.3.6 Result Relevance

- Ensure that search results are relevant and sorted by importance. Use algorithms to rank results based on user behavior, popularity, and relevance.

6.3.7 Usability and Accessibility

- Provide search functionality that supports multiple languages if your app caters to a global audience, ensuring accurate and relevant search results.
- Integrate voice search functionality for hands-free searching, catering to diverse user preferences and accessibility needs.

6.3.8 Loading and Performance

- Ensure that search results load quickly. Implement loading indicators to inform users that their search is being processed.
- Implement lazy loading for results that are not immediately visible to improve initial load times.

6.3.9 Design Consistency

- Maintain consistency in the design and placement of search bars across different sections of the product to provide a seamless user experience.
- Ensure the search bar aligns with the overall theme and branding of the product for a cohesive look.

6.4 Personalization

Personalization enhances user engagement by offering tailored experiences instead of generic ones. Users can customize their platform experience through various features like Language Preferences, Custom Dashboards, Notifications, Document Sorting and User Preferences. This approach is crucial for improving user experience on government websites and mobile applications, particularly in sectors such as jobs, education, and healthcare.

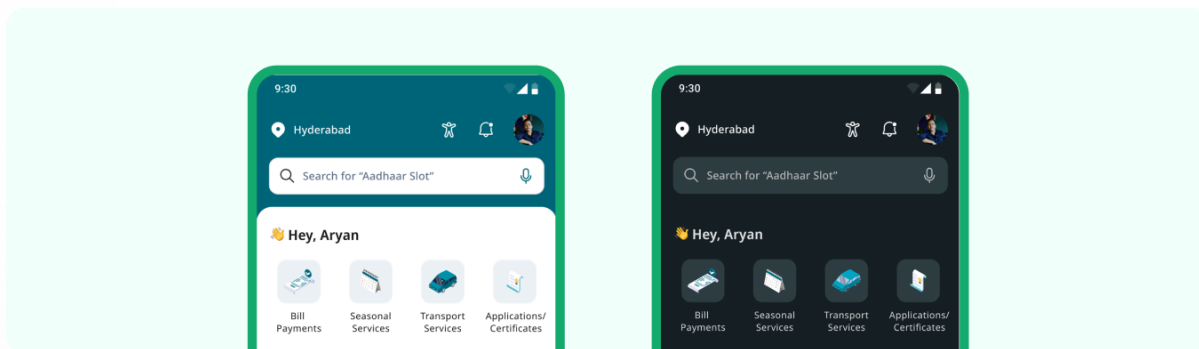
Endowment Effect: Users value something more if they feel it's theirs

6.4.1 User-Centric Approach

- Allow users to customize their product experience based on personal preferences such as language, theme, or content interests.
- Use user data (with consent) to personalize content recommendations, notifications, and features tailored to individual preferences and behavior.
- Ensure the collection of personal information adheres to the government Data Protection and other relevant regulations.

6.4.2 Customizable Interface

- Provide various theme options (e.g., light mode, dark mode) to accommodate user preferences and enhance visual comfort.
- Allow users to adjust font sizes, styles, and layout settings to optimize readability and usability according to individual needs.



6.4.3 Personalized Content Delivery

- Utilize algorithms or user input to suggest relevant content, products, or services based on user interests and past interactions.
- Offer location-based services or content recommendations to provide relevant information based on the user's geographic location.

6.4.4 Adaptive User Interfaces

- Adjust product interfaces dynamically based on user context (e.g., time of day, device type) to optimize usability and relevance.
- Analyze user behavior to personalize UI elements, such as displaying frequently used features prominently for faster access.

6.4.5 Notification Personalization

- Allow users to customize notification preferences (e.g., frequency, type) to receive relevant updates without overwhelming notifications.
- Implement intelligent notification systems that prioritize important messages and adapt based on user interactions and preferences.

6.4.6 Interactive Personalization

- Incorporate interactive features (e.g., quizzes, surveys) to gather user preferences and feedback for more personalized recommendations.
- Use gamification techniques to personalize user experiences through rewards, challenges, or achievements based on individual progress and interests.

6.4.7 Performance Optimization

- Ensure personalized content and features are updated in real-time to reflect changes in user preferences or behaviors.

6.4.8 Ethical Considerations

- Obtain explicit user consent before personalizing experiences based on sensitive data or behavioral patterns.
- Use personalization responsibly to enhance user experience without manipulating user behavior or choices.

6.4.9 Collaborative Approach

- Foster collaboration between design, development, and marketing teams to align personalization strategies with business goals and user needs.
- Document personalization strategies, points, and best practices to ensure consistency and effectiveness across the app development lifecycle.

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6.5 Task Orientation

Task orientation is a design approach that prioritizes helping users accomplish their goals efficiently and effectively on a Product. This approach involves creating user interfaces that are intuitive and easy to navigate, focusing on the user's needs and minimizing distractions. By emphasizing task orientation, designers can enhance user satisfaction and create more productive and pleasant user experiences.

6.5.1 Minimize Distractions

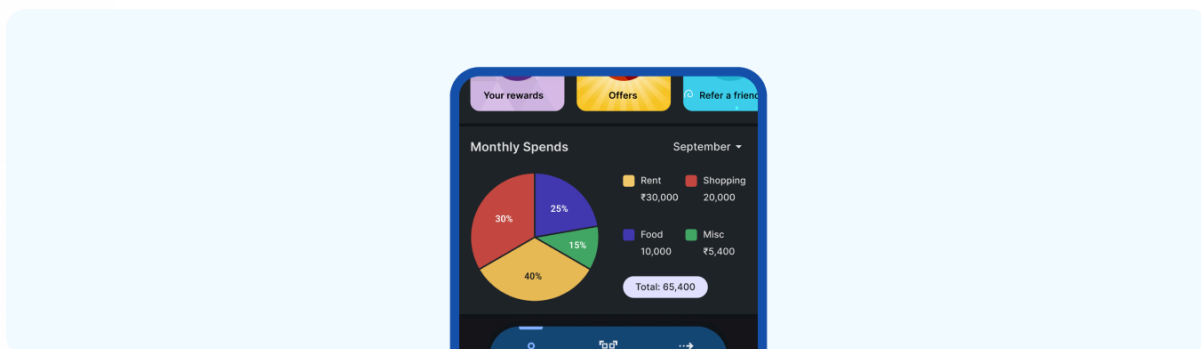
- Avoid including irrelevant and unnecessary information.
- Refrain from overusing scripts, applets, movies, audio files, graphics, and images.
- Avoid unnecessary registrations and critical actions like purchases or subscriptions should be clear and distraction-free.

6.5.2 Optimize Workflow

- Minimize the number of screens necessary for each task.
- Reduce the number of clicks required for any action.
- Follow the natural workflow of the user, matching the sequence of tasks to their real-world processes.

6.5.3 Present Data Clearly

- When displaying graphs, provide access to actual data, such as numeric labels on bar charts.
- Use automated actions like postcode lookup to complement user input.
- Allow users to compare items easily when necessary.



6.5.4 Enhance User Efficiency

- Position important and frequently used features near the center of the page for quick access.
- Avoid requiring users to enter the same information repeatedly.
- Display all necessary steps for multi-step tasks and provide progress feedback.

6.5.5 User-Friendly Navigation

- Ensure users do not need to remember information as they move between sections (Recognition rather than recall).
- Use easily understood metaphors and adhere to relevant cultural conventions for data formats.
- Use buttons for commands and actions instead of hyperlinked text.

6.5.6 Simplify Interaction

- Hide the internal workings of the software from the user.
- Ensure the application is easy to use for people with limited web and mobile experience.
- Enable users to explore and experiment with options before making commitments.

6.5.7 Design for All Users

- Make common tasks easy for first-time users without external assistance.
- Prominently display crucial call-to-action buttons on all pages and screens.
- Allow users to resume actions from where they left off if they quit and return later.

6.5.8 User Control

- Ensure action buttons (such as "Submit") are manually invoked by the user, not automatically by the system.
- Provide sorting and filtering options for pages with a lot of information.
- Ensure text and images on buttons or icons are relevant to the task.

6.5.9 Session Management

- Prompt users before automatically logging them off.
- Allow users to stop or skip unwanted features (like Flash animations).

6.5.10 Reliability and Usability

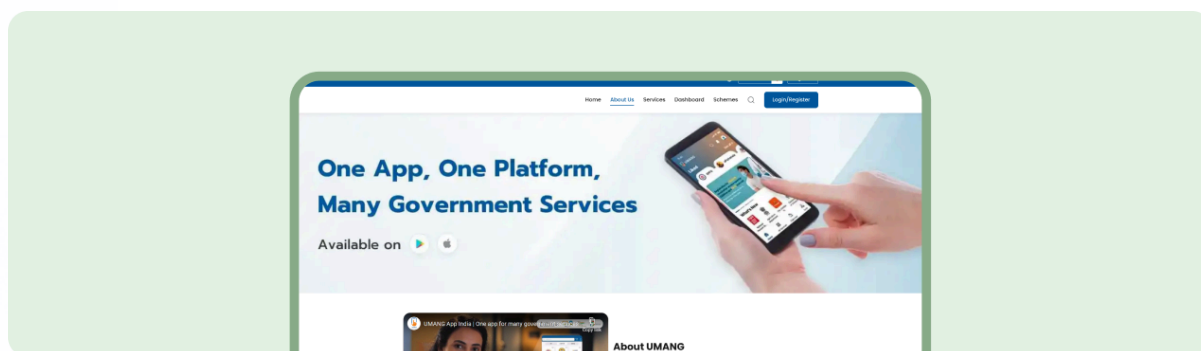
- Ensure the application is reliable, with all essential features functioning correctly and no broken links or errors.
- Cater to both novice and expert users by offering detailed explanations and tours for beginners and shortcuts for advanced users.
- Allow users to edit any information they provide, such as delivery addresses or account details.

6.6 Navigation & Information Architecture

Navigation and information architecture are fundamental components of user experience design. They determine how users interact with and find information within an application. Effective navigation and well-organized information architecture ensure that users can easily locate and access the content and features they need.

6.6.1 Navigation

- **Intuitive Structure**
 - Design a clear and logical navigation hierarchy that allows users to easily understand the structure and find what they need.
 - Ensure primary navigation elements (e.g., tabs, menu items) are easily accessible and clearly labeled.
- **Consistency**
 - Maintain consistent navigation patterns throughout the app to help users predict how to move between screens.
 - Keep key navigation elements (e.g., bottom navigation bar) persistent across the main screens to provide a stable user experience.
- **Visibility and Accessibility**
 - Place navigation elements in prominent locations, such as at the bottom or top of the screen, where users can easily reach them.
 - Ensure navigation elements are large enough to be tapped easily and are accessible to users with disabilities.
- **Feedback and Interaction**
 - Provide visual feedback (e.g., highlighting, color changes) when navigation elements are tapped to confirm user actions.
 - Implement smooth transitions between screens to enhance the user experience and provide a sense of continuity.



- **Back Navigation**
 - Ensure users can easily navigate back to the previous screen using standard gestures or a back button.
 - Use breadcrumbs or similar indicators to show the user's path and make navigation back to previous screens easier when the navigation has more than 3 steps.

6.6.2 Information Architecture

- User-Centered Design
 - Structure the app's information architecture based on user needs and behaviors, ensuring the most important content is easy to find.
 - Conduct user research and testing to understand how users expect to navigate the app and what information is most critical to them.
- Logical Grouping
 - Group related content and features logically to help users understand where to find specific information.
 - Use clear and descriptive labels for categories and sections to make navigation intuitive.
- Simplicity and Focus
 - Keep the information architecture as shallow as possible, avoiding deep hierarchies that can confuse users.
 - Highlight primary actions and important content on each screen, reducing the need for excessive navigation.
- Consistency
 - Apply a consistent structure to similar sections and features, helping users develop a mental model of the app's layout.
 - Use standard navigation patterns and familiar design conventions to make the app easier to learn and use.
- Flexibility
 - Provide multiple pathways to important content (e.g., navigation menu, search, shortcuts) to accommodate different user preferences.
 - Ensure the information architecture adapts to different screen sizes and orientations, maintaining usability across all devices.

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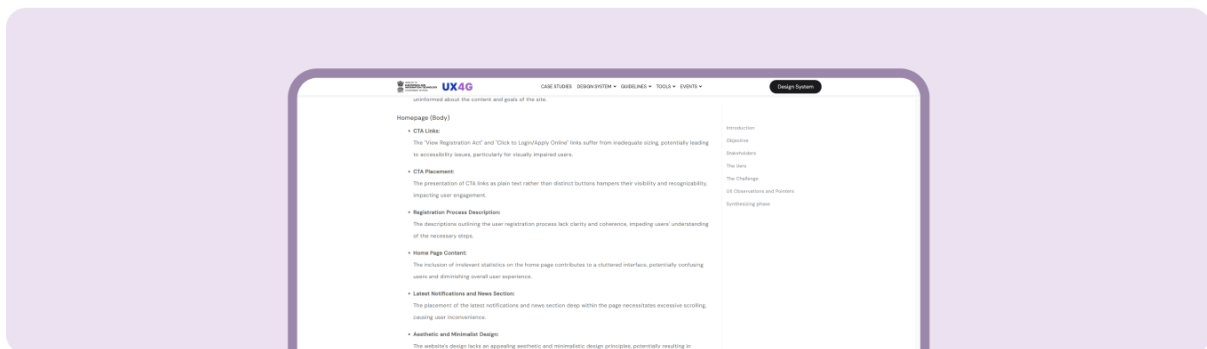
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6.7 Lists, Filters and Sorting

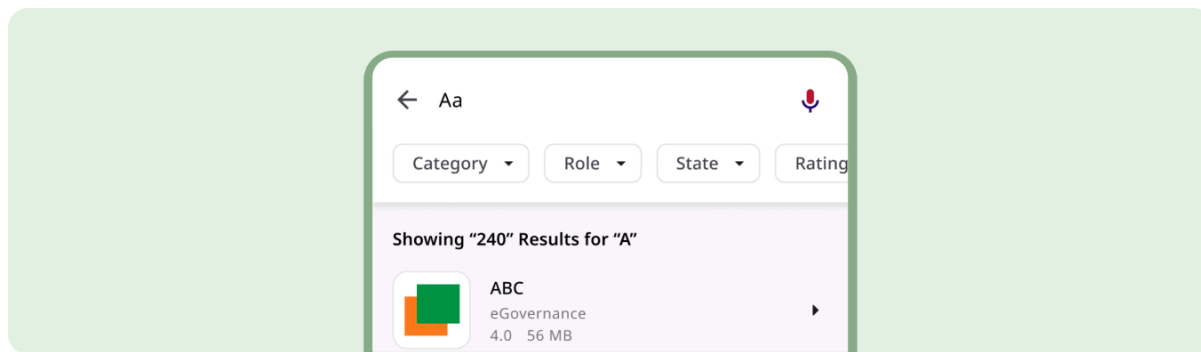
Effective use of lists, filters, and sorting options is crucial for enhancing user navigation and content discovery. Lists should be clear and organized, allowing users to easily browse through available options. Filters should provide intuitive, multi-criteria options to narrow down results, while sorting features should enable users to order content based on relevance, popularity, or other meaningful attributes. Together, these elements create a more personalized and efficient user experience, helping users quickly find what they need.

6.7.1 Lists



- **Clarity and Simplicity**
 - List items are designed with a clear and logical structure, allowing users to quickly scan and find information.
 - Information in each list item is kept concise and relevant, avoiding clutter and enhancing readability.
- **Visual Design**
 - Apply consistent styling to all list items, including fonts, colors, and spacing, to create a uniform look and feel.
 - Use visual separators (space, color separator) or dividers between list items to enhance readability and make it easy to distinguish between items.
- **Usability and Interaction**
 - Ensure that list items are easily tappable with sufficient spacing to prevent accidental taps and improve touch accuracy.
 - Provide visual feedback, such as highlighting or color changes, when a list item is tapped or selected to enhance interactivity.
- **Load Performance**
 - Implement efficient loading techniques, such as lazy loading or infinite scroll, to handle large lists without negatively impacting performance.
 - Use loading indicators (e.g., spinners or progress bars) to inform users that additional content is being loaded.
- **IAccessibility**
 - Ensure that list items are accessible to screen readers by using appropriate labeling and focus management.
 - Enable keyboard navigation for list items to accommodate users who rely on external keyboards or accessibility tools.

6.7.2 Filters



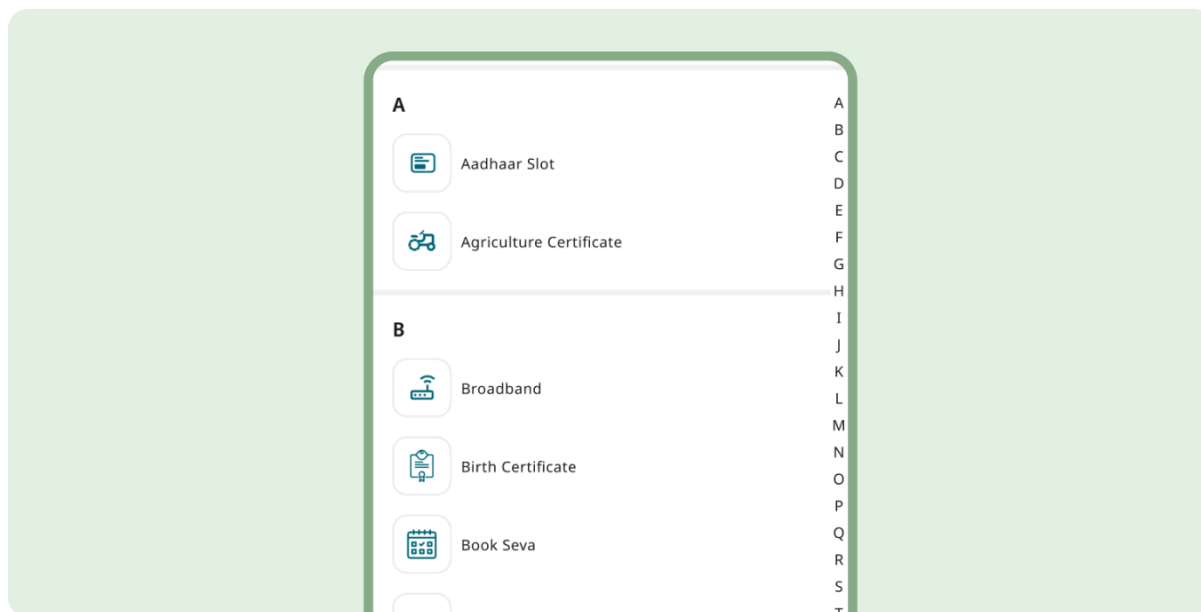
- **Visibility and Accessibility**
 - Position filters in a prominent and easily accessible location, such as at the top of the list or in a fixed menu.
 - Use collapsible sections for filters to save screen space and keep the interface clean and uncluttered depending upon the amount of information present in the particular view port
- **User-Friendly Design**
 - Provide clear and descriptive labels for each filter option, avoiding jargon and ensuring users understand their choices.
 - Allow users to select multiple filter options when applicable to provide flexibility and better control over the results.
- **Real-Time Feedback**
 - Apply filters in real-time or provide a clear action button (e.g., “Apply Filters”) to minimize waiting time and enhance user experience.
 - Offer visual confirmation of active filters, such as highlighting selected filters or displaying a count of active filters.
- **Reset and Clear**
 - Include a clear option to reset or clear all filters, enabling users to start fresh easily.
 - Offer an undo option for the last filter change to improve user control and satisfaction.
- **Customization and Save**
 - Allow users to save their filter preferences for future use, providing convenience and a personalized experience.
 - Enable users to create and save custom filters based on their specific needs and preferences.

6.7.3 Sorting

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- **Intuitive Options**
 - Provide sorting options based on relevant criteria, such as date, popularity, price, or alphabetical order.
 - Set a logical default sorting order that makes sense for the majority of users.
- **User Control**
 - Allow users to toggle between ascending and descending order for each sorting criterion.
 - Enable combination sorting (e.g., sort by price and then by rating) if applicable.
- **Visual Indicators**
 - Use clear icons or indicators (e.g., arrows) to show the current sorting order.
 - Highlight the active sorting option to provide visual feedback to the user.
- **Performance**
 - Ensure sorting operations are performed efficiently, even with large datasets, to avoid delays.
 - Provide feedback (e.g., loading spinner) during sorting operations to keep users informed of ongoing processes.
- **Accessibility**
 - Ensure sorting options are properly labeled for screen readers, providing a seamless experience for visually impaired users.

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6.8 Forms and Data Entry

Forms and data entry fields are critical components of mobile UX, enabling users to input information, complete tasks, and interact with the application or website. Well-designed forms enhance usability, reduce errors, and improve overall user satisfaction.

6.8.1 Form Design Principles

- Keep forms concise and straightforward by including only essential fields relevant to the user task or data entry process.
- Use steppers or multi-step navigation to break down longer forms into manageable sections, revealing additional fields progressively.

6.8.2 Input Fields and Labels

- Position labels prominently above or beside input fields to clearly indicate the type of information required.
- Employ appropriate input types (e.g., text, number, date picker) optimized for mobile devices to streamline data entry and minimize user effort.

6.8.3 Steppers for Long Forms

- Divide longer forms into logical steps or stages using steppers to guide users through each section systematically.
- Provide visual indicators (e.g., numbered steps, progress bars) to communicate the user's current position and overall progress within the form.

6.8.4 Validation and Error Handling

- Implement real-time validation to provide immediate feedback on input errors, ensuring users can correct mistakes promptly.
- Display concise error messages near the relevant fields, explaining how to resolve issues effectively without disrupting the data entry flow.

6.8.5 Mobile-Friendly Interactions

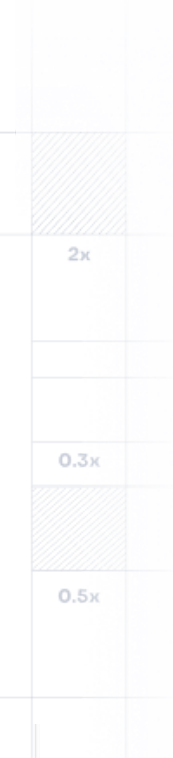
- Optimize input fields and interactive elements (e.g., buttons, checkboxes) for touch interactions, ensuring they are adequately sized and spaced.
- Support common mobile gestures (e.g., swipe, pinch-to-zoom) to enhance usability and streamline user interaction across different devices.

6.8.6 Autofill and Suggestions

- Enable autofill features where applicable to expedite data entry and enhance user convenience, especially for repetitive or predictable information.(SIM Selection, OTP Autofill) - (Flexibility and Efficiency of Use)
- Provide intelligent suggestions or predictive text based on user input to accelerate form completion and reduce manual effort.

6.8.7 Accessibility Considerations

- Design forms with accessibility in mind, including descriptive field labels and sufficient color contrast to support users with visual impairments.
- Ensure all form elements are accessible via keyboard navigation for users who rely on assistive technologies.



6.9 Banners & Graphics

Banners and graphics play a crucial role in engaging users, conveying key messages, and enhancing the visual appeal of an application. They help draw attention to important content, promotions, or features and contribute to the overall user experience.

6.9.1 Purpose and Relevance

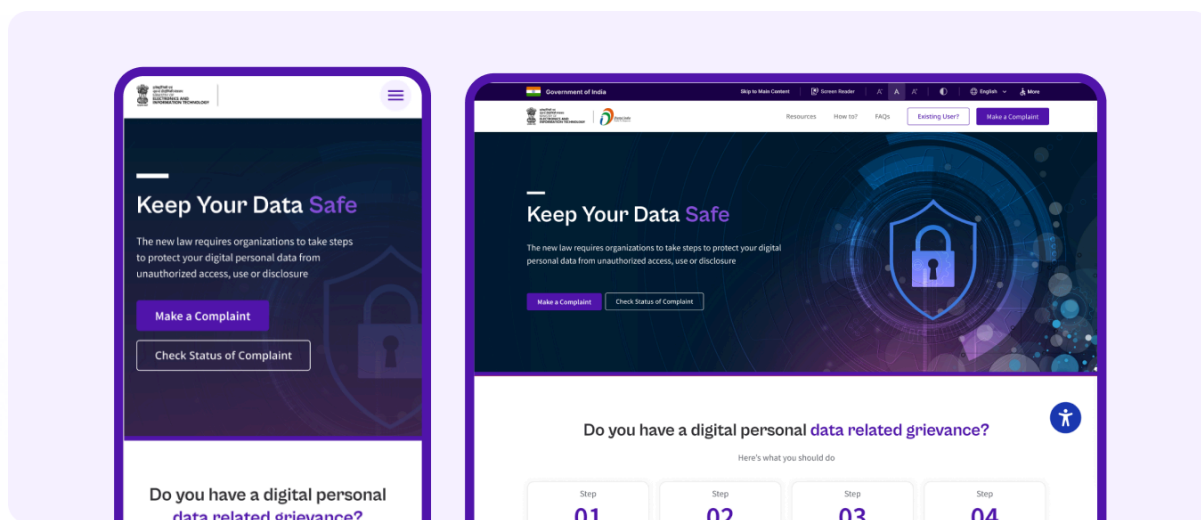
- Ensure each banner or graphic serves a clear purpose, such as promoting a product, providing information, or guiding user actions.
- Ensure that banners and graphics are relevant to the content or context of the app section they appear in.

6.9.2 Design and Aesthetics

- Maintain consistency with the app's branding, including colors, fonts, and overall style.
- Use high-resolution images and graphics to ensure clarity and professionalism.
- Create visually appealing designs that attract attention without being overwhelming.

6.9.3 Placement and Size

- Position banners and graphics in prominent locations where they are easily visible but do not obstruct core functionalities.
- Ensure banners and graphics are appropriately sized for different screen sizes and resolutions, maintaining readability and usability.



6.9.4 Call to Action (CTA)

- Include clear and compelling calls to action in banners, guiding users on what to do next (e.g., "Apply," "Learn More"). (BJ Fogg's Behavior Model)

- Ensure the CTA is prominently displayed and stands out from the rest of the banner content.

6.9.5 Interactivity

- Make banners and graphics interactive where applicable, allowing users to tap for more information or to perform an action.
- Ensure interactive elements respond quickly to user input, providing a seamless experience.

6.9.6 Animation and Transitions

- Use animations and transitions subtly to draw attention without being distracting.
- Ensure that animations do not negatively impact the app's performance or battery life.

6.9.7 Content Balance

- Keep text on banners concise and to the point. Use compelling visuals to convey the message.
- Ensure text is large enough to read comfortably on all screen sizes and contrasts well with the background.

6.9.8 Accessibility

- Provide alternative text for images and graphics to support screen readers and improve accessibility.
- Use high-contrast colors (as per WCAG) to ensure readability for users with visual impairments.

6.9.9 Frequency and Rotation

- Avoid overwhelming users with too many banners or graphics at once. Use a rotating carousel if multiple banners are needed.
- Update banners and graphics regularly to keep content fresh and relevant.

6.9.10 Localization

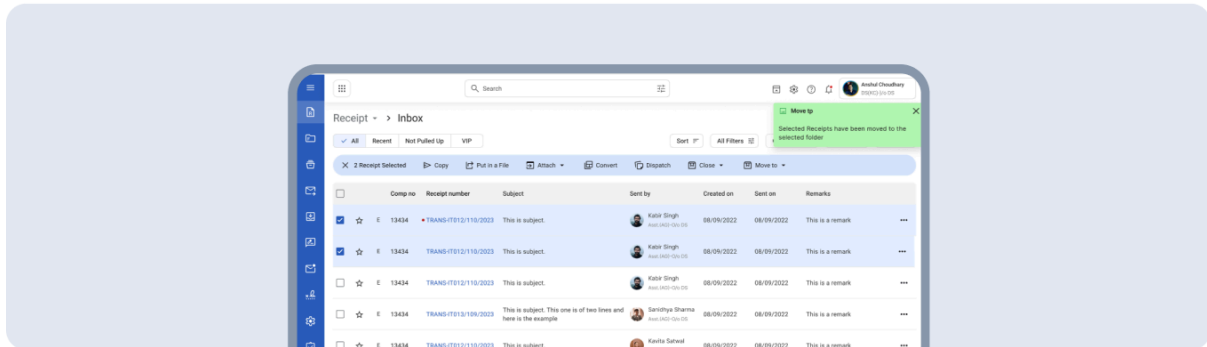
- Ensure banners and graphics are localized for different regions, considering language and cultural differences.
- Tailor content to be contextually relevant to the user's location or preferences.

6.9.11 Loading and Performance

- Optimize images and graphics for fast loading times without compromising quality.
- Implement lazy loading for images that are not immediately visible to improve initial load times.

6.9.12 Notifications and Alerts

- Ensure that banner notifications and alerts are non-intrusive and can be easily dismissed by users.
- Provide clear and concise messaging in alert banners to quickly convey important information.



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6.10 Writing and Content Quality

6.10.1 Clarity and Conciseness:

- Use simple, direct language to make content easily understandable, especially on smaller screens.
- Keep sentences and paragraphs short to ensure quick comprehension and maintain engagement.
- Content Structuring: Incorporate content hierarchies like headers, subheaders, tables, and grids to help users navigate content-heavy platforms. Use cards and lists to organize data in visually digestible formats.

6.10.2 User-Centered Approach:

- Tailor content to the target audience's language skills, culture, and preferences.
- Align content with user needs, delivering relevant and valuable information.
- Personalization: Implement personalized content to engage users based on their preferences and past behavior. Tailor content or services based on previous interactions to improve retention.

6.10.3 Brand Voice and Tone:

- Ensure a consistent brand voice that reflects the app's personality.
- Adjust tone depending on content context (e.g., formal for legal text, friendly for interactions).

6.10.4 Information Hierarchy:

- Use headings, subheadings, and bullet points for clear structure.
- Emphasize key details to ensure important information is easily visible.
- Progressive Disclosure: Employ a progressive disclosure strategy, showing essential information first, allowing users to expand for more details. This reduces cognitive load, particularly in content-heavy platforms.

6.10.5 Grammar and Mechanics:

- Maintain grammatical accuracy to boost professionalism and credibility.
- Check for spelling, typos, and punctuation errors before publishing.

6.10.6 Visual and Textual Balance:

- Complement text with visuals (e.g., icons, images) to enhance engagement, especially in instructional content.
- Break up dense text with shorter paragraphs and whitespace to improve readability.
- Lazy Loading: Introduce lazy loading techniques to load content only as users scroll or interact. This improves performance, especially for mobile devices where speed is crucial.

6.10.7 Contextual Guidance:

- Provide clear instructions and support within the app to help users navigate effectively.
- Include FAQs or help sections to address common queries.
- Feedback Mechanisms: Embed user feedback loops to capture user input on specific pages or sections, allowing ongoing improvement.

6.10.8 Accessibility Considerations:

- Follow WCAG points to ensure content is accessible to all users, including those using screen readers.
- Add descriptive alt text for images to assist users relying on assistive technologies.
- Accessible Content: Provide clear labeling and structured navigation (e.g., headers, tables) for large data sets to ensure accessibility, especially for users with disabilities.

6.10.9 Content Updates and Maintenance:

- Keep content current and accurate, reflecting any changes in app features or policies.
- Use feedback and data to improve content over time.
- Data Caching: Suggest data caching mechanisms to store frequently used data, reducing load times for returning users, particularly in regions with low connectivity.

6.10.10 Performance Optimization:

- Ensure content loads quickly, especially for users with slower connections, to optimize app performance.
- Search Functionality: Add robust search functionalities, including filters, autocomplete, and advanced search options, especially for platforms with large data sets. Ensure that the search system works well across both mobile and web platforms.

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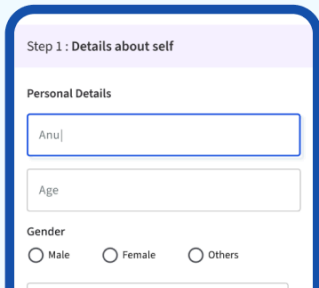
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6.11 Macro and Micro Interactions and Animations

6.11.1 Micro Interactions

- **Button States**
 - Ensure buttons provide visual feedback (hover, active, disabled states) to indicate their status and improve user interaction.
 - Use subtle animations for button clicks to provide a responsive feel.
- **Input Field Interactions**
 - Highlight form fields when they are in focus to guide the user.
 - Provide real-time validation and clear error messages for incorrect entries.
 - Use informative placeholder text to guide users on the expected input.



- **Tooltips and Help Icons**
 - Tooltips should appear on hover or tap to provide additional information without cluttering the interface.
 - Keep the tooltip text concise and relevant to the task at hand.
- **Loading Indicators**
 - Use progress bars or spinners to indicate that a process is ongoing, reducing user frustration during wait times.
 - Implement skeleton loading screens for content-heavy pages to give users a visual cue that content is being loaded and improve perceived performance.
 - If the process takes longer, provide textual updates to keep users informed.
- **Notifications and Alerts**
 - Notifications should be noticeable but not intrusive, appearing in a consistent location.
 - Include relevant actions within notifications for quick user response.
- **Interactive Feedback**
 - Provide confirmation messages for actions like form submissions or setting changes.
 - Allow users to undo recent actions to improve error tolerance.

6.11.2 Macro Interactions

- **Navigation Flow**
 - Design a clear and logical navigation structure that is easy to follow.
 - Maintain consistency in navigation elements across the website or mobile application to avoid confusion.

- Use breadcrumbs to help users understand their location within the site hierarchy.
- User Onboarding
 - Provide step-by-step onboarding guides for new users to familiarize them with the website or app.
 - Use interactive tutorials to demonstrate key features and functionalities.
- Page Transitions
 - Ensure smooth and fast page transitions to maintain user engagement.
 - Use consistent animations to create a cohesive user experience.
- Form Submission
 - For long forms, use multi-step processes with a progress indicator to make them more manageable.
 - Allow users to save their progress and resume later if the form is extensive.
- Content Loading
 - Implement lazy loading for content-heavy pages to improve performance and user experience.
 - Preload essential content to ensure quick access for users.
- Interactive Elements
 - Use expandable sections or accordions for secondary information, keeping the primary content clean and focused.
 - Incorporate interactive maps for location-based services or information.
- User Feedback Mechanisms
 - Use surveys and polls to gather user feedback on their experience and areas for improvement.
 - Provide easy access to feedback forms to report issues or suggest enhancements.
- Accessibility Considerations
 - Ensure all interactive elements are accessible via keyboard navigation.
 - Implement ARIA landmarks and roles to enhance compatibility with screen readers.

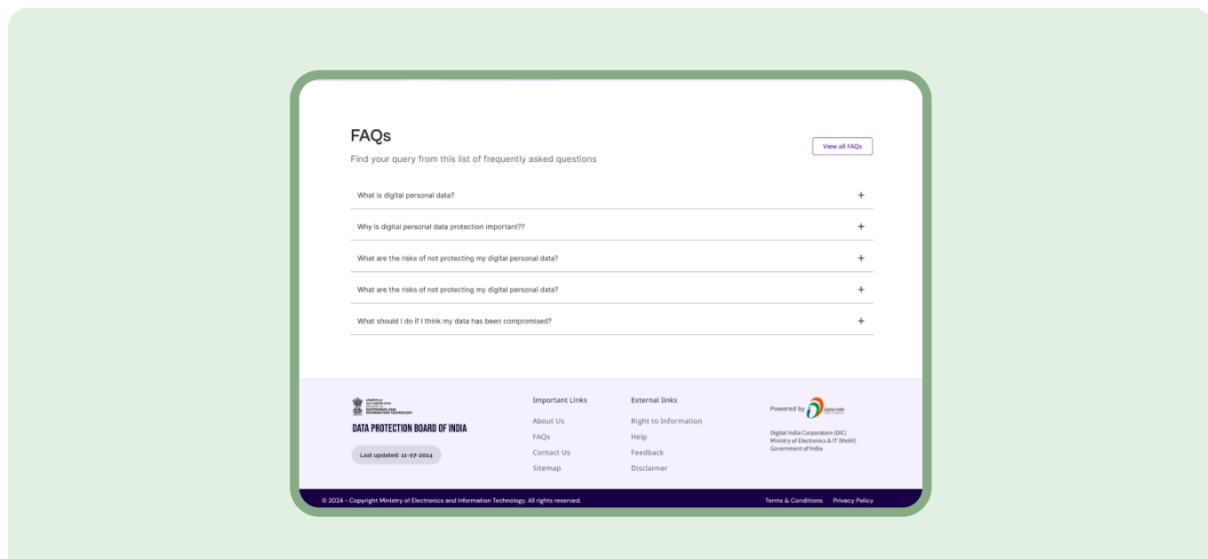
6.12 Help, Feedback and Error Tolerance

Help, feedback, and error tolerance are essential components of user-centered design that ensure users have a smooth and supportive experience when interacting with a website or mobile application. Help features, such as tooltips, FAQs, and user guides, provide users with the information they need to complete tasks and understand the interface. Feedback mechanisms, like confirmation messages, progress indicators, and error notifications, keep users informed about the outcomes of their actions and the system's status.

Error tolerance refers to the system's ability to prevent, detect, and correct errors, allowing users to recover from mistakes with ease. This includes features like undo options, error prevention techniques (e.g., input validation), and clear error messages that guide users on how to resolve issues.

6.12.1 Comprehensive Help System

- Provide a dedicated help center within the app, offering FAQs, tutorials, and knowledge base.
- Offer context-sensitive help that provides relevant information based on the user's current activity or screen.
- Implement a searchable database where users can quickly find answers to their queries.



6.12.2 User Feedback Mechanisms

- Include easy-to-access feedback forms allowing users to report issues, suggest features, or provide general comments.
- Use short surveys or polls to gather user opinions on specific aspects of the app.
- Provide options for users to contact customer support directly via email, chat, or phone for more complex issues.

6.12.3 Error Prevention and Handling

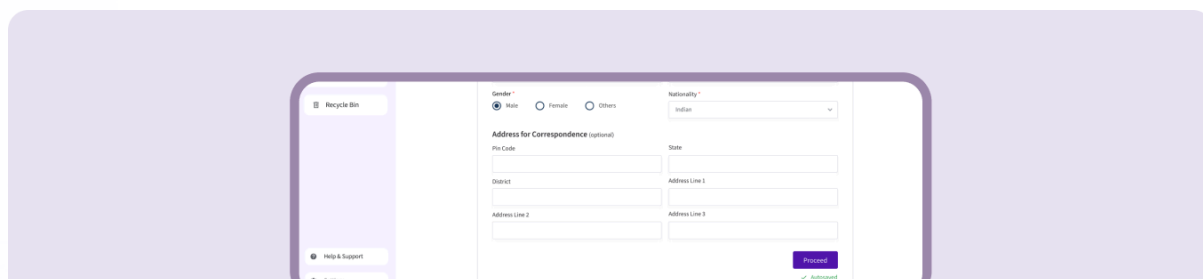
- Implement real-time validation for data entry fields to prevent errors before they occur.
- Display clear and concise error messages that explain what went wrong and how the user can fix it.
- Allow users to undo actions or revert to a previous state to correct mistakes without severe consequences.(User Control and Freedom)

6.12.4 User Guidance and Onboarding

- Provide interactive tutorials or guided walkthroughs for new users to help them understand key features and functionalities.
- Use tooltips and hints to guide users through complex processes or unfamiliar features.
- Show progress indicators for multi-step processes to keep users informed about their progress and what steps remain.

6.12.5 Feedback Acknowledgement and Follow-Up

- Acknowledge receipt of user feedback immediately, reassuring users that their input is valued.
- Keep users informed about the status of their feedback or reported issues, especially if it involves bug fixes or feature requests.
- Follow up with users to inform them when their feedback has led to changes or improvements in the app.



6.12.6 Error Recovery and Tolerance

- Implement auto-save features to prevent data loss in case of app crashes or unexpected shutdowns.
- Provide easy recovery options for users to restore lost data or continue interrupted tasks.
- Ensure the app continues to function at a basic level even if certain features fail or encounter errors.

6.12.7 User Empowerment

- Empower users with self-service tools like knowledge base to resolve common issues independently, reducing the need for customer support.

- Educate users on best practices for using the app through tips, articles, and video tutorials.

6.12.8 Accessibility in Help and Feedback

- Ensure all help and feedback features are accessible to users with disabilities, adhering to accessibility standards (e.g., WCAG).
- Offer help and feedback resources in multiple languages to cater to a diverse user base.

6.12.9 Performance Monitoring and Reporting

- Integrate error reporting tools to automatically capture and report app crashes or errors.
- Use analytics to monitor user interactions with help and feedback features, identifying areas for improvement.
- Allow users to report bugs or issues directly within the app, simplifying the error reporting process.

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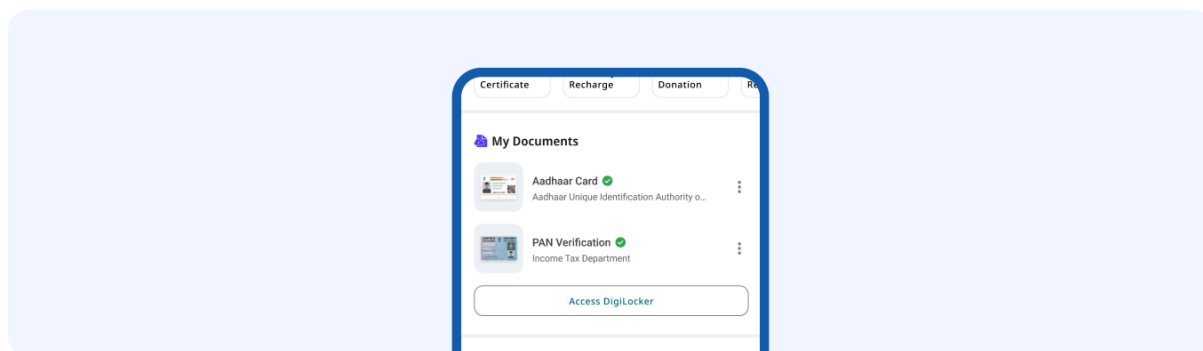
6.13 Government Service Integration

Government service integration involves seamlessly incorporating various government services into a single platform, enhancing accessibility and convenience for users. By integrating multiple services into one cohesive interface, citizens can interact with government functions more efficiently. This integration reduces the need for navigating multiple websites or mobile applications, streamlining processes and saving time.

Furthermore, a unified platform can improve data accuracy, security, and inter-departmental communication, ensuring that citizens receive consistent and reliable services.

6.13.1 Identifying Relevant Services

- Determine which government services (e.g., DigiLocker, myScheme, Bhashini, Service APIs) are relevant to your product's objectives and user needs.
- Define clear use cases for integrating each service, ensuring they add value to the app and improve user experience.



6.13.2 API Integration

- Refer to and follow the official API documentation provided by each government service for integration points and best practices.

6.13.3 Security and Compliance

- Ensure all data exchanged with government services is encrypted and complies with relevant data protection regulations
- Obtain explicit user consent before accessing or sharing their data with integrated services, clearly explaining the purpose and benefits. (Refer to Data Protection Regulations issued by Government)

6.13.4 User Interface and Experience

- Design the user interface to seamlessly incorporate features from integrated services, maintaining a consistent look and feel.

- Ensure navigation elements for accessing integrated services are intuitive and consistent with the overall product design.
- Provide onboarding materials to educate users on the benefits and usage of integrated services, including step-by-step guides or tutorials.

6.13.5 Accessibility and Localization

- Leverage services like Bhashini to offer multilingual support, making the app accessible to users in different languages.
- Ensure integrated services comply with accessibility standards (e.g., WCAG), providing support for users with disabilities.

6.13.6 Transparency and Trust

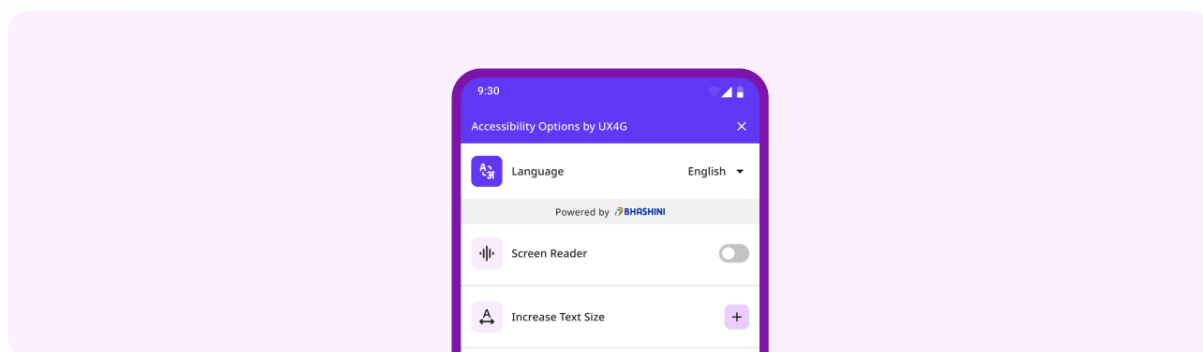
- Clearly communicate the role and benefits of each integrated service to users, including how their data will be used and protected.
- Inform users about updates or changes to integrated services, including new features, security updates, and maintenance schedules.

6.13.7 Support and Documentation

- Provide comprehensive help resources and documentation for integrated services, assisting users with common issues and questions.

6.13.8 Scalability and Future Integration

- Design the product architecture to support the addition of new services and scalability as user demand grows.
- Plan for future integrations by staying updated with emerging government services and APIs, ensuring the product can expand its functionality over time.



6.14 Offline Functionality

Offline functionality allows users to access and interact with a product even without an active internet connection. This feature is crucial for maintaining user engagement and productivity in areas with limited connectivity.

By caching essential data and functionalities locally on the user's device, offline functionality ensures that users can continue to read content, fill out forms, and use core features without disruption. Once the internet connection is restored, any changes or actions performed offline can be synchronized seamlessly.

This capability enhances user experience by providing reliability and continuity, particularly in critical applications like government services, healthcare, and education.

6.14.1 Identify Core Offline Features

- Determine which features and functionalities of the product are essential for offline access (e.g., viewing previously loaded content, filling out forms, saving drafts).
- Identify user needs and scenarios where offline access is critical (e.g., users in areas with poor internet connectivity).

6.14.2 Data Synchronisation

- Implement automatic synchronization of data when the device regains internet connectivity. Ensure data integrity and prevent duplication.
- Provide users with a manual sync option to refresh data on demand when they have internet access.

6.14.3 User Notifications and Alerts

- Inform users about their current connectivity status (online or offline) with clear indicators.
- Notify users when data synchronization is complete or if there are any issues with syncing data.

6.14.4 Seamless User Experience

- Ensure that the user interface remains consistent whether the product is online or offline, with minimal disruptions to user experience.
- Provide meaningful fallback content (e.g., cached data, placeholders) when the app is offline, ensuring that users can still navigate and use the app.

6.14.5 Error Handling and Feedback

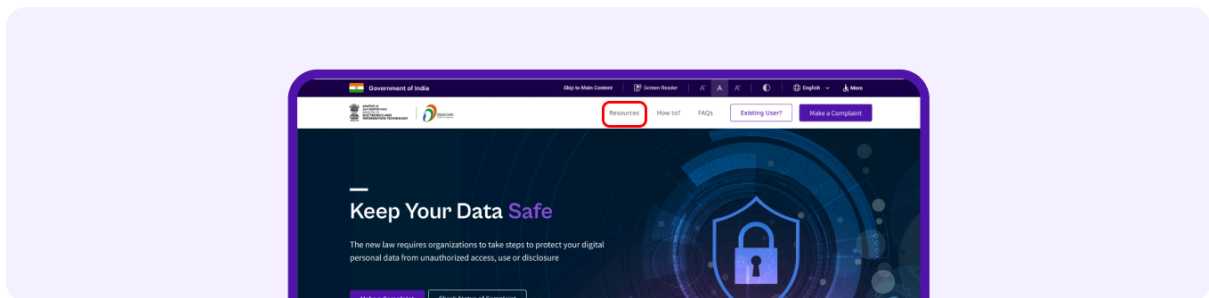
- Display clear and helpful error messages when users attempt actions that require internet connectivity while offline.
- Implement a retry mechanism for failed operations once the connection is restored, with minimal user intervention.

6.14.6 Testing and Validation

- Test the app thoroughly in both online and offline modes to identify and resolve any issues related to offline functionality.

6.14.7 Documentation and Support

- Provide clear documentation within the product on how to use offline features, including steps to manually sync data and troubleshoot common issues.
- Offer support channels for users to report issues or seek help related to offline functionality.



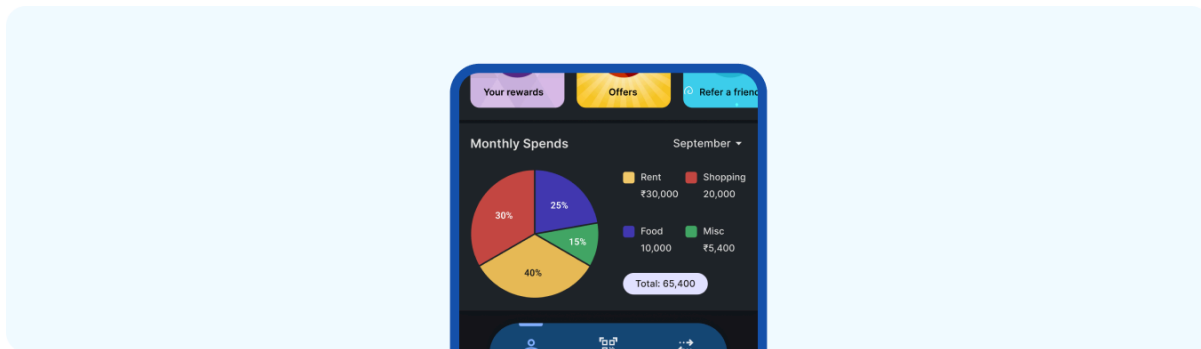
6.15 Data visualizations and infographics

Data visualizations and infographics are powerful tools for presenting complex information in a clear and engaging way. They transform raw data into visual formats such as charts, graphs, and diagrams, making it easier for users to understand trends, patterns, and insights at a glance. Effective visualizations and infographics simplify data interpretation, enhance storytelling, and can significantly improve user comprehension and retention.

In government websites and mobile applications, they can be used to illustrate statistics, performance metrics, and other key information, thereby improving transparency and accessibility for all users.

6.15.1 General Principles

- **Clarity and Simplicity**
 - Ensure that each visualization conveys a clear and specific message. Avoid clutter and unnecessary elements.
 - Use simple and straightforward design elements to avoid overwhelming users.
- **Accessibility**
 - Provide text alternatives for charts and graphs to ensure accessibility for users with visual impairments.
 - Use high-contrast colors to make data points and labels easy to distinguish.
 - Ensure that data visualizations are compatible with screen readers by using appropriate ARIA labels and descriptions.
- **Consistency**
 - Use a consistent color scheme and font style across all visualizations to maintain a uniform look and feel.
 - Apply consistent scales, legends, and labels across similar types of visualizations to help users easily compare data.
- **Interactivity**
 - Include interactive elements such as tooltips, hover effects, and clickable areas to allow users to explore the data in more detail.
 - Ensure that visualizations are responsive and adapt well to different screen sizes and devices.
- **Context and Interpretation**
 - Use descriptive titles and labels to provide context for the data being presented.
 - Include explanatory text or captions to help users interpret the data accurately.



6.15.2 Types of Data Visualizations

- Bar and Column Charts
 - Ideal for comparing quantities across different categories.
 - Use horizontal or vertical bars with clear labels and consistent spacing.
- Line Charts
 - Best for showing trends over time.
 - Use distinct colors or patterns for different data series and ensure that the axes are clearly labeled.
- Pie Charts
 - Suitable for showing proportions or percentages.
 - Limit the number of slices to avoid clutter and use contrasting colors to differentiate segments.
- Scatter Plots
 - Useful for showing relationships between two variables.
 - Use different shapes or colors for data points to distinguish between different groups.
- Heat Maps
 - Effective for displaying data density or patterns.
 - Use a gradient color scale and provide a legend to explain the color coding.
- Infographics
 - Ideal for summarizing information and presenting it in a visually engaging format.
 - Combine text, icons, and illustrations to convey the message and ensure that the layout is well-organized and easy to follow.
- Maps
 - Ideal for showing location-based data, such as state or district-level statistics.
 - Use interactive maps that allow users to hover or click on regions for more detailed information. Ensure maps are easy to interpret with clear boundaries and labels.

6.16 Optimization

6.16.1 Performance Optimization

- **Efficient Loading**
 - Combine files to reduce the number of HTTP requests. Use tools like webpack or Gulp to bundle CSS and JavaScript files.
 - Implement lazy loading for images, videos, and other large assets to improve initial load times.
 - Load JavaScript files asynchronously to prevent them from blocking the rendering of the page content.
- **Image Optimization**
 - Use responsive image techniques such as `srcset` to serve different image sizes based on the user's device.
 - Compress images using tools like TinyPNG or ImageOptim to reduce file sizes without compromising quality.
 - Use next-gen image formats like WebP for better compression and quality.
- **Caching Strategies**
 - Set appropriate caching headers to leverage browser caching for static assets.
 - Use a CDN to distribute static content across multiple servers, reducing latency and improving load times.
- **Code Optimization**
 - Minify CSS, JavaScript, and HTML files to reduce file sizes and improve load times.
 - Use tools like PurifyCSS to remove unused CSS and JavaScript to decrease file sizes.
 - Inline critical CSS to render content above the fold faster, and defer loading of non-critical CSS.
- **Database Optimization**
 - Optimize database queries to reduce load times and improve performance.
 - Use appropriate indexing to speed up query performance.
 - Implement query caching to reduce the load on the database server.
- **Server-Side Optimization**
 - Enable HTTP/2 to improve performance through multiplexing, header compression, and server push.
 - Use gzip or Brotli compression to reduce the size of transmitted files.
 - Implement load balancing to distribute traffic across multiple servers, ensuring reliability and faster load times.
- **Mobile Optimization**
 - Ensure that the website or app is fully responsive and provides a seamless experience across different devices and screen sizes.
 - Optimize touch interactions for mobile users by using appropriate touch targets and gestures.
- **Progressive Web Apps (PWAs)**
 - Implement Service Workers to enable offline access and improve load times for repeat visits.

- Use the App Shell model to load critical resources quickly and provide a native-like experience.

6.16.2 Monitoring and Analytics

- Performance Monitoring
 - Use tools like Google Analytics, Firebase, or Microsoft Clarity to monitor real-time performance and identify bottlenecks.
 - Collect user feedback on performance issues and use this data to guide optimization efforts.
- Error Monitoring
 - Implement error logging tools like Sentry or LogRocket to track and resolve errors in real-time.
 - Use crash reporting tools to identify and fix issues that cause crashes or instability in apps.

6.16.3 Best Practices

- Regular Audits
 - Conduct regular performance audits using tools like Google Lighthouse to identify and address performance issues.
 - Perform regular security audits to identify vulnerabilities and ensure data protection.
- Accessibility Optimization
 - Ensure that optimizations do not negatively impact accessibility. Test with screen readers to maintain a good user experience for all users.
 - Verify that all interactive elements are accessible via keyboard navigation.
- Content Delivery
 - Use the `<link rel="preload">` tag to preload key resources and improve page load times.
 - Ensure that critical content is prioritized and loaded first, while secondary content can be loaded asynchronously.
- User Experience
 - Ensure that animations are smooth and do not cause jank or performance issues.
 - Provide feedback mechanisms to let users know when actions are being processed, reducing perceived wait times.

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6.17 Analytics

6.17.1 Define Analytics Objectives

- Establish clear goals for what you want to achieve with analytics (e.g., user behavior tracking, feature usage, user engagement, app performance).
- Identify key performance indicators (KPIs) relevant to your app's objectives (e.g., active users, session duration, retention rates).

6.17.2 Select Appropriate Analytics Tools

- Ideal for comprehensive web and app analytics, providing insights into user behavior, demographics, and engagement.
- Offers deep integration with other Firebase services, ideal for tracking user interactions and app performance.
- Useful for visualizing user interactions through heatmaps and session recordings, helping identify UX issues.

6.17.3 Data Collection Strategy

- Define and implement tracking for key events that represent significant user actions (e.g., button clicks, form submissions).
- Segment users based on demographics, behavior, and usage patterns to gain deeper insights.

6.17.4 Privacy and Compliance

- Ensure compliance with data privacy regulations (e.g., GDPR, CCPA) by obtaining user consent for data collection.
- Anonymize user data to protect privacy and maintain trust while still gathering useful insights.
- Clearly communicate your data collection practices and privacy policy to users within the app.

6.17.5 Real-Time Processing

- Utilize real-time analytics to monitor immediate user interactions and app performance, allowing for quick response to issues.

6.17.6 Performance and Error Monitoring

- Integrate crash reporting tools (e.g., Firebase Crashlytics) to track and analyze app crashes and performance issues.
- Analyze user flows to identify drop-offs and optimize the user journey, enhancing overall app performance.

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6.17.7 Dashboard and Reporting

- Create custom dashboards to visualize key metrics and KPIs, making it easier to monitor and analyze data.
- Generate regular reports (e.g., weekly, monthly) to review performance trends and make informed decisions.

6.17.8 Actionable Insights

- Focus on interpreting data to derive actionable insights that can drive improvements in app design, features, and user experience.
- Conduct A/B testing to experiment with different features or designs and measure their impact on user behavior and engagement.

6.17.9 Training and Expertise

- Ensure that your team is well-trained in using analytics tools and interpreting data to derive meaningful insights.
- Consider consulting with analytics experts to optimize your data collection and analysis strategies.

6.17.10 Suggested Third-Party Tools

- **Google Analytics for Firebase**
 - Comprehensive app tracking and reporting.
 - Seamless integration with other Firebase services.
 - Real-time insights and detailed event tracking.
- **Microsoft Clarity**
 - Visualizes user interactions with heatmaps and session recordings.
 - Identifies UX issues and user pain points.
 - Provides insights into how users interact with your app.
- **Mixpanel**
 - Advanced user analytics and segmentation.
 - A/B testing and funnel analysis.
 - Tracks user behavior across devices and platforms.
- **Amplitude**
 - Detailed product analytics.
 - Cohort analysis and user segmentation.
 - Real-time behavioral analytics.

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UI Foundations

7. UI Foundations

This chapter covers essential foundational UI elements such as color, typography, iconography, and accessibility to guide designers in creating inclusive, clear, and engaging interfaces. Understanding and applying these fundamentals helps ensure that digital experiences are not only visually cohesive but also usable by all citizens, including those with disabilities or diverse needs. These principles support both aesthetic appeal and functional clarity necessary for effective government platforms.

1. Color

Color plays a vital role in making digital applications memorable and engaging. It stimulates emotions and aids users in navigating websites and mobile applications by providing a consistent primary color palette. When selecting colors, consider the following essential points:

- **Use Multiple Visual Cues:** Color should never be the sole means to communicate information, indicate actions, or highlight features. Combine color with shapes, text, and icons to ensure clarity and accessibility for all users.
- **Maintain Adequate Contrast:** Proper contrast between text and backgrounds is crucial, especially for users with visual impairments. Aim for a minimum contrast ratio of 4.5:1, with a recommended target of 7:1, in line with WCAG guidelines.
- **Contextual Color Usage:** Tailor color choices based on the target audience and purpose. For example, services for children may use larger fonts and brighter colors to capture attention, while applications for professionals might benefit from a more subtle, restrained palette.
- **Cross-Platform Consistency:** Ensure colors render well across various devices, browsers, and display settings to maintain visual integrity and brand trust.

Functional Color Palette

An effective color palette enhances usability, clarity, and visual harmony. It typically includes:

Primary Colors:

These establish the brand's visual identity and are used for main elements and primary actions. When choosing, align colors with brand values and target audience preferences, while ensuring sufficient contrast and readability.



Secondary Colors:

Supporting the primary palette, these colors are employed for secondary actions and backgrounds. They add depth and flexibility, complementing the primary colors without creating visual conflict.

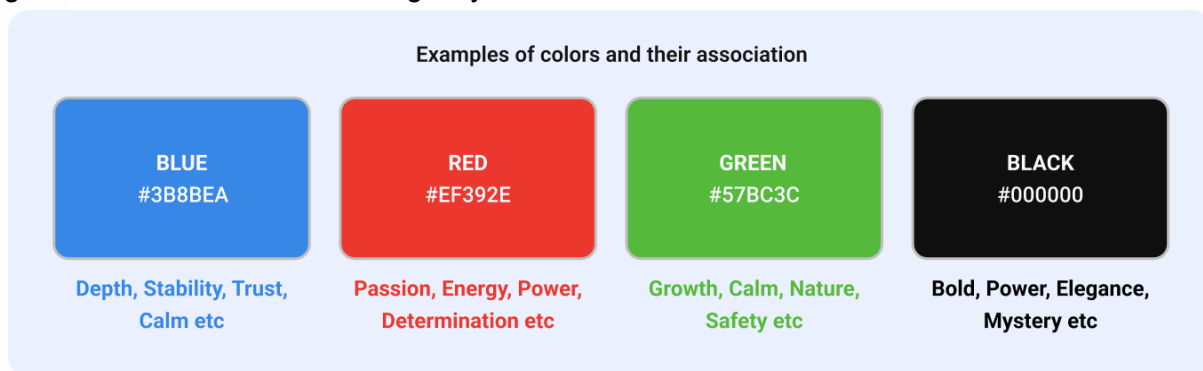
Neutral Colors:

Shades of gray and other neutrals are essential for backgrounds, borders, and text, providing balance and reducing clutter. Use different shades to establish visual hierarchy and maintain readability.



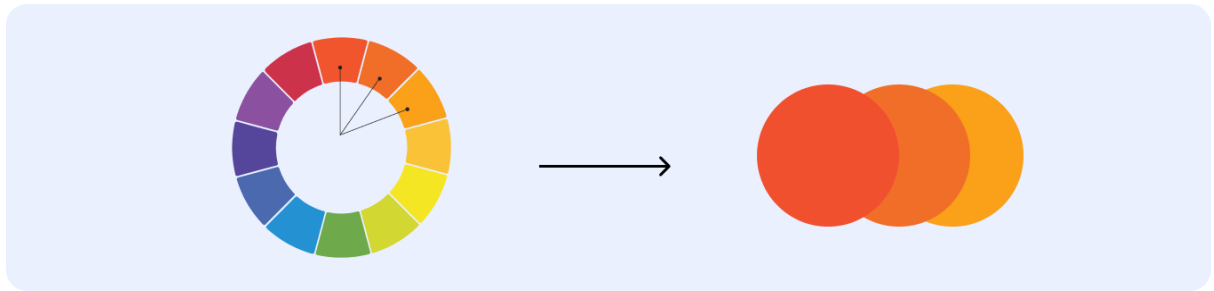
Guidance on Choosing Colors

- **Understand Brand Identity:** Select colors reflecting your organization's values and resonate with your audience.
- **Consider Psychological Impact:** Different hues evoke different emotions—green for growth, blue for trust, red for urgency.



- **Evaluate Harmony and Contrast:** Colors should work well together and maintain sufficient contrast to aid visibility. Use color wheels and charts to find what colors go best

together.



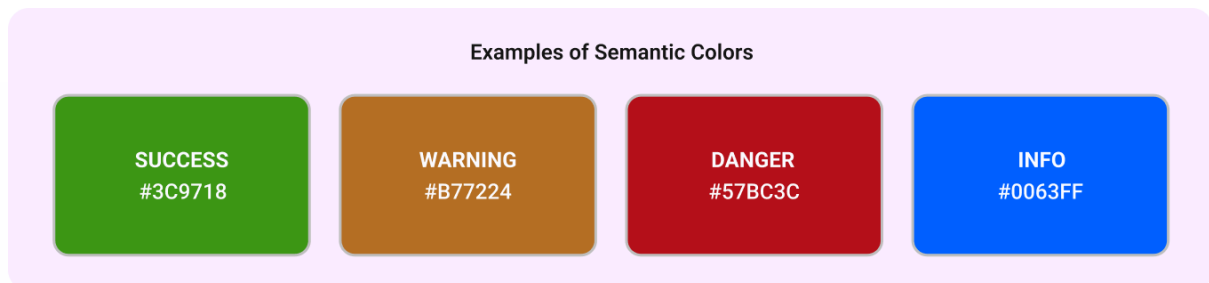
- **Test for Accessibility:** Follow WCAG contrast ratios and test color visibility in various lighting and device conditions.



- **Prioritize Versatility and Consistency:** Colors should be adaptable for diverse applications, maintaining cohesion across platforms.

Semantic Colors

Use colors purposefully to convey meaning and status:



Success (Green):

Indicates positive outcomes or completed tasks.

Warning (Yellow/Orange):

Signals caution or attention required.

Danger (Red):

Highlights errors or critical issues.

Accessibility Considerations

Ensuring that your color choices meet accessibility standards is crucial for creating inclusive and usable designs. Here's a comprehensive guide on accessibility considerations for colors:

Contrast Ratios

Text-to-Background Contrast: Ensure that text has a sufficient contrast ratio against its background. The Web Content Accessibility points (WCAG) recommend:

Normal Text: A contrast ratio of at least 4.5:1 for text smaller than 18pt or 14pt bold.

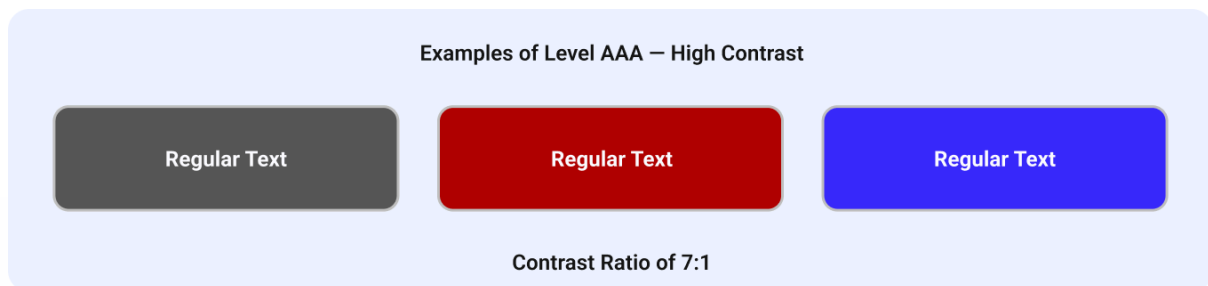
Large Text: A contrast ratio of at least 3:1 for text 18pt or 14pt bold and larger.

1. Level AAA — High Contrast:

Contrast Ratio: Atleast 7:1

Suitability: Ideal for providing exceptional readability and accessibility.

Reasoning: Achieving a contrast ratio of at least 7:1 ensures superior legibility and is beneficial for users with very low vision. Striving for high contrast where possible improves overall accessibility.

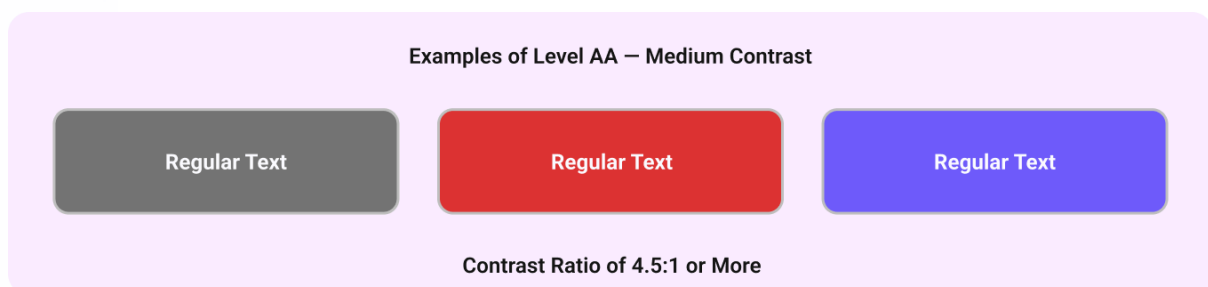


2. Level AA — Medium Contrast:

Contrast Ratio: More than 4.5:1

Suitability: Essential for crucial UI elements such as text, buttons, forms, etc.

Reasoning: A contrast ratio of at least 4.5:1 provides adequate readability for most text elements and is required to meet the minimum accessibility standards for website and mobile interfaces.

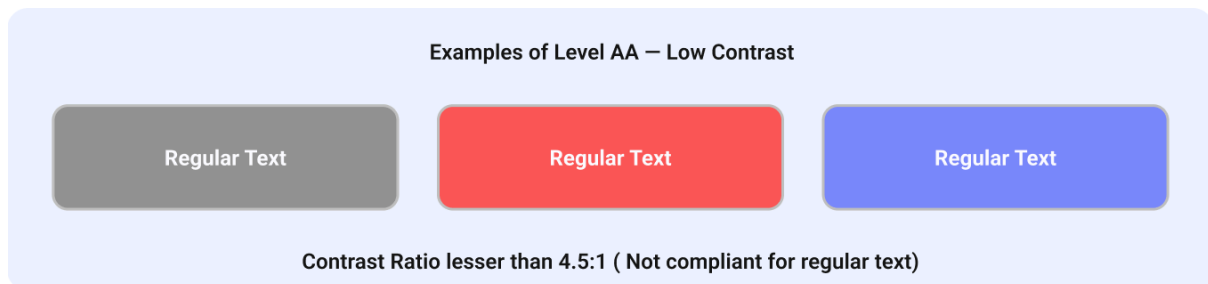


3. Level AA — Low Contrast:

Contrast Ratio: Less than 4.5:1

Suitability: Not suitable for text elements.

Reasoning: Text elements with low contrast may be difficult to read for users with visual impairments. Use higher contrast ratios to ensure accessibility and readability.



Adequate contrast helps users with visual impairments, including those with low vision or color blindness, read and interact with content more easily

Tools:

Use contrast checkers such as the [WebAIM Contrast Checker](#) or browser extensions like [Color Contrast Analyzer](#).

Color Combinations

Avoid Reliance on Color Alone: Don't use color as the sole means of conveying information. Complement colors with text labels, patterns or icons.

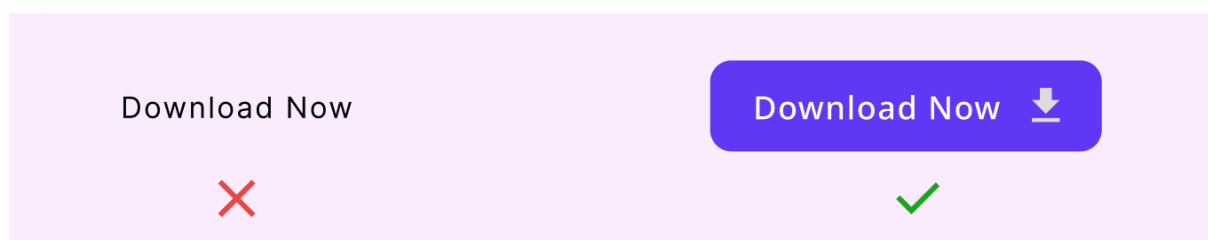
Examples: Use text labels with color-coded charts or include icons with color-coded alerts.

Reasoning: Users with color blindness or other visual impairments might not distinguish between colors effectively. Providing additional cues ensures information is accessible to everyone.

Tools: Utilize tools like Color Oracle to simulate color blindness and evaluate how your color combinations appear to users with different types of color vision deficiencies.

Use of Color for Interactive Elements

Interactive Elements: Ensure that links, buttons, and other interactive elements have sufficient contrast and are distinguishable from non-interactive text.



Focus Indicators: Provide a clear visual indicator for focused elements, such as a border or outline, that contrasts well with the background.

Reasoning: Clear visual cues for interactive elements and focus states are essential for users navigating with keyboards or screen readers.

Tools: Test interactive elements in various states (normal, hover, active, focus) to ensure they remain distinguishable and accessible.

Color Blindness Considerations

Color Blind Friendly Palettes: Use color palettes that are distinguishable for users with color blindness. Avoid problematic color combinations such as red-green or blue-yellow.

Color Combinations: Utilize colors with different luminance levels to ensure differentiation.

Reasoning: Ensuring that your color choices are distinguishable for users with color blindness helps create a more inclusive design.

Tools: Simulate color blindness using tools like Coblis or Color Blindness Simulator.



2. Typography

Typography is a fundamental aspect of user experience (UX) design, significantly influencing readability, accessibility, visual hierarchy and user engagement. The three main elements of typography are font style, appearance, and structure. Proper typography ensures a smooth flow of information, guiding the user effectively through the application. It accounts for approximately 95% of the design, making it crucial for creating an intuitive and pleasant user experience.

Font Style

- **Sans-serif Fonts:** Commonly used for screen viewing due to their clean and modern appearance, sans-serif fonts like Arial, Verdana, and Helvetica reduce visual clutter and enhance readability on digital screens.



Examples of a Serif Font



Examples of a Sans Serif-Serif Font

- **OpenType Fonts:** These digital fonts support advanced typographic features such as ligatures, kerning, and swashes. They are designed to enhance readability.



Examples of a OpenType Font

Text Case and Readability

- **Sentence Case:** Text values should be in sentence case, where only the first letter of each sentence is capitalized, and the rest are lowercase. This style is commonly used for titles, table headers, buttons, and form field labels.
- **Common Uses:**
 - **Titles:** Use sentence case for titles to maintain readability and visual consistency throughout the interface.
 - **Table Headers:** Apply sentence case to table headers for clarity and coherence in presenting data.
 - **Buttons:** Use sentence case for button labels to enhance readability and usability.
 - **Form Field Labels:** Apply sentence case to form field labels to guide users effectively in completing form inputs.
- **Avoid All Caps:** Avoid using all caps for text values, as it can be challenging to read and may convey a sense of shouting or urgency. However, certain headings or titles

may be exceptions, where uppercase may be used for emphasis or to maintain branding consistency.

Choosing Universally Available Fonts

System Fonts: Choose a font that is universally available across different systems to ensure consistency in typography. Using system fonts prevents the application from loading random fallback fonts, maintaining the intended design and readability.

UX4G Recommendation:

UX4G Font Recommendation:

NOTO SANS

The typeface of the World

Noto is a collection of high-quality fonts with multiple weights and widths in sans, serif, mono, and other styles. The Noto fonts are perfect for harmonious, aesthetic, and typographically correct global communication, in more than 1,000 languages and over 150 writing systems.

Readability and Legibility

- **Font Size:** Optimize font sizes for mobile devices, typically ranging from 12px to 16px for body text to ensure readability on smaller screens.
- **Contrast:** Ensure sufficient contrast between text and background colors to enhance legibility, adhering to accessibility standards for different lighting conditions.

Consistency and Uniformity

- **Unified Style:** Maintain consistency in typography across all screens and components to establish a cohesive visual identity.
- **Letter Spacing:** Adjust letter spacing for readability, especially in all-caps text. Avoid too tight or too loose spacing.
- **Line Height:** Use adequate line height to enhance readability. A general points is 1.25 to 1.5 times the font size.

Hierarchy and Emphasis

- **Hierarchical Structure:** Establish a clear hierarchy of information through different font weights and sizes for headings (Displays, Headings, Titles, Labels) and body text to guide users through content.
- **Emphasis Techniques:** Use bold or italic styles sparingly to emphasize key words or phrases without overwhelming the user interface.

Accessibility Considerations

Ensure text meets accessibility points (e.g., WCAG) for color contrast and readability to accommodate users with visual impairments.

Web Design

- **Text Resizing:**
 - Ensure that text can be resized up to 200% without loss of content or functionality.
 - Use relative units (em, rem) for font sizes to accommodate text resizing.
- **Contrast:**
 - Maintain a minimum contrast ratio of 4.5:1 between text and background for normal text (Recommended Contrast - 7:1).



- For large text (18pt and larger), maintain a contrast ratio of at least 3:1.
- **Semantic HTML:**
 - Use semantic HTML elements (<h1>, <p>, <button>) to ensure that screen readers can correctly interpret and navigate the content.
- **Text Alternatives:**
 - Provide text alternatives for non-text content (e.g., alt text for images) to ensure that the content is accessible to users with screen readers.
- **Alignment:**
 - Large Body Text: Must be kept left-aligned to enhance readability and provide a consistent visual flow.
 - Column Layout: Use justified alignment to create a clean, organized look and ensure that text blocks align neatly, improving overall aesthetics and readability.

Mobile Design

- **Scalable Text:**
 - Use scalable text sizes to ensure readability on different screen sizes. Follow platform points for minimum font sizes (e.g., 10px for iOS).
- **Contrast:**
 - Maintain sufficient contrast between text and background. Follow the same contrast ratio points as web design (4.5:1 for normal text, 3:1 for large text) (Recommended Contrast - 7:1).
- **Text Alternatives:**
 - Provide text alternatives for non-text content to ensure accessibility for users with disabilities.

- **Dynamic Type (iOS) and Font Scaling (Android):**
 - Support Dynamic Type on iOS and Font Scaling on Android to allow users to adjust text sizes based on their preferences.

Multilingual Support

- **Unicode Coverage:** Leverage Noto Sans's comprehensive Unicode support to display various languages and characters accurately within the application.
- **Font Rendering:** Test font rendering across different languages and scripts to ensure consistent legibility and appearance across all supported languages.

Responsive Typography

- **Responsive Design:** Implement responsive typography principles to adjust font sizes and spacing dynamically based on device screen sizes and orientations.
- **Flexible Sizes:** Use relative units like em or rem for font sizes to ensure text scales appropriately on different devices.
- **Breakpoints:** Adjust font sizes and line heights at different breakpoints to maintain readability on various screen sizes.

Interaction and Feedback

- **Interactive Elements:** Ensure interactive text elements (buttons, links) are visually distinguishable through color changes or underlines to provide clear feedback to users.
- **Messages:** Use Noto Sans for messages(error, success, warning etc) and notifications, ensuring clarity and empathy in communicating important information to users.

Performance Optimization

- **Font Loading:** Optimize font loading to minimize load times and ensure quick access to content, enhancing overall application performance.
- **Fallback Fonts:** Specify fallback fonts in CSS to maintain readability if Noto Sans is unavailable or fails to load properly on user devices.

Customization

- **Customization:** Consider customizing Noto Sans (e.g., adjusting letter spacing or using specific weights) to reflect the unique personality and design aesthetics of your platform

Global Communication

- **Harmonious Aesthetic:** Leverage Noto Sans's wide range of weights and styles to create a harmonious and aesthetically pleasing experience for global users.

- **Support for Multiple Languages:** Utilize Noto Sans for its robust support of over 1,000 languages and over 150 writing systems, ensuring effective global communication.

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3. Iconography

Iconography in web and mobile applications involves the use of icons to enhance usability, navigation, and visual appeal. Icons are visual symbols that represent actions, objects, or ideas, making interfaces more intuitive and user-friendly.

General points

1. Clarity and Simplicity:

- **Keep It Simple:** Ensure icons are simple and universally recognizable to avoid confusion.
- **Avoid Overcomplication:** Overly complex icons can confuse users and reduce usability. Complex Icons increase the cognitive load.

An example of overcomplicated and clear Icon



2. Consistency:

- **Uniform Style:** Use a consistent style for all icons (e.g., line, filled) to maintain visual harmony. (Exception: If you are using outlined icons throughout your product, filled icons can be used to represent selected/active state).
- **Standard Sizes:** Keep icons the same size across most of the application to ensure uniformity.

3. Contextual Relevance:

- **Appropriate Symbols:** Use icons that accurately represent the actions or information they signify.
- **Avoid Misleading Icons:** Icons should not be ambiguous or misleading.

4. Spacing and Alignment:

- **Adequate Padding:** Use bounding boxes to maintain adequate spacing around icons, preventing them from feeling cramped.
- **Proper Alignment:** Align icons with text and other UI elements to create a balanced design.

5. Interactivity:

- **Touchable Area:** On mobile devices, ensure icons have sufficient touch areas to be easily clickable. (Recommended: 44px)
- **Feedback:** Provide visual feedback (e.g., hover effects, active states) when users interact with icons. Provide tooltips or help text on hover (desktop) and focus (mobile) states to give additional context and descriptions for icons in absence of labels.

6. Complementary Text:

- **Labels:** Accompany icons with text labels, especially for complex or less intuitive actions, to enhance understanding.
- **Tooltips:** Use tooltips to provide additional information about icons when needed. Ensure that tooltips and help text are consistent across the application to avoid confusion.

7. Scalability:

- **Responsive Design:** Ensure icons scale properly across different screen sizes and resolutions without losing clarity.
- **Vector Graphics:** Use vector formats (e.g., SVG) for icons to maintain quality at various sizes.
- **Optimized Loading:** It is suggested to use CDN or sprite sheets to optimize icon loading and improve performance.

8. Cultural Sensitivity:

- **Avoid Cultural Misinterpretation:** Be aware of cultural differences in icon interpretation to avoid miscommunication.
- **Use Universally Recognized Icons:** Stick to icons that have universal meanings across cultures.

9. Brand Consistency:

- **Align with Brand Identity:** Ensure icons align with the overall branding and design language of the application.
- **Custom Icons:** Consider creating custom icons that reflect the brand's unique identity while maintaining usability.

Accessibility Considerations

1. Keyboard Navigation:

- **Focusable Icons:** Ensure all interactive icons are focusable and operable using a keyboard, providing a clear focus state.

- **Tab Order:** Maintain a logical tab order for navigable icons, ensuring users can move through icons in an intuitive sequence.

2. Screen Reader Compatibility:

- **ARIA Labels:** Use ARIA (Accessible Rich Internet Applications) labels to provide descriptive text for icons, ensuring screen readers can convey their purpose to visually impaired users.
- **Descriptive Alt Text:** Provide meaningful alt text for icons used in important actions and information to ensure they are accessible to all users.

3. Contrast and Visibility:

- **Sufficient Contrast:** Ensure icons have sufficient contrast against their background to be easily visible, adhering to WCAG (Web Content Accessibility points) standards. The contrast ratio should be at least 7:1 for graphical elements and user interface components.



- **Scalable Icons:** Use scalable vector icons (SVGs) to ensure clarity and readability across different screen sizes and resolutions. Scalable icons maintain quality without pixelation.
- **Stroke Width:** 2dp outlined icons remain readable across sizes and applications.

4. Touch Targets:

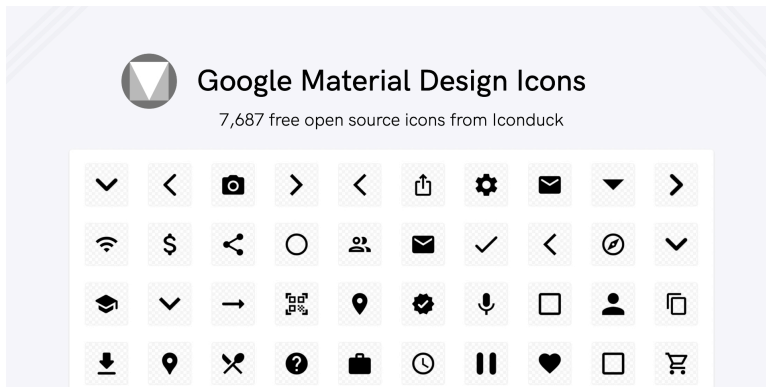
- **Adequate Size:** Ensure icons are large enough to be tapped easily on touch screens, with a minimum touch target size of 44x44 pixels.
- **Spacing:** Maintain adequate spacing between icons to prevent accidental taps, especially in densely packed interfaces.

Icon Libraries:

● UX4G Recommends:

- **Material Icons:** A comprehensive and widely-used icon library from Google that offers a consistent, clean, and modern design.

Material Icons also have a set of [points](#) to adhere to along with the UX4G parameters.



• Other Libraries:

- **Font Awesome:** A versatile icon library with a vast collection of icons for various applications.
- **Ionicons:** A set of high-quality icons designed for use with mobile applications.
- **Feather Icons:** A collection of simple and elegant icons that are highly customizable.
- **Heroicons:** Custom-crafted SVG icons tailored for web projects.

Use only one icon library at a time to ensure visual consistency across your application. If a relevant icon is not found within the chosen library, a similar icon can be used and added to the library. This helps maintain uniformity and prevents visual discrepancies.

4. Accessibility Parameters

Accessibility is a crucial aspect of service design. It is essential to ensure that everyone, regardless of ability, can use the products. This involves creating a well-structured Website/Mobile Application with clear content and visuals as accessibility impacts all aspects of daily life.

The Web Content Accessibility points (WCAG), produced by the World Wide Web Consortium (W3C), provide suggestions for enhancing online content accessibility, particularly for users with disabilities and for other user agents, including mobile phones. WCAG are the widely accepted points for accessibility, and it is advised that product teams should adhere to them for all related matters.

Understanding User Base and Cultural Probes

- **User Research:** Conduct thorough research to understand your user base, focusing on their accessibility needs and cultural contexts. This is particularly crucial in a diverse country like India.
- **Cultural Probes:** Study cultural probes to gather insights into users' daily lives, challenges, and preferences.
- **Localized Solutions:** Develop accessibility solutions that consider the diverse cultural and linguistic landscape of your user base, ensuring inclusivity for all segments of the population.

Adherence to Standards

- **WCAG Compliance:** Ensure your app complies with the Web Content Accessibility points (WCAG) to provide an inclusive experience for all users.
- **Legal Requirements:** Follow accessibility-related legal requirements and best practices applicable in your region.

Accessible Design Principles

- **Text Size and Readability:** Use readable fonts and ensure text size can be adjusted. Avoid small fonts and low-contrast text.
- **Color Contrast:** Ensure sufficient contrast between text and background colors to aid readability for users with visual impairments.
- **Scalable Interfaces:** Design interfaces that scale appropriately across different devices and screen sizes without losing functionality or readability.

Navigation and Interaction

- **Keyboard Navigation:** Ensure that the app is fully navigable using a keyboard, providing an alternative to touch navigation.
- **Voice Commands:** Implement voice command functionality to aid users who have difficulty using touch interfaces.
- **Gestures and Touch Targets:** Use simple gestures and ensure touch targets are large enough to be easily tapped.
- **Heading for each section:** One common way to skim a page with a screen reader is to jump from heading to heading. While skimming with a screen reader, users can hear an overview of the page's key information, then backtrack to read the parts they are most interested in.

Alternative Text

- **Image Descriptions:** Provide alternative text for all images, icons, and interactive elements to ensure screen readers can describe visual content.
- **Multimedia Transcripts:** Offer transcripts for audio and video content to assist users with hearing impairments.

Assistive Technologies Support

- **Screen Readers:** Ensure compatibility with screen readers like TalkBack (Android) and VoiceOver (iOS).
- **Magnification Tools:** Support for screen magnification tools to help users with low vision.

Accessible Forms and Controls

- **Labeling:** Clearly label all form fields and controls to ensure they are understandable to screen readers.
- **Error Messages:** Provide clear, descriptive error messages and instructions to guide users in correcting form errors.

Usability Testing

- **User Testing:** Conduct usability testing with individuals who have disabilities to identify accessibility issues and areas for improvement.

- **Automated Testing:** Utilize automated accessibility testing tools to regularly check for compliance with accessibility standards.

User Customization

- **Customization Options:** Provide options for users to customize their experience, such as changing text size, color schemes, and contrast.
- **Accessibility Settings:** Include an accessibility settings menu where users can easily adjust app features to meet their needs.

Language Support

- **Multilingual Capabilities:** Leverage tools like Bhashini to offer content in multiple languages, ensuring users can interact with the application in their preferred language.
- **Simple Language:** Use clear, simple language to make content accessible to users with cognitive impairments or low literacy levels.

Continuous Improvement

- **Regular Updates:** Continuously update the website and app to address new accessibility issues and incorporate user feedback.
- **Training:** Train your development team on accessibility best practices and the importance of inclusive design.

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Design System

Design System

What is a Design System?

A design system is a comprehensive collection of reusable components, style guides, principles, and documentation created to ensure consistency, efficiency, and scalability in building digital products.. It provides a shared framework for design and development teams, enabling faster and more coherent delivery of user experiences across government websites and applications.

Key Components of a Design System

- **Design Principles:** Core guidelines and philosophies that shape design decisions, ensuring that all outcomes uphold the values of usability, clarity, and inclusion.
- **Style Guide:** Defines visual identity: colors, typography, iconography, illustrations, and imagery, so every product and service reinforces the brand.
- **Component Library:** A set of tested, accessible UI components (buttons, forms, navigation, cards, etc.) that can be reused across projects, promoting both speed and uniformity.
- **Pattern Library:** Common solutions to recurring interface and interaction challenges, making it easier to handle frequent tasks like authentication, notifications, and form submissions.
- **Documentation:** Comprehensive instructions explaining how to use components, patterns, and styles, and why they exist. Documentation reduces ambiguity, aligns teams, and makes onboarding easier.
- **Governance:** Clear processes for maintaining, evolving, and reviewing the design system, covering decision rights, change requests, and contributions.

Why Use a Design System?

- **Consistency Across Experiences**
Design systems create a uniform look and feel, improving citizen trust and usability. The same components and patterns are used for all services and devices, making interactions familiar and intuitive.
- **Productivity and Speed**
Teams can work faster and more efficiently by reusing components and patterns, reducing time spent on repetitive decisions and visual details. This standardization supports rapid scaling and efficient onboarding of new team members.

- **Quality and Continuous Improvement**

Fixes and enhancements made to design system elements instantly benefit all products using them. Centralized management reduces inconsistencies and technical debt, making it easier to respond to feedback and evolving needs.

- **Collaboration and Communication**

A design system acts as a shared language between designers, developers, content creators, and stakeholders. It reduces misunderstandings, supports cross-functional teams, and fosters a culture of shared ownership.

- **Enhanced User Experience**

Familiar navigation, visuals, and interactions lower the learning curve for users. Well-tested patterns ensure accessibility is built in from the start, meeting legal requirements and serving all groups inclusively.

- **Strong Brand Alignment**

Design systems ensure every digital touchpoint communicates a consistent message, reinforcing the government's credibility, mission, and values.

- **Accessibility and Inclusivity**

Accessibility standards (such as WCAG) can be embedded throughout system elements, helping teams deliver services for a wide range of abilities and needs and reducing the risk of exclusion.

- **Efficient Maintenance and Scalability**

Centralized assets and clear documentation simplify updates, maintenance, and adaptation to new platforms and technologies. Teams spend less time reinventing and more time improving.

- **Data-Driven and Modular**

Design systems support experimentation (like A/B testing), allowing teams to quickly test new features or layouts. Modular tokens and patterns also make it easier to accommodate future changes.

The Impact on Government Digital Services

Well-executed design systems address the unique challenges of government service delivery: large-scale coordination, evolving technology, ever-changing policy, and the need for trustworthy, inclusive interfaces. By equipping teams with quality tools and shared standards, design systems enable governments to deliver efficient, accessible, and consistent digital experiences for citizens, businesses, and internal users alike.

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UX4G Design System

UX4G Design System

The UX4G Design System is a comprehensive and unified design framework tailored specifically for the Indian Government's digital products and services. It aims to ensure a consistent, accessible, and user-centric experience across all government platforms. Here's an overview of what the UX4G Design System entails:

Key Features of UX4G Design System

- **Standardized Components & Patterns:**

UX4G provides a library of reusable, accessible UI components and design patterns that align with Indian Government branding and ensure consistency across all platforms and services.

- **Responsive & Mobile-First Design:**

All components are designed for seamless use on mobiles, tablets, and desktops, supporting India's increasingly mobile-first population.

- **Accessibility & Inclusivity:**

WCAG-compliant tools (including the UX4G Accessibility Widget) help make digital services usable for citizens with different abilities and needs. Features like text resizing, color adjustments, and screen-reader support are built-in and easy to implement.

- **Localization & Cultural Relevance:**

The system supports Indian language scripts, regional adaptations, and cultural nuances to enhance engagement and trust with diverse user groups.

- **Enhanced User Experience**

Familiar navigation, visuals, and interactions lower the learning curve for users. Well-tested patterns ensure accessibility is built in from the start, meeting legal requirements and serving all groups inclusively.

- **Design Tokens:**

Colors, typography, spacing, and other style elements are managed centrally with design tokens. This ensures visual harmony, fast updates, and easy customization for government branding.

- **Comprehensive Documentation:**

With clear, practical guidance and onboarding resources, UX4G simplifies adoption and enables anyone—from designers to developers and project managers—to use the system effectively.

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Benefits of Using UX4G Design System

- **Tailored for Government Needs:**

UX4G is not a generic design system. It is built upon years of direct experience working with government departments in India, addressing common challenges such as inconsistent branding, accessibility gaps, lack of user-centered design, and fragmented development practices. Adopting UX4G means your project benefits from solutions proven in real public sector scenarios and continues to improve as new government requirements and user insights emerge.

- **Citizen-Centric by Design:**

Every element in UX4G is tested and refined around actual citizen interactions with government portals, especially those involving high-volume services such as certificates, licenses, and key service portals. This delivers interfaces that are immediately relatable, easy to use, and trusted by citizens across demographics.

- **National Standards, Local Flexibility:**

UX4G supports government branding at the national level while enabling regional customization. The design of components and choice of tokens ensure services can adapt to India's diversity without sacrificing consistency or scalability.

- **Enables Fast Rollout and Lower Costs:**

With ready-to-use, GIGW-compliant components and design tokens, government teams accelerate delivery, minimize duplicated efforts, and focus their time and budget on unique challenges rather than reinventing basic building blocks.

- **Integrated Accessibility and Inclusivity:**

Accessibility features and widgets in UX4G are designed for India's wide range of abilities and access environments. Adhering to WCAG and Indian standards, the system lowers the barriers to digital government for all citizens, including those with disabilities or limited digital literacy.

- **Built-in Knowledge Transfer and Capacity Building:**

By aligning with the UX4G system, government teams leverage accumulated knowledge from national UX/UI workshops, audits, and hands-on redesigns across regions and major public platforms. Designers and developers can access ongoing documentation, training, and community support, making onboarding smoother and knowledge retention easier.

- **Continuous Evolution:**

UX4G is maintained and updated based on feedback from actual government projects, user research, and national digital policy changes. Teams using UX4G resources are the first to benefit from improvements driven by the lived experiences and needs of Indian public service delivery.

- **Strengthens Public Trust:**

Consistent, responsive, and culturally relevant digital experiences promote increased adoption of e-services and narrow the digital divide. User satisfaction, trust, and confidence in government platforms rise as the result of a unified, high-quality experience.

Key Components of UX4G Design System

1. Brand Tokens

Brand tokens (also known as design tokens) are the building blocks that ensure every government product developed with UX4G looks, feels, and behaves consistently, no matter who builds it or where it's used. These tokens represent core design values like color, typography, spacing, shadows, grids, and icons. By making these values reusable and centrally managed, the design system achieves rapid scaling and easy adaptation for any ministry, platform, or device.

Text Styles (Typography Tokens)

The UX4G Typescale provides a structured and consistent approach to typography within the design system. It ensures a harmonious and readable text hierarchy across all applications, enhancing user experience through clear and accessible typographic standards. The typescale is designed to balance aesthetic appeal with functional readability, accommodating various screen sizes and devices.

Style name	Examples	Font	Font weight	Font size	Line height	Letter spacing
Display 1	UX4G Design System	Noto Sans	Regular	80	100	0
Display 2	UX4G Design System	Noto Sans	Regular	72	88	0
Display 3	UX4G Design System	Noto Sans	Regular	64	80	0
Headline 1	UX4G Design System	Noto Sans	Medium	40	48	0
Headline 2	UX4G Design System	Noto Sans	Medium	32	40	0
Headline 3	UX4G Design System	Noto Sans	Medium	28	32	0
Title 1	UX4G Design System	Noto Sans	Medium	22	28	0
Title 2	UX4G Design System	Noto Sans	Medium	16	24	+0.15
Label 1	UX4G Design System	Noto Sans	Medium	14	20	+0.1
Label 2	UX4G Design System	Noto Sans	Medium	12	16	+0.5
Body 1	UX4G Design System	Noto Sans	Regular	16	24	+0.5

Elements of the UX4G Typescale

The UX4G Typescale is designed to provide a consistent and readable typographic hierarchy across all applications. The main elements include Display, Headline, Title, Label,

and Body text styles. Each element serves a specific purpose and is customized to enhance readability and user experience.

Display

- **Purpose:** Used for large, attention-grabbing text such as main titles, banners, or hero sections.
- **Usage Example:**
 - Homepage banners
 - Prominent titles on landing pages

Headline

- **Purpose:** Used for section titles and significant headings within the content.
- **Usage Example:**
 - Article or blog post titles
 - Major headings within a page

Title

- **Purpose:** Used for subheadings and smaller section titles.
- **Usage Example:**
 - Subsections within articles
 - Feature titles in product descriptions

Label

- **Purpose:** Used for form labels, button text, and other UI elements.
- **Usage Example:**
 - Form field labels
 - Button text
 - Menu items

Body

- **Purpose:** Used for the main content and paragraphs.
- **Usage Example:**
 - Article text
 - Long-form content
 - Descriptive text in product details

Features of UX4G Design system's Typography:

- **Noto Sans as Standard**
UX4G employs Noto Sans as its typographic foundation for its versatility, accessibility, and robust support for all Indic scripts, ensuring seamless multilingual capability from north to south and east to west.
- **Web-Optimized & Versatile:**
Type styles are carefully optimized for web performance, fast load times, and clear

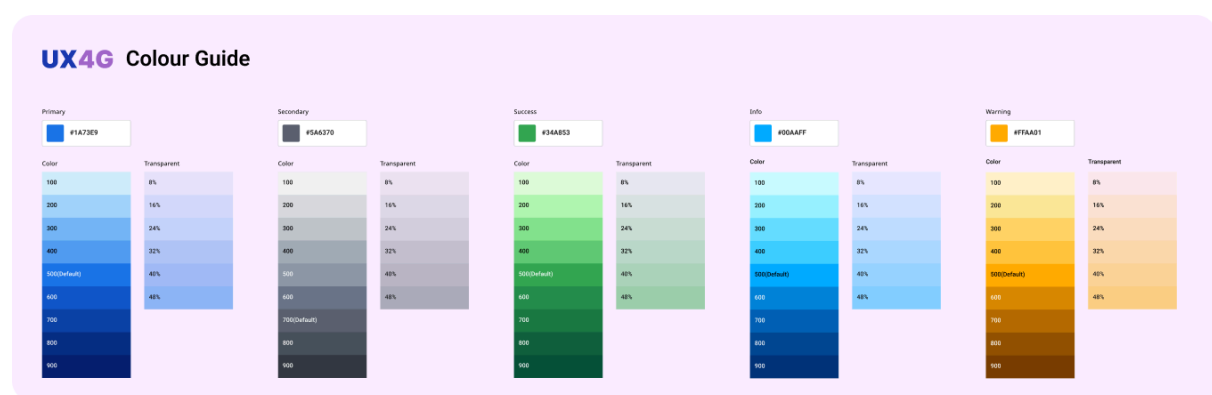
communication, maintaining legibility across all screen sizes and in any of over 800 supported languages.

- **Cross-Platform Consistency:**

Text elements look reliable from app to web to document, reinforcing government trust and usability in every interaction.

Color Styles (Color Tokens)

The UX4G Color Palette provides a structured set of colors designed to ensure consistency, enhance usability, and support brand identity. It includes both **Functional** and **Semantic** color categories, each serving specific purposes in the design system.



- **Accessible by Default:**

All colors are tested against WCAG 2.2 standards for sufficient contrast, so text and icons remain clear to everyone, including users with low vision.

- **Scalable & Brand-Driven:**

Primary and secondary colors are tuned for Indian Government visual identity, while semantic colors (such as green for success, red for error, yellow/orange for warning) maintain high clarity for state and status messaging across all services.

- **Neutral Palette:**

Carefully selected greys and neutrals keep content readable and layouts modern without visual clutter.

Elevations & Shadows

- **Visual Hierarchy Made Easy:**

A clear set of tokens define elevation and shadow levels, helping teams show depth, focus, and interactivity (e.g., highlighting active cards or emphasizing important dialogs), all in tune with Indian government digital accessibility and clarity standards.

- **Balance & Aesthetics:**

Shadows are never just decorative—they guide attention, suggest layering, and make digital experiences feel modern, friendly, and safe.

Layout Grid & Spacing Tokens

- **Grid for Order and Flexibility:**

Predefined grid layouts and spacing tokens keep information well-structured and adaptive across devices. Whether it's a large web portal or a mobile app, the grid ensures order, balance, and visual comfort.

- **Content Scaling & Grouping:**

Responsive containers group related information, maintain predictability, and adapt smoothly for various resolutions.

Icon Tokens (Iconography)

- **Material Icons with Local Additions:**

UX4G leverages Google's Material Icons for their clarity, universality, and familiarity, and extends this with custom government-specific emblems and pictograms (State/UT emblems, essential government symbols).

- **Consistent & Recognizable:**

Icons adhere to strict guidelines for sizing, clarity, and accessibility, so meaning never gets lost and users—regardless of literacy—get visual cues to support navigation.

2x

0.3x

0.5x

2. Component Library

The Component Library is a vital part of the UX4G Design System, offering a wide range of pre-designed, accessible UI elements that can be reused across government digital services. These components have been carefully crafted to meet Indian government standards for usability, inclusivity, and consistency, helping teams rapidly build cohesive interfaces without reinventing the wheel.

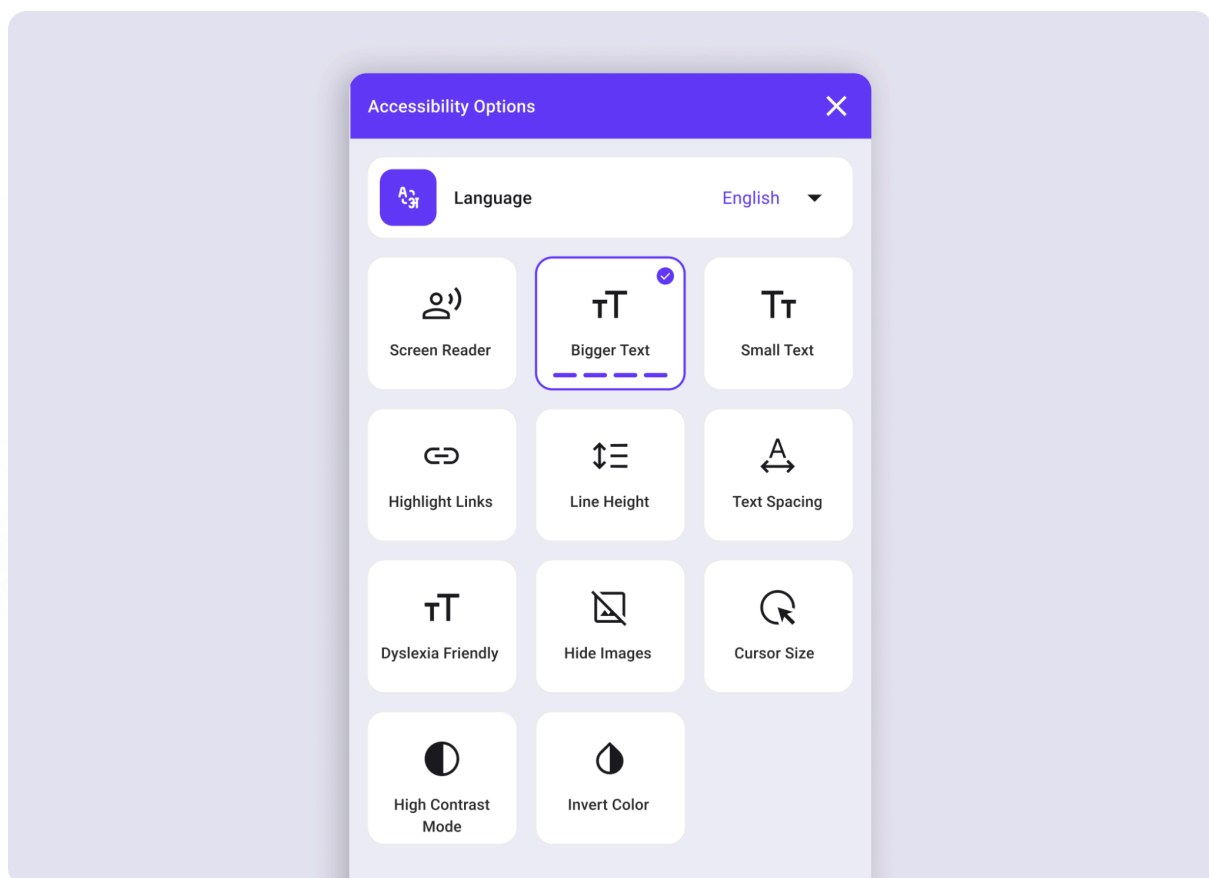
Accessibility Bar



The Accessibility Bar is a crucial feature designed to enhance accessibility for all users by providing quick access to important accessibility options.

- It typically includes features such as a national flag for user Trust and Credibility
- A link to the Government of India website for further resources,
- Widget for additional accessibility adjustments.
- This bar ensures that users with diverse needs can easily navigate and customize their experience.

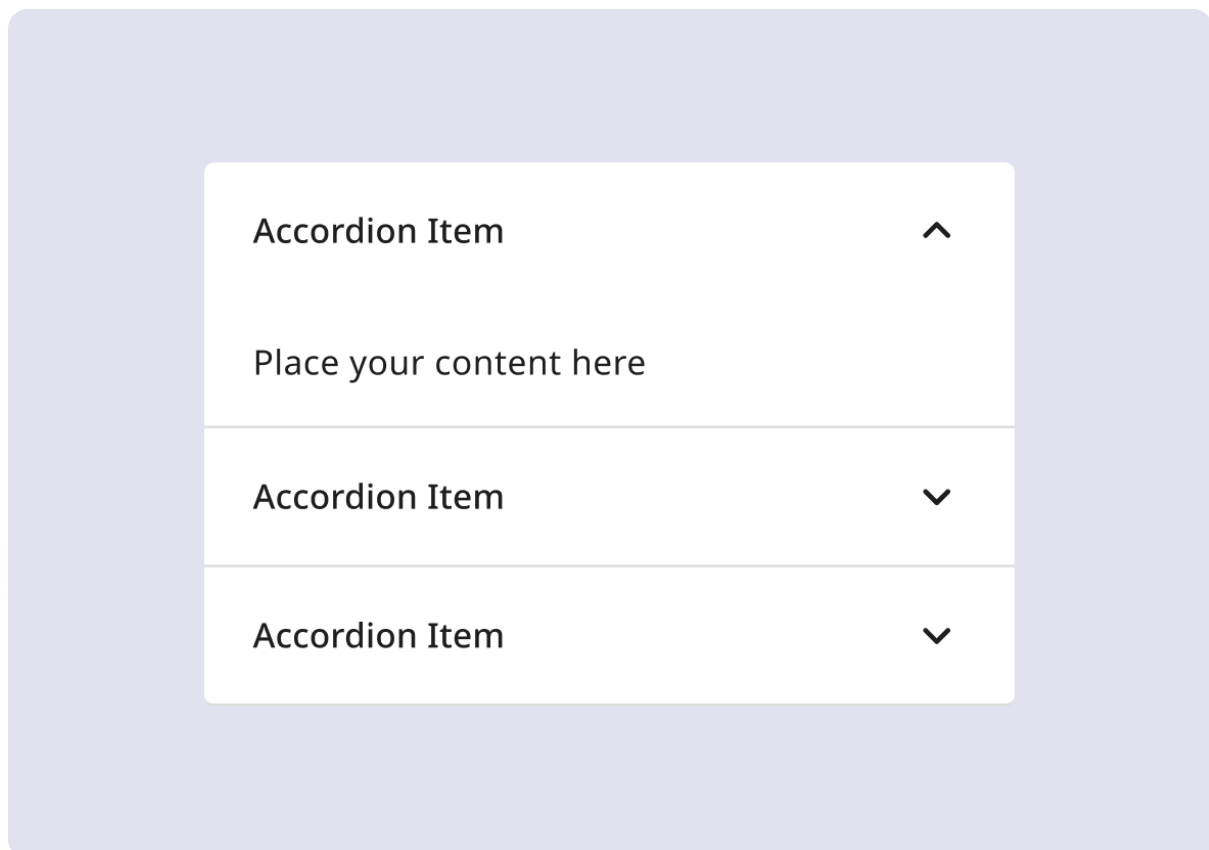
Accessibility Widget



The Accessibility Widget provides tools to enhance the accessibility of the website, offering options for text resizing, color contrast adjustments, and screen reader support.

- **Screen Reader:** A tool that reads out the text and content on the screen, aiding users with visual impairments.
- **Bigger Text:** An option to increase the text size for better readability.
- **Small Text:** An option to decrease the text size for users who prefer smaller fonts.
- **Line Height:** Adjusts the spacing between lines of text to improve readability.
- **Highlight Links:** Highlights hyperlinks to make them more visible and easier to identify.
- **Text Spacing:** Adjusts the spacing between letters and words to enhance readability, especially for users with dyslexia.
- **Dyslexia Friendly:** Applies a font and text styling that is easier to read for users with dyslexia.
- **Hide Images:** Provides an option to hide images, reducing visual clutter and helping users focus on text content.
- **Resize Cursor:** Enables users to enlarge or change the cursor style to improve visibility and ease of use.
- **Light-Dark Mode:** Allows users to switch between light and dark themes, reducing eye strain and enhancing readability in different lighting conditions.
- **Invert Colors:** Inverts the colors of the interface, which can be helpful for users with certain visual impairments.

Accordion

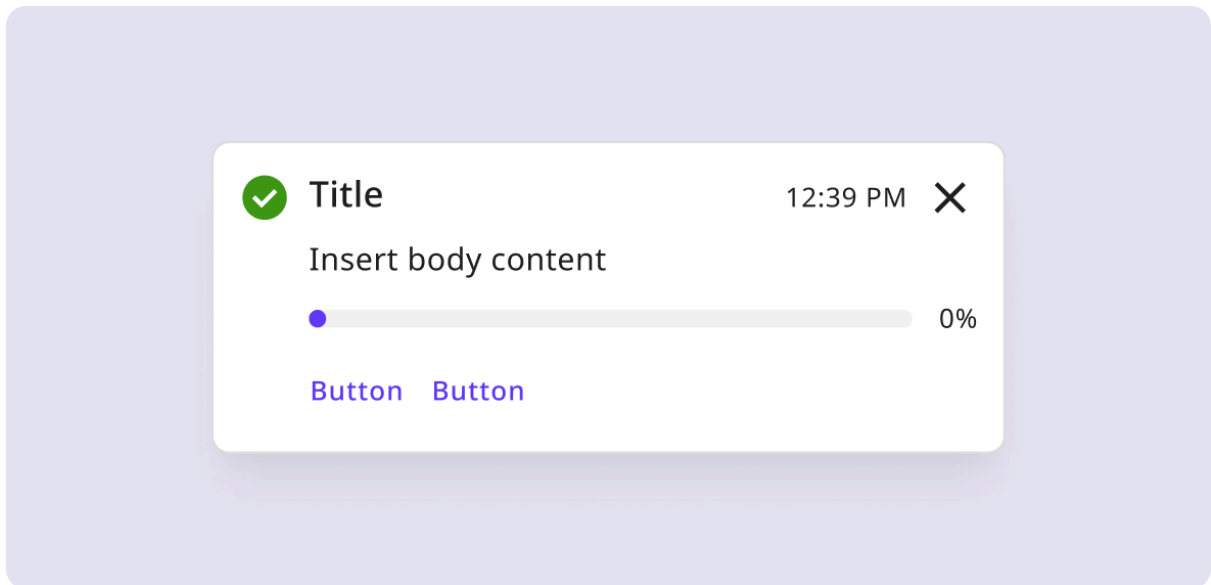


The Accordion component organizes content into collapsible sections, allowing users to expand or collapse information as needed for a streamlined browsing experience.

- Use accordions to condense lengthy content or FAQs.

- Ensure the headers are clear and descriptive of the content within.
- Maintain accessibility by using ARIA roles and keyboard navigation support.

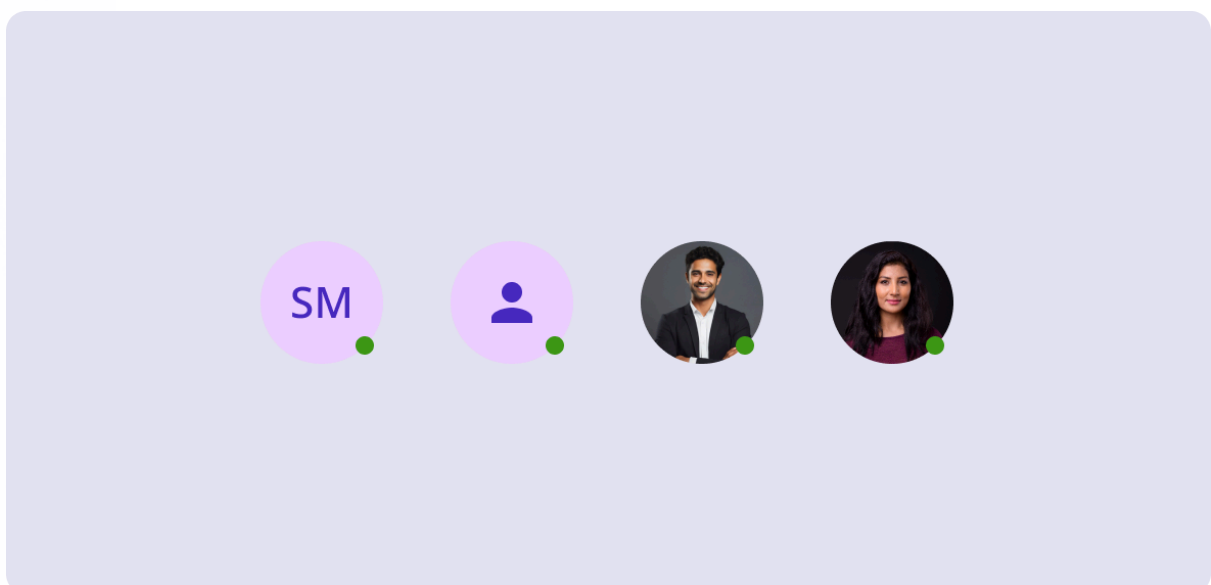
Alerts & Toasts



Alerts and Toasts are notification components used to inform users of important information or changes in the system state, with alerts being more prominent and toasts being less intrusive.

- Use alerts for critical information that requires user action or attention.
- Use toasts for non-intrusive notifications that automatically disappear after a few seconds.
- Ensure both components are accessible and dismissible.

Avatars



Avatars represent users or entities visually, often through images, initials, or icons, providing a personalized touch to user profiles and comments.

- Use high-quality images or representative icons for avatars.
- Ensure avatars are appropriately sized for their context (e.g., profile pictures vs. comment avatars).
- Provide fallback options like initials if images are not available.

Badges



Badges are small labels that provide additional information about an item, such as status indicators or counts, enhancing the contextual understanding of elements.

- Use badges to indicate statuses, notifications, or counts.
- Ensure badges are color-coded and labeled for clarity.
- Avoid overusing badges to prevent visual clutter.

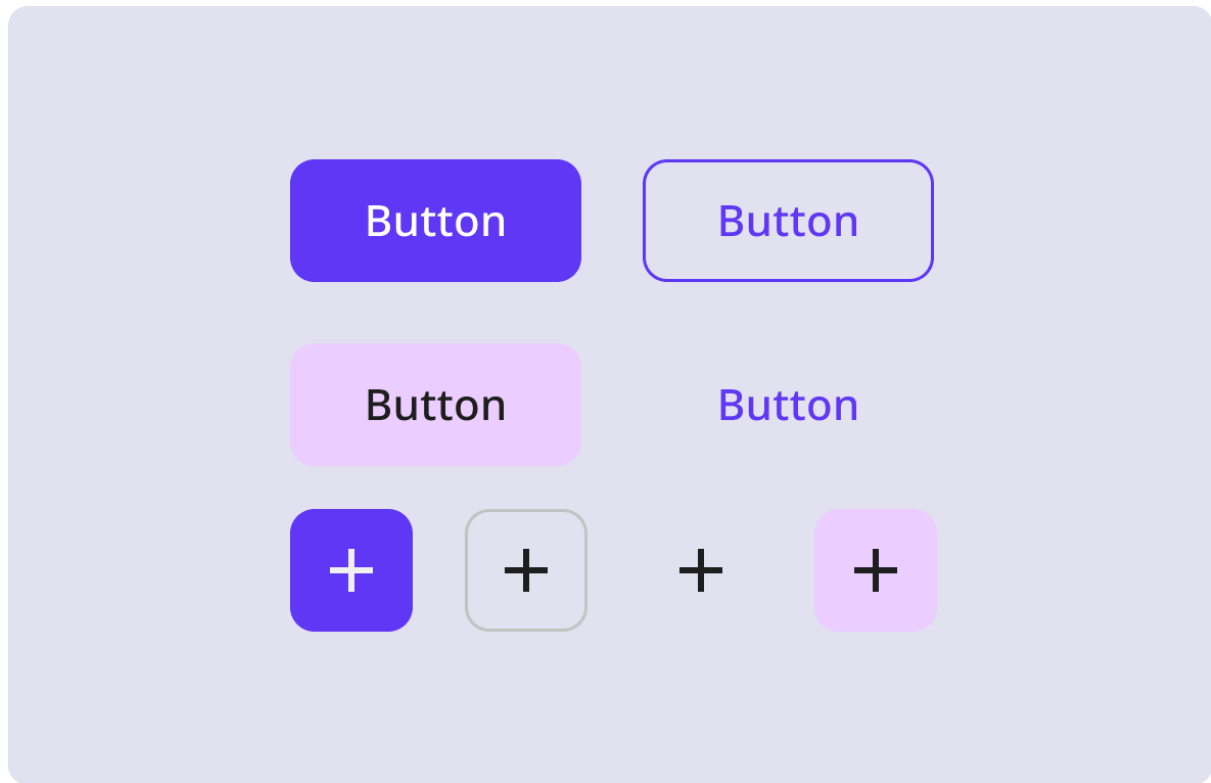
Breadcrumbs



Breadcrumbs provide a navigational aid, displaying the user's current location within the site hierarchy and allowing easy navigation back to previous pages.

- Place breadcrumbs at the top of the page for easy visibility.
- Ensure each breadcrumb link is clickable, leading to the respective page.
- Use separators to clearly distinguish between different levels.

Buttons



Buttons are interactive elements that trigger actions or navigate users to different parts of the application, designed with distinct styles to indicate their purpose and importance.

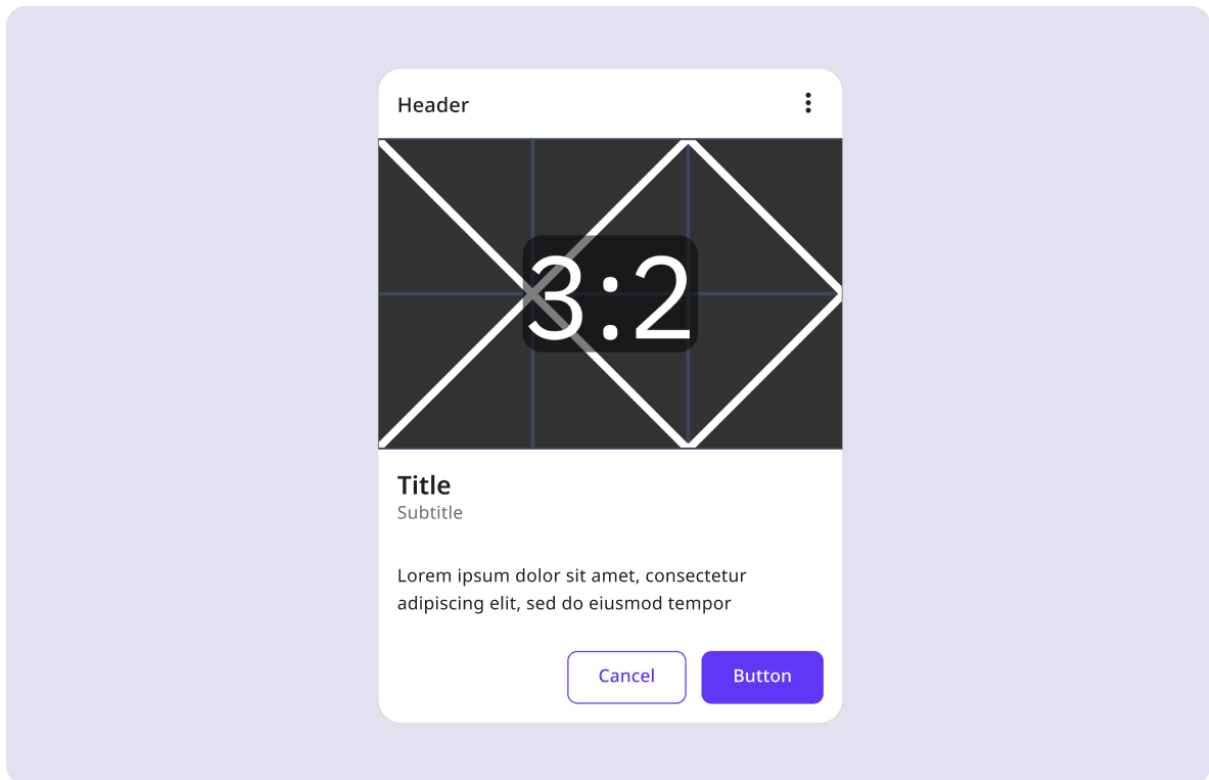
- Use primary buttons for the most important actions, secondary buttons for less critical actions.
- Ensure buttons are clearly labeled with action-oriented text.
- Maintain sufficient contrast for button text and background for readability.

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Card



Cards are versatile containers that group related content and actions together, often used for displaying information such as user profiles, articles, or products.

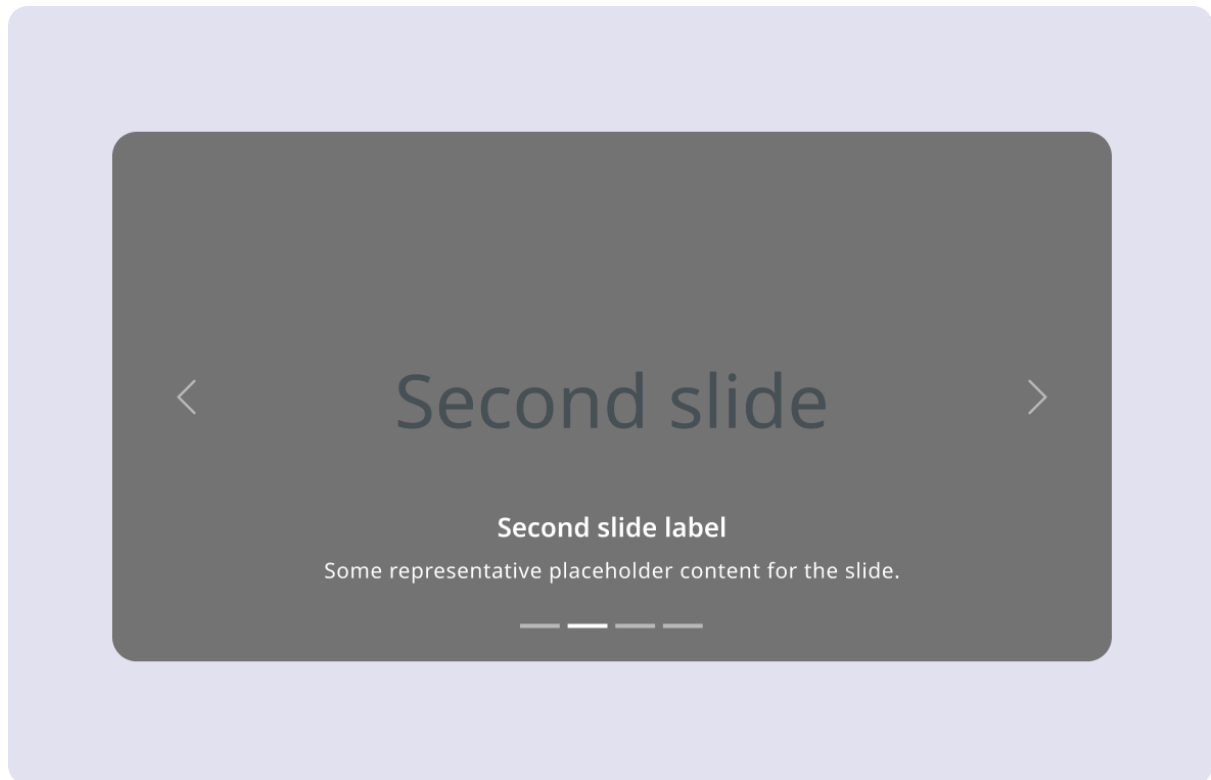
- Use cards to group related content and actions visually.
- Ensure cards have consistent padding, margins, and alignment.
- Include interactive elements like buttons or links within cards for actions.

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Carousel



Carousel, also known as a slideshow or slider, allows users to cycle through a series of content items, such as images, text, or multimedia, within a single space on the webpage or mobile application

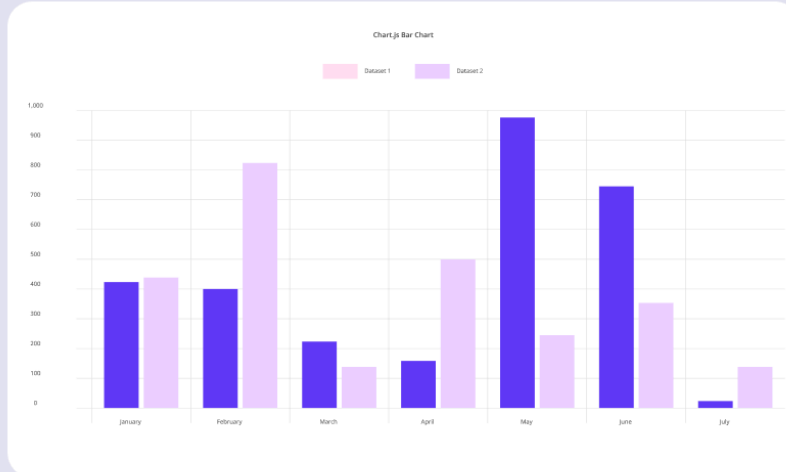
- Use carousels to display multiple pieces of related content without occupying excessive screen space.
- Provide intuitive navigation controls like arrows or dots for users to manually browse through items.
- If auto-scrolling is implemented, ensure it can be paused or stopped by the user.

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Charts and Graphs



Charts and graphs visually represent data, making it easier for users to understand and analyze information through graphical means.

- Use charts and graphs to display trends, comparisons, or distributions of data in a visual format.
- Choose the appropriate type of chart or graph based on the data being presented (e.g., bar charts for comparisons, line charts for trends). Ensure that data labels and axes are clearly marked and readable. Provide legends or keys to explain colors or symbols used in the charts.
- Ensure charts and graphs are accessible to screen readers by providing descriptive text or summaries of the data. Use high-contrast colors and patterns to differentiate data points. Provide alternative formats for complex data visualizations.

Checkbox



Checkboxes allow users to select one or more options from a list, providing a clear way to enable or disable features or preferences.

- Use checkboxes for multi-select options.
- Ensure checkboxes are accompanied by clear labels.
- Make sure checkboxes are large enough to be easily clickable.

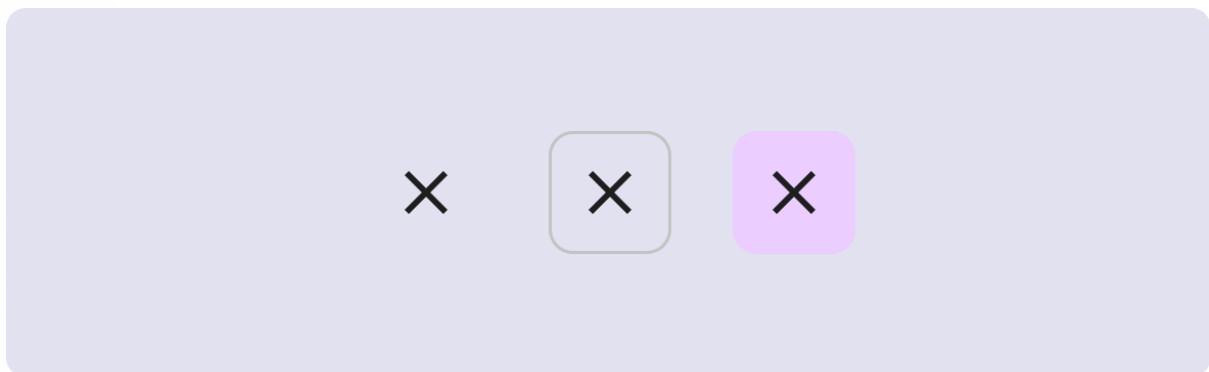
Chips



Chips are small, interactive elements used to represent complex entities in a compact form, such as tags or contacts.

- Use chips to represent items like tags, categories, or selected items.
- Ensure chips are visually distinct and easily removable if they represent selected items.
- Use icons or avatars within chips for additional context when necessary.

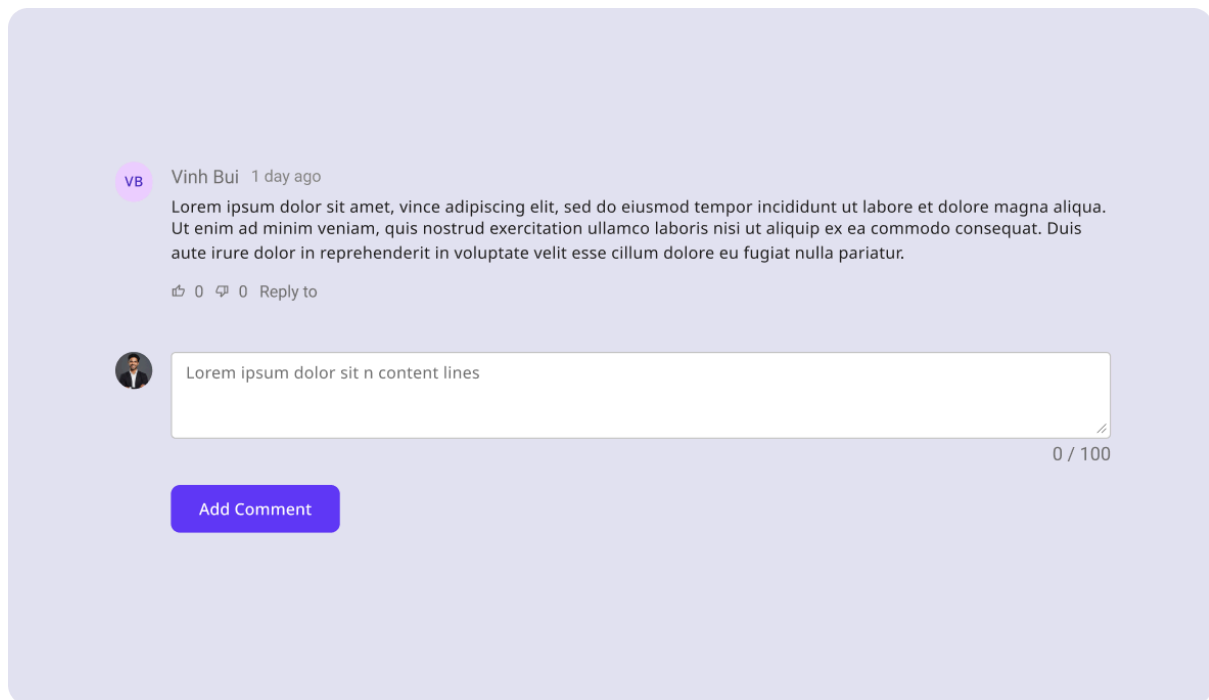
Close Button



Close Buttons are used to dismiss modals, dialogs, or other overlay elements, providing users with a way to exit or close these elements.

- Place the close button in a consistent location, typically the top-right corner.
- Ensure the close button is clearly visible and distinguishable.
- Provide keyboard accessibility, such as allowing the Esc key to close the element.

Comment



VB Vinh Bui 1 day ago

Lorem ipsum dolor sit amet, vince adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

0 0 0 Reply to

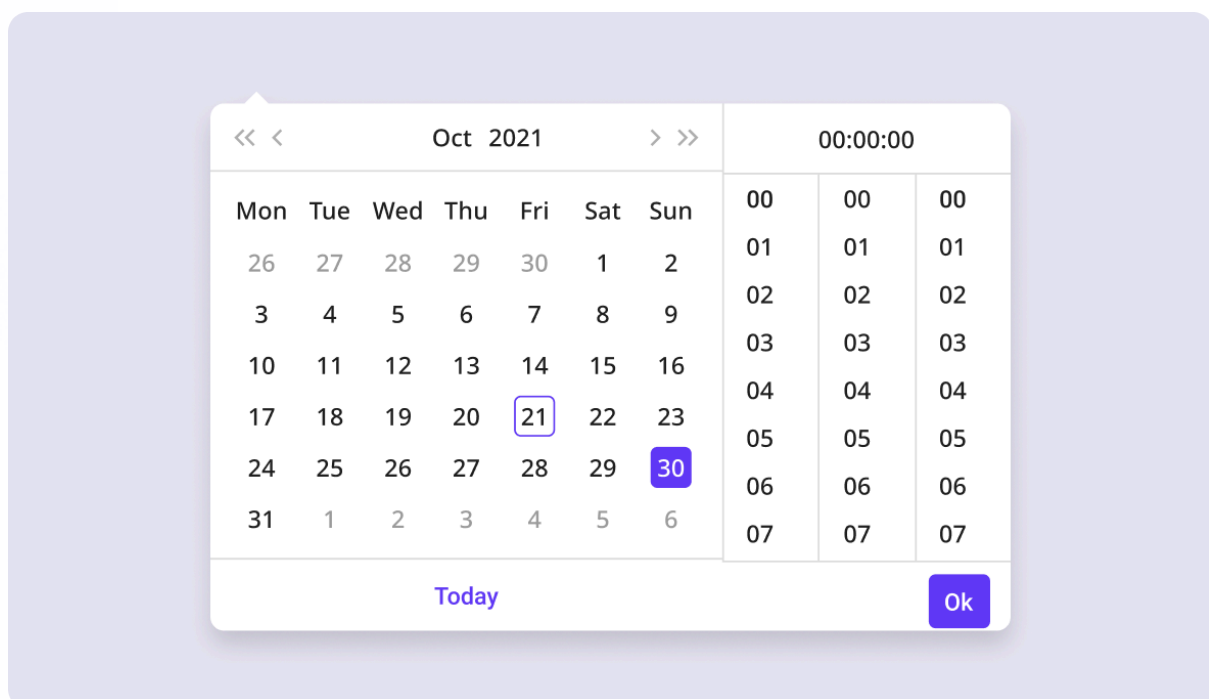
0 / 100

Add Comment

Comment components facilitate user feedback and discussions, displaying user comments in a structured format.

- Use comments for user feedback, reviews, or discussions.
- Display comments in a threaded or nested format for easy readability.
- Include options for users to reply, edit, or delete their comments.

Date-Time Picker



<< < Oct 2021 > >>

Mon	Tue	Wed	Thu	Fri	Sat	Sun
26	27	28	29	30	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

00:00:00

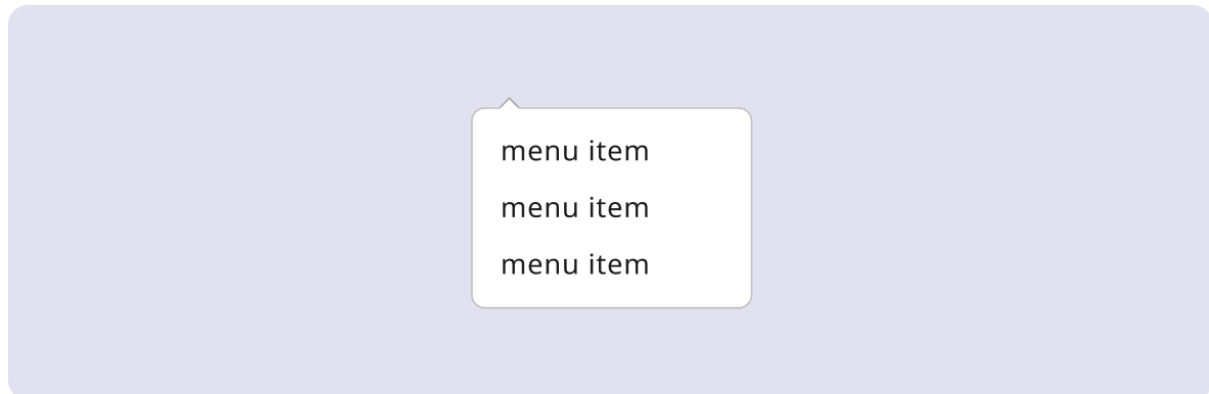
00	00	00
01	01	01
02	02	02
03	03	03
04	04	04
05	05	05
06	06	06
07	07	07

Today Ok

Date-Time Pickers allow users to select dates and times easily, providing a user-friendly way to input date-related information.

- Use date-time pickers for input fields that require date or time information.
- Ensure the picker is accessible and easy to use on both desktop and mobile devices.
- Provide clear formatting and validation for date and time inputs.

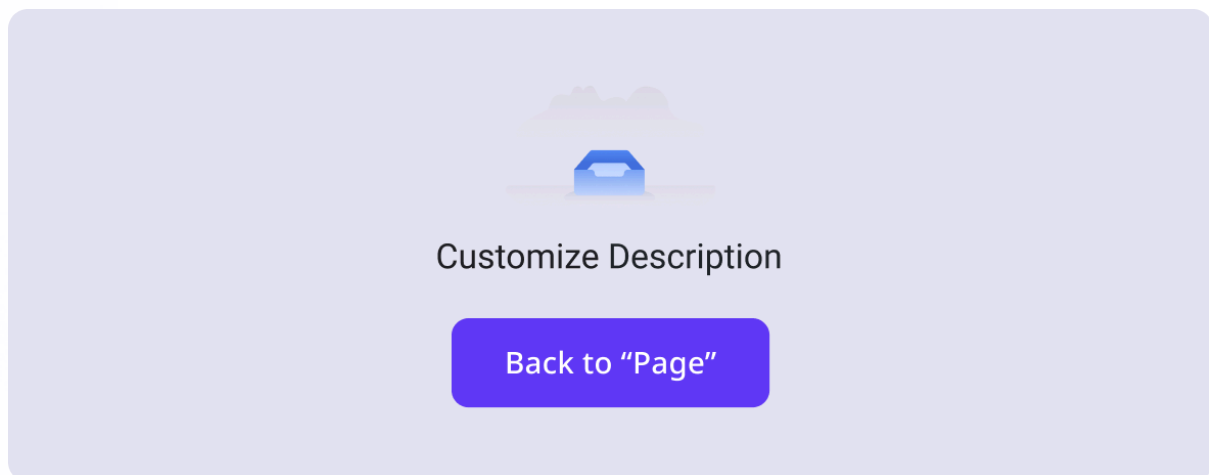
Dropdowns



Dropdowns present a list of options that users can select from, helping to conserve space while providing a wide range of choices.

- Use dropdowns for selecting from a list of options or commands.
- Ensure dropdowns are clearly labeled and the options are easy to scan.
- Provide keyboard navigation support for dropdown lists.

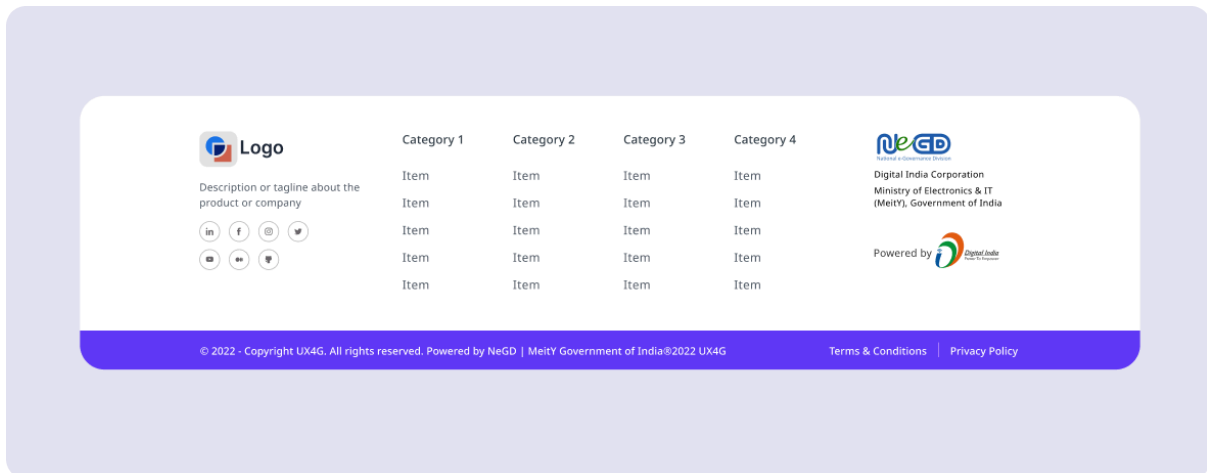
Empty State



Empty State components inform users when there is no data or content to display, offering guidance on what actions to take next.

- Use empty states to communicate why there is no data and what users can do next.
- Include helpful illustrations or icons to visually represent the empty state.
- Provide clear and actionable guidance to help users move forward.

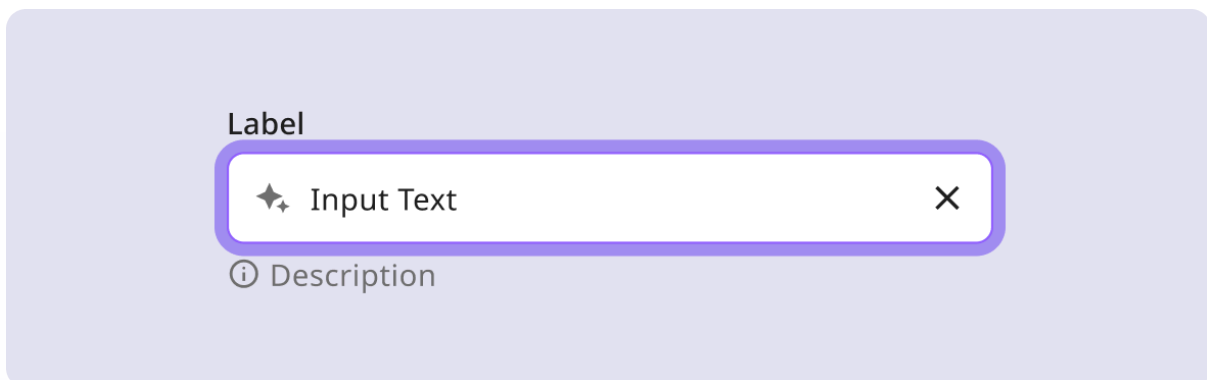
Footer



The footer is a crucial component located at the bottom of a website or mobile application's page. It typically contains important information such as contact details, privacy policies, copyright notices, social media links, and quick access to essential sections of the site.

- Organize footer content by importance, with the most critical information prominently displayed.
- Maintain a consistent footer design across all pages of the website or mobile application.

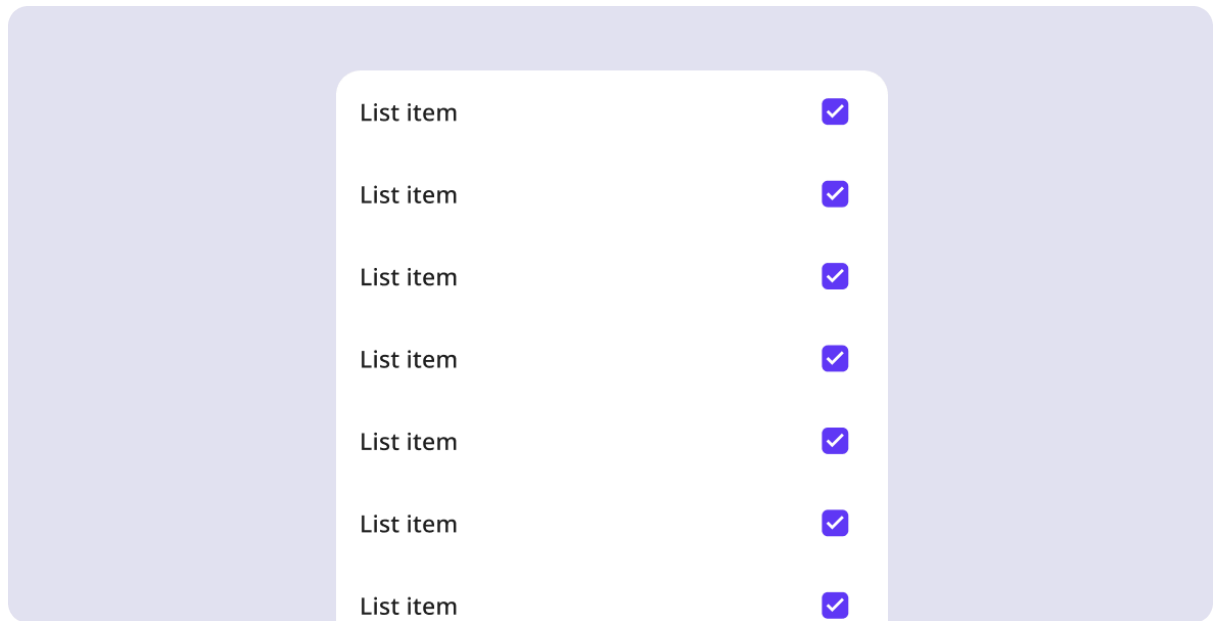
Input Fields



Input Fields allow users to enter text or data, forming the primary method for user interaction and data submission in forms.

- Use input fields for text, numbers, passwords, or other user data.
- Ensure fields are clearly labeled and provide placeholder text for guidance.
- Validate input data and provide feedback for errors or invalid entries.

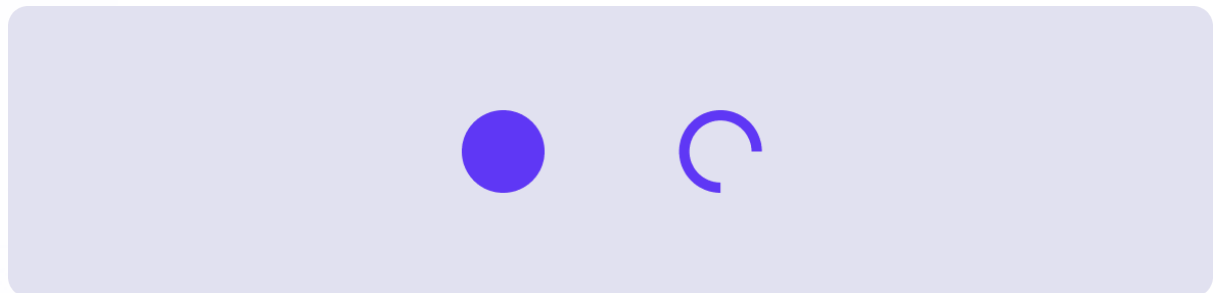
List



Lists organize items or content in a structured manner, making it easier for users to scan and understand grouped information.

- Use lists for displaying multiple items or pieces of information.
- Ensure list items are consistently styled and easy to read.
- Use bullet points or numbering for clarity and hierarchy.

Loader



Loaders indicate that content is being loaded or processed, keeping users informed during waiting periods.

- Use loaders to show that an action is in progress and the user needs to wait.
- Ensure loaders are visible and easily recognizable.
- Provide feedback on progress if the loading time is expected to be long.

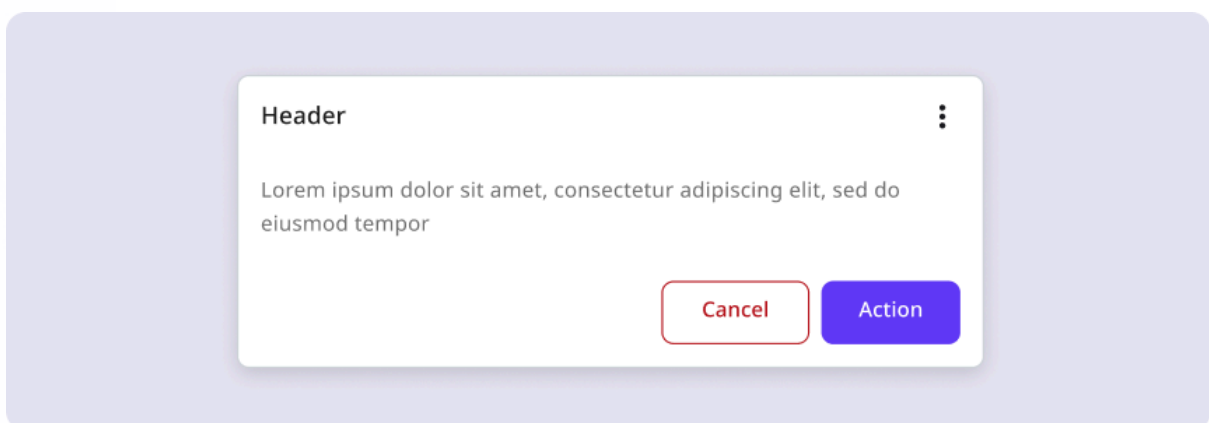
Map



A map component displays geographic data and allows users to interact with it, such as zooming or panning, to explore different areas.

- Use maps for applications that involve location-based data, directions, or geographic information.
- Ensure the map is interactive and provides clear navigation controls. Use markers and overlays to highlight important locations or data points. Provide a legend or key to explain any symbols or colors used.
- Ensure the map is accessible to screen readers by providing alternative text descriptions for key locations. Implement keyboard controls for map interactions and ensure that all interactive elements are focusable.

Modal/Dialogues



Modals and Dialogues are overlay components that require user interaction before returning to the main interface, used for important actions or information.

- Use modals for critical actions or information that require user attention.
- Ensure modals are clearly distinguishable from the background content.

- Provide a close button and keyboard accessibility to dismiss the modal.

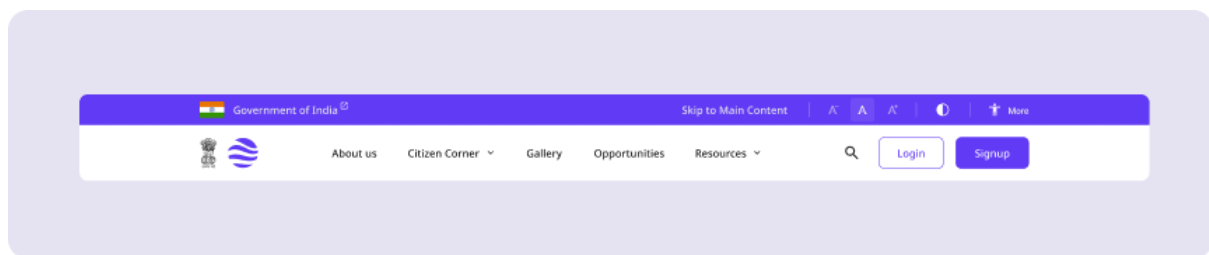
Pagination



Pagination divides content into separate pages, making large sets of information more manageable and easier to navigate.

- Use pagination for large sets of data or content.
- Ensure pagination controls are clearly labeled and easy to use.
- Provide options for users to navigate to the first, last, next, and previous pages.

Navbar



The navigation bar (navbar) is a key element in web and mobile applications, providing users with quick and easy access to the primary sections of the site.

- It typically appears at the top of the page and includes links to important pages, search functionality, and sometimes additional tools like login buttons.
- An effective navbar enhances user experience by facilitating seamless navigation and ensuring that users can find what they need with minimal effort.
- Ensure the navbar is always visible and accessible from all pages

National Emblem and Logo should be present in the Nav bar to increase user trust and credibility

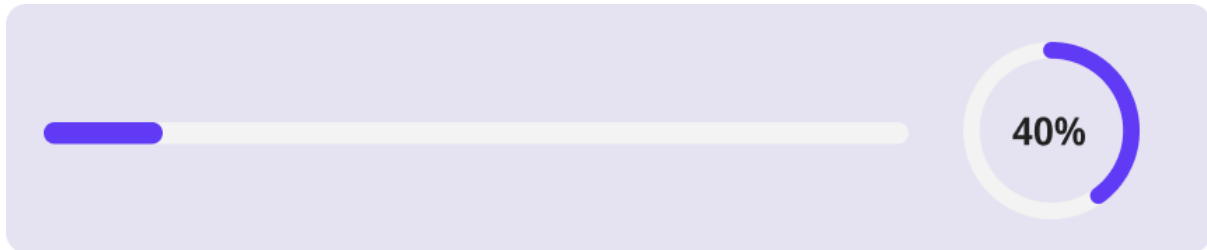
Popover



Popovers are small overlay components that display additional information or actions when triggered by user interaction.

- Use popovers for providing additional information or actions without leaving the current page.
- Ensure popovers are contextually relevant and appear near the trigger element.
- Make popovers easily dismissible by clicking outside the overlay.

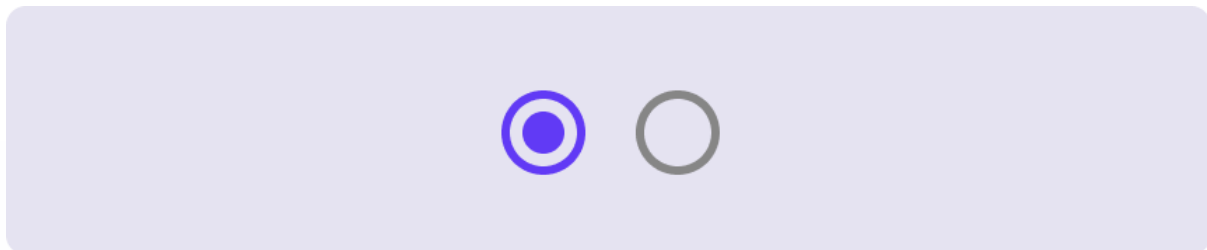
Progress Indicator



Progress Indicators show the completion status of a task or process, helping users understand how much longer they need to wait.

- Use progress indicators for tasks that take a noticeable amount of time to complete.
- Ensure progress indicators are visible and accurately reflect task completion.
- Provide additional context or information if the progress indicator is expected to be displayed for a long time.

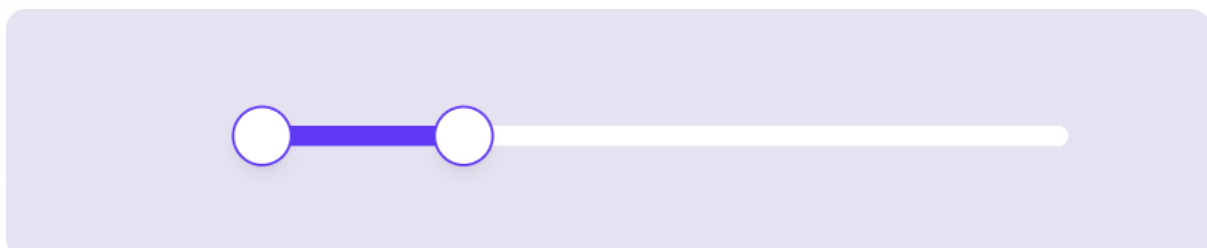
Radio Buttons



Radio Buttons allow users to select one option from a predefined set of choices, commonly used in forms and surveys.

- Use radio buttons for single-select options.
- Ensure radio buttons are clearly labeled and grouped logically.
- Make sure only one option can be selected at a time within the same group.

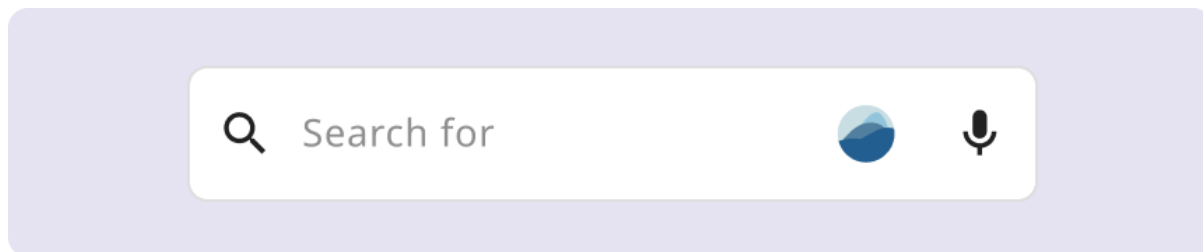
Range Slider



Range Sliders enable users to select a value or range of values within a specified range, offering a more interactive way to adjust settings.

- Use range sliders for selecting numerical values or ranges.
- Ensure the slider is easy to manipulate and provides visual feedback on the selected value.
- Label the minimum, maximum, and current values clearly.

Search



Search components allow users to find specific content or items quickly, improving the overall efficiency of navigating large datasets.

- Use search bars prominently on pages with large amounts of content.
- Provide auto-suggestions and relevant results as users type.
- Ensure the search function is fast and returns accurate results.

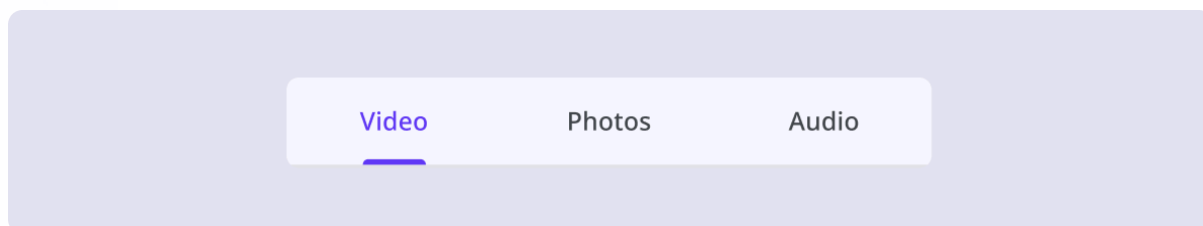
Stepper



A stepper guides users through a series of steps or stages in a process. It visually breaks down a multi-step task into manageable segments.

- Use steppers for processes that involve sequential steps, such as form submissions or onboarding processes.
- Ensure that each step is clearly labeled and visually distinct. Provide progress indicators to show users how many steps are left. Allow users to navigate between steps easily, but ensure that they complete each step before proceeding.
- Ensure that stepper steps are focusable and keyboard navigable. Provide screen reader support by labeling each step clearly and indicating the current step.

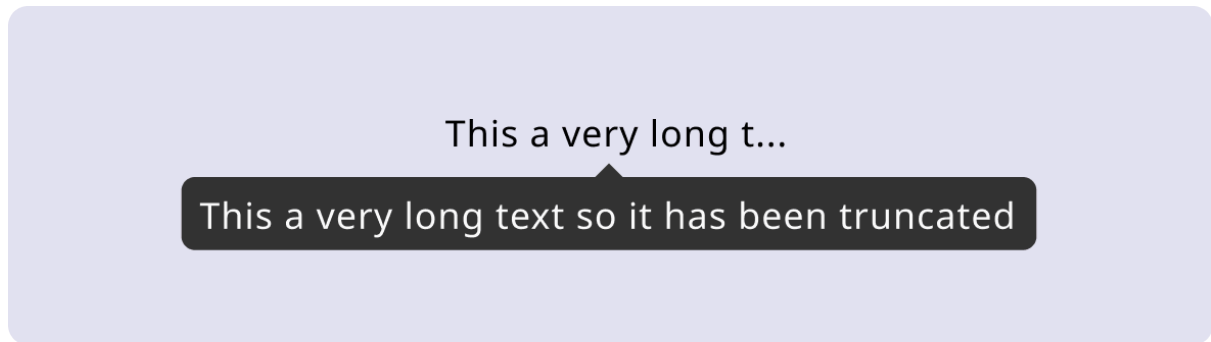
Tabs



Tabs organize content into separate views or sections within the same page, making it easy for users to switch between related content without navigating away from the page.

- Use tabs to categorize related content within a single interface.
- Ensure tab labels are clear and descriptive of the content they represent.
- Provide visual feedback to indicate the active tab.
- Ensure keyboard accessibility for navigating between tabs.

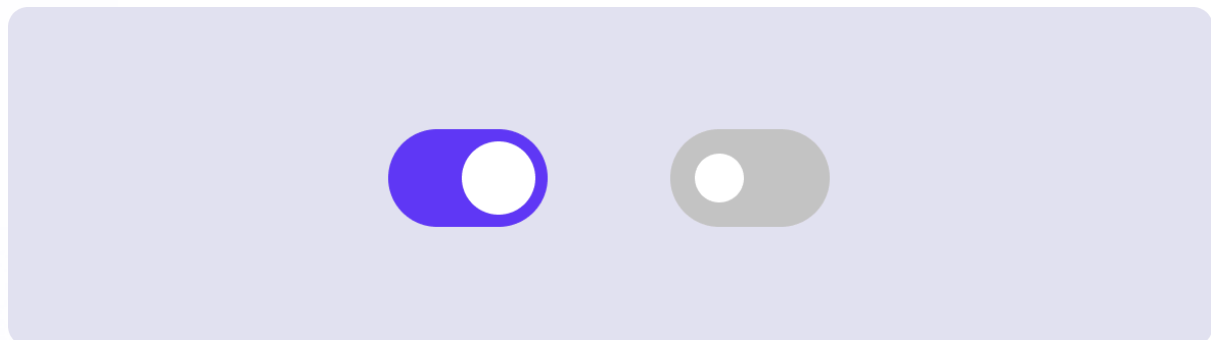
Text Truncation



Text Truncation shortens text that exceeds the allocated space, often indicating that more text is available by using an ellipsis ("...").

- Use text truncation to prevent overflow and maintain a clean layout.
- Provide tooltips or expandable sections to view the full text when truncated.
- Ensure important information is not lost or cut off when truncating text.

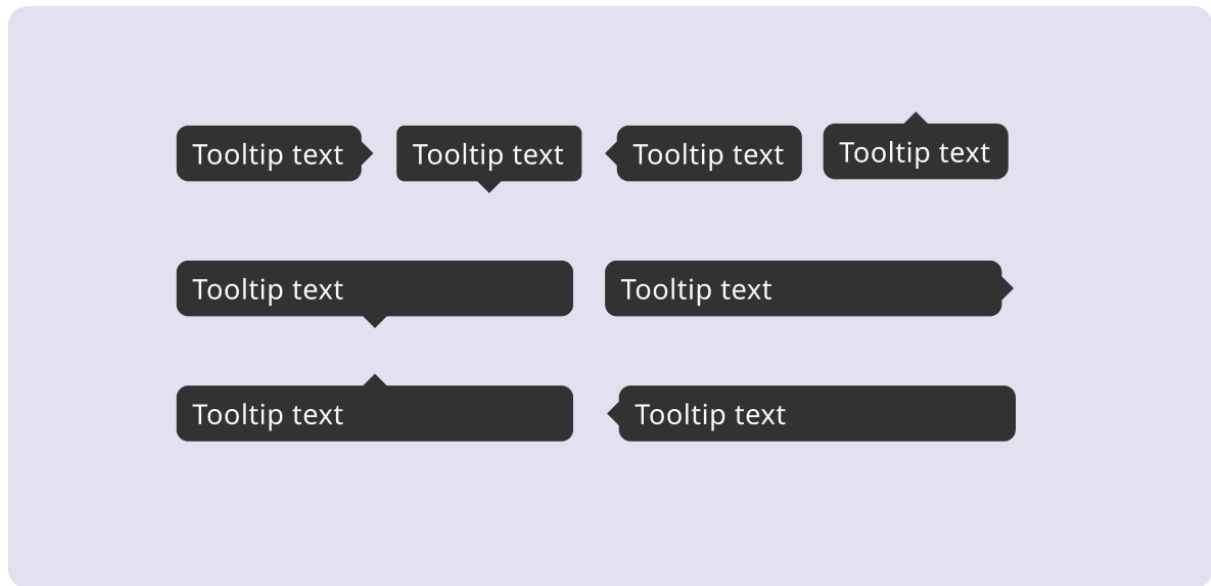
Toggle



Toggles are interactive switches that allow users to turn a setting or option on or off, providing a clear and immediate way to control features.

- Use toggles for binary settings that can be either on or off.
- Ensure toggles are clearly labeled with the current state (e.g., On/Off).
- Provide visual feedback to indicate the change in state.
- Make sure toggles are large enough to be easily clicked or tapped.

Tooltip



Tooltips provide additional information or context when users hover over or focus on an element, offering helpful insights without cluttering the interface.

- Use tooltips to provide supplementary information or explanations.
- Ensure tooltips appear promptly when the user hovers over or focuses on the element.
- Keep tooltip text concise and relevant.
- Make sure tooltips are accessible and can be read by screen readers.

Feedback Widget

We Value Your Feedback!

Share your thoughts to help us improve our website.

Full Name

Email

Ratings*

☐ ☐ ☐ ☐ ☐

Feedback*

0/200

Powered by **UX4G**

The Feedback Widget enables users to share their thoughts, suggestions, and experiences directly within a digital service.

- Place the Feedback Widget at key touchpoints, such as after a user completes an important task (e.g. registration, submission, or form completion), or on pages dedicated to user support and contact. Do not overwhelm users by prompting for feedback too often.
- Make feedback optional, never mandatory for completing a core service task.
- Provide “Cancel” and “Submit” options, and ensure users can easily exit the feedback dialog without frustration.
- Regularly review and act on the feedback received to close the loop and improve the service.

2x

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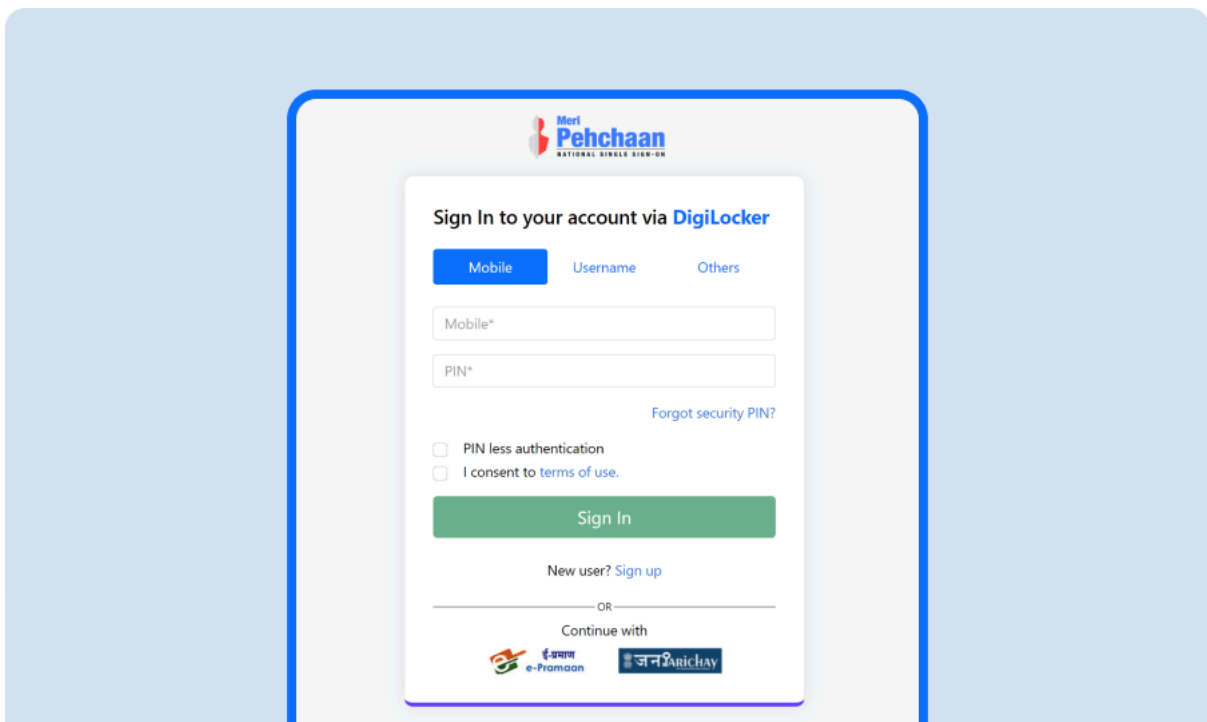
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3. Pattern Library

Design patterns are tried-and-tested UI and UX solutions that solve common design challenges. They enable teams to create consistent, user-friendly, and efficient interfaces across government websites and mobile applications. The UX4G Pattern Library streamlines the experience for both the user and development teams by standardizing approaches to frequently needed features.

Web Patterns

National Single Sign-On - Meripehchaan



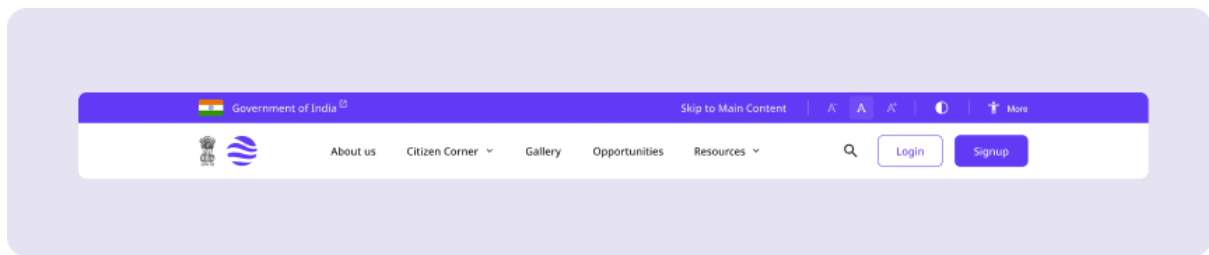
- **Purpose:** Provides a unified and secure sign-on experience across multiple government services.
- **Features:** Single login for multiple services, strong authentication mechanisms, and seamless user experience.

Accessibility Bar



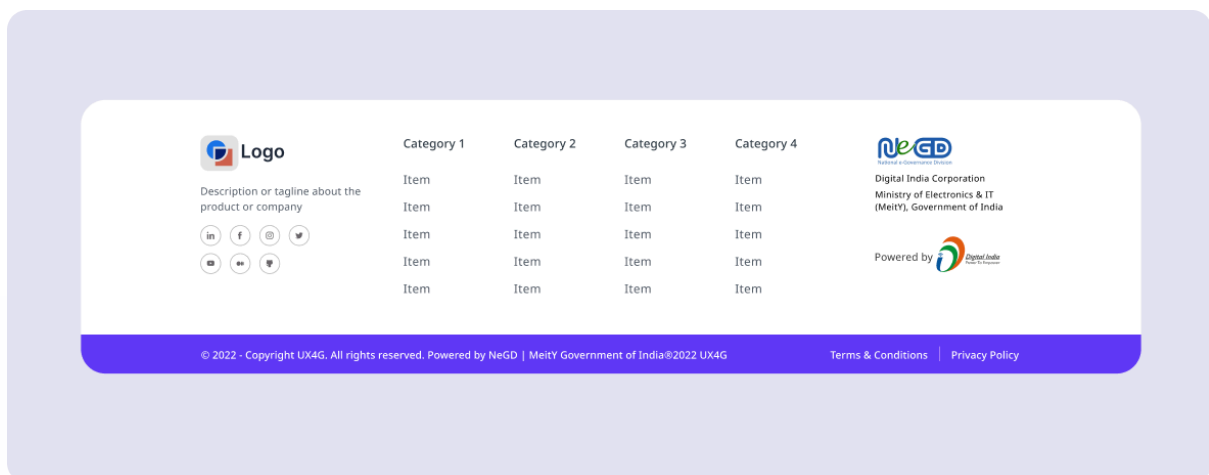
- **Purpose:** Enhances accessibility for users with disabilities.
- **Features:** Options to adjust text size, contrast settings, text-to-speech functionality, and keyboard navigation shortcuts.

Navigation Bar



- **Purpose:** Provides easy access to the main sections of a website.
- **Features:** Horizontal or vertical layout, dropdown menus for subcategories, and clear labeling of links.

Footer



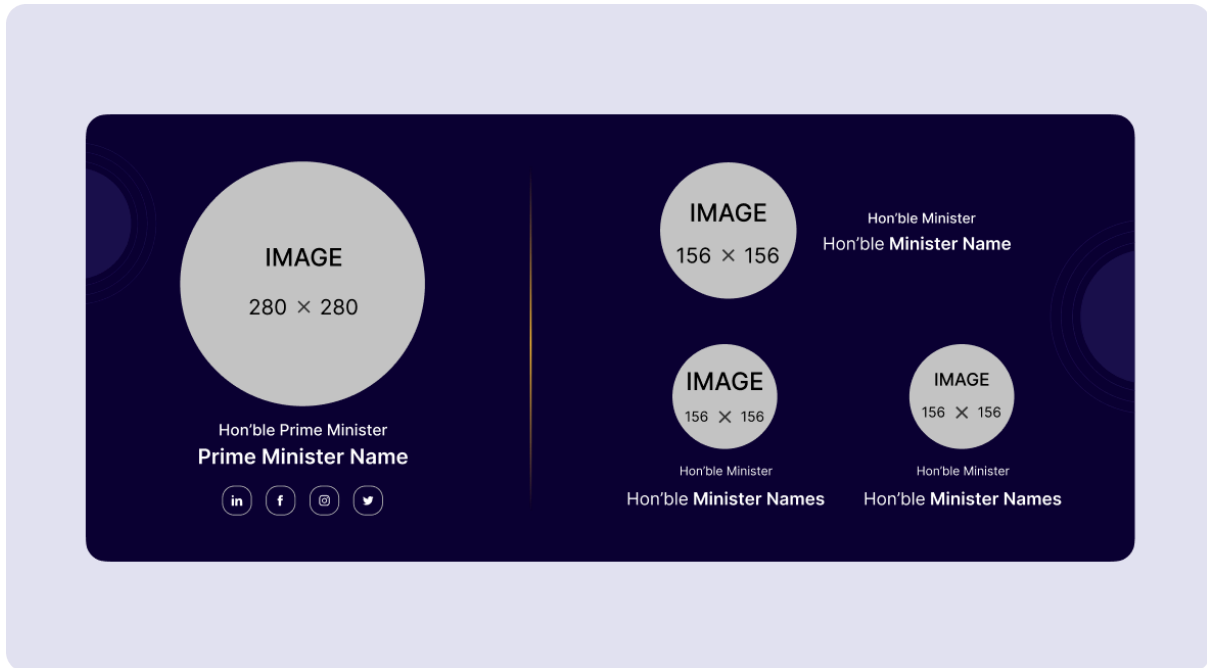
- **Purpose:** Contains important links and information at the bottom of a webpage.
- **Features:** Links to privacy policy, terms of service, contact information, social media icons, and copyright notice.

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Know Your Minister



- **Purpose:** Provides information about government ministers.
- **Features:** Photos, bios, contact details, and responsibilities of ministers.

What's New



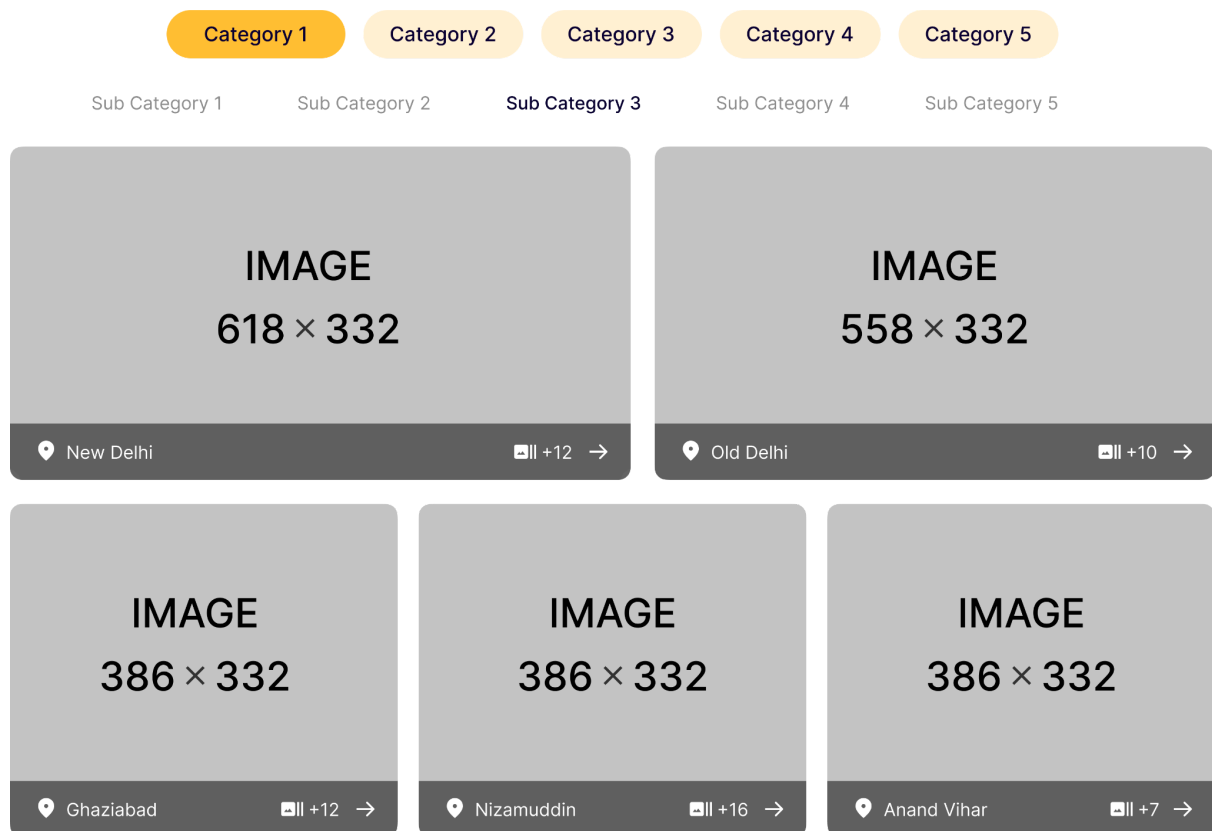
- **Purpose:** Highlights recent updates and news.
- **Features:** Latest news, announcements, and updates related to government services.

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Gallery



- **Purpose:** Displays images and videos.
- **Features:** Image and video thumbnails, full-screen view, and caption support.

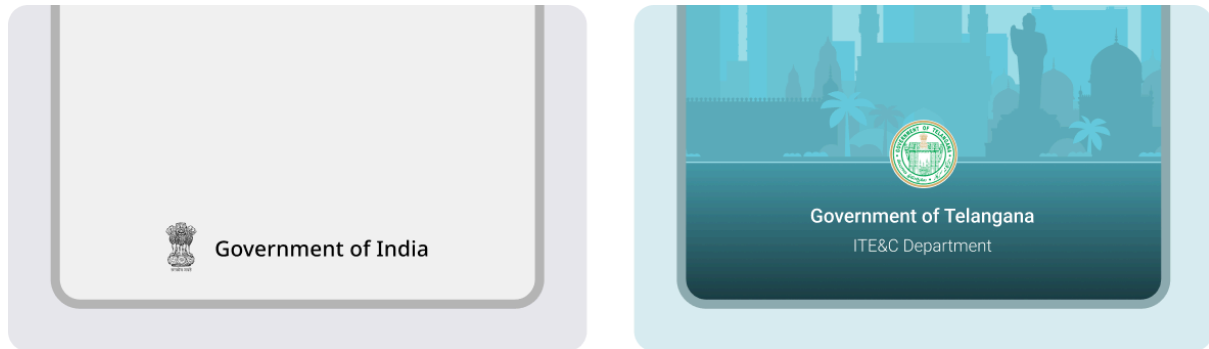
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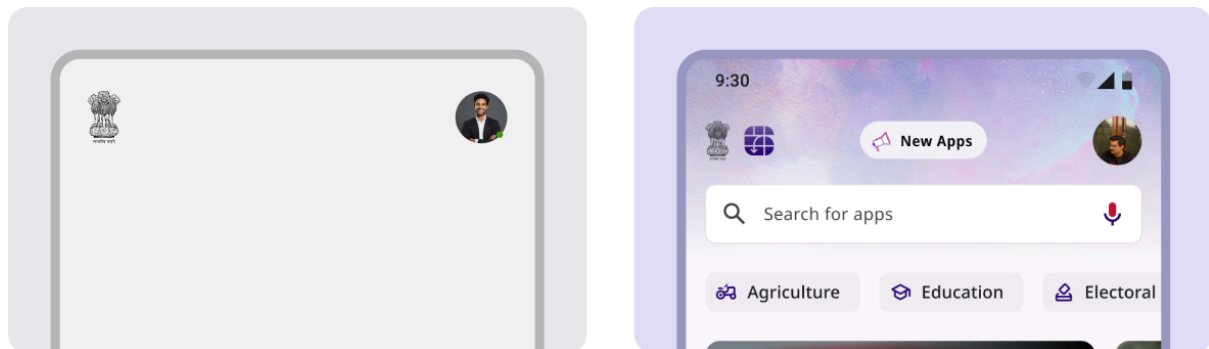
Mobile Application Patterns

Splash Screen



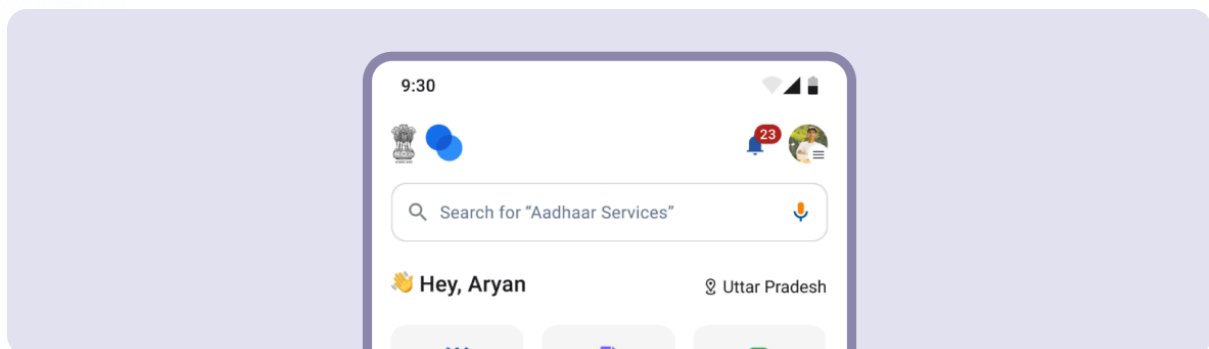
- **Purpose:** Provides a visually appealing introduction while the app loads.
- **Features:** App logo, animations, and transition to the main screen.

Home Header



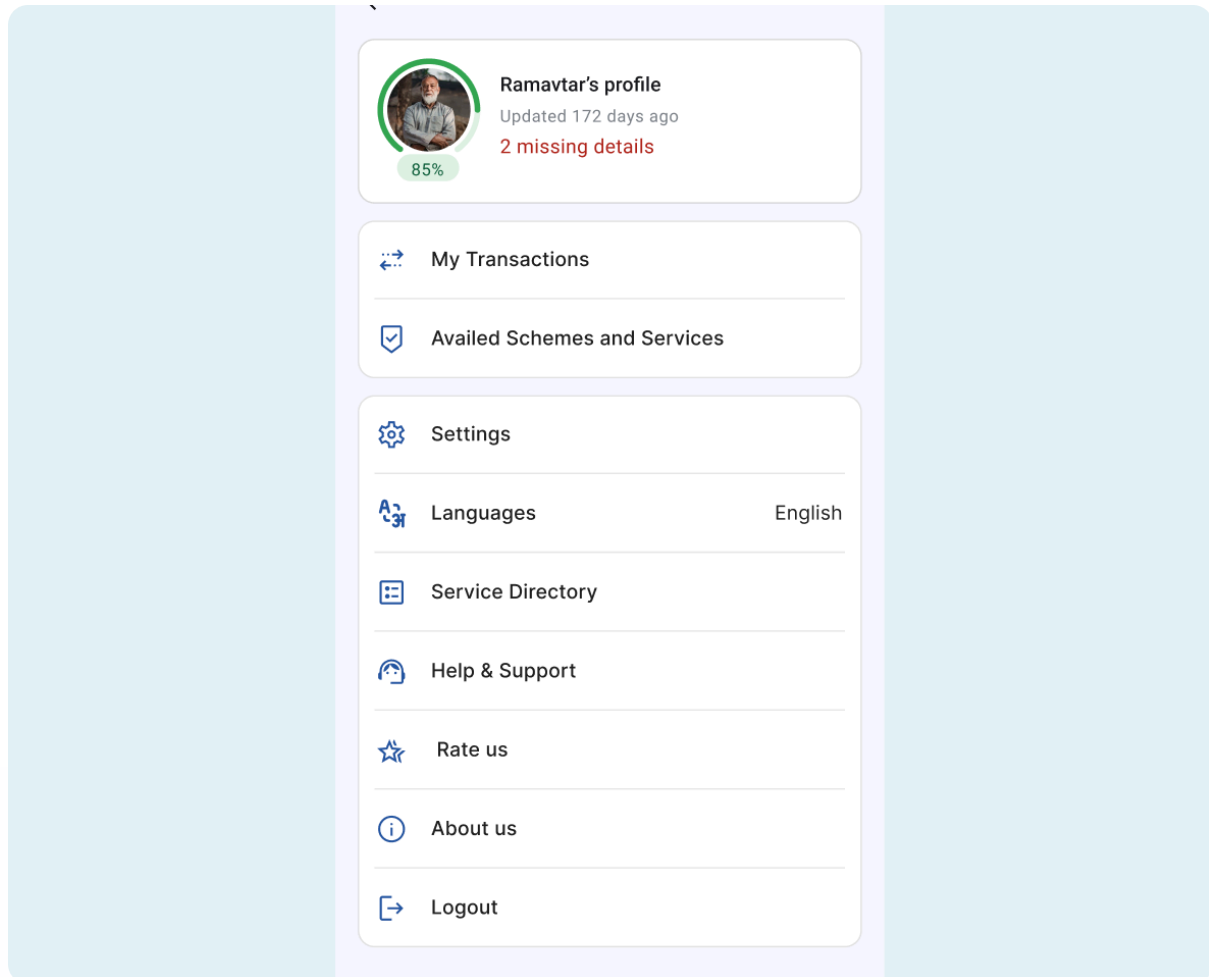
- **Purpose:** Displays key information and navigation options at the top of the home screen.
- **Features:** App name, user profile icon, and notification indicators.

Search Bar



- **Purpose:** Allows users to quickly search for content.
- **Features:** Search input field, voice search option, and search suggestions.

Side Menu



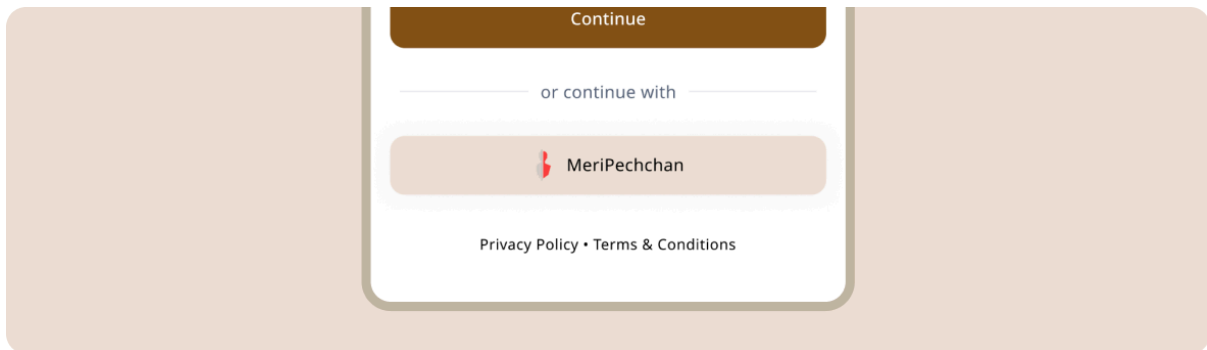
- **Purpose:** Provides access to app sections and settings.
- **Features:** Slide-out menu with categorized links and user profile details.

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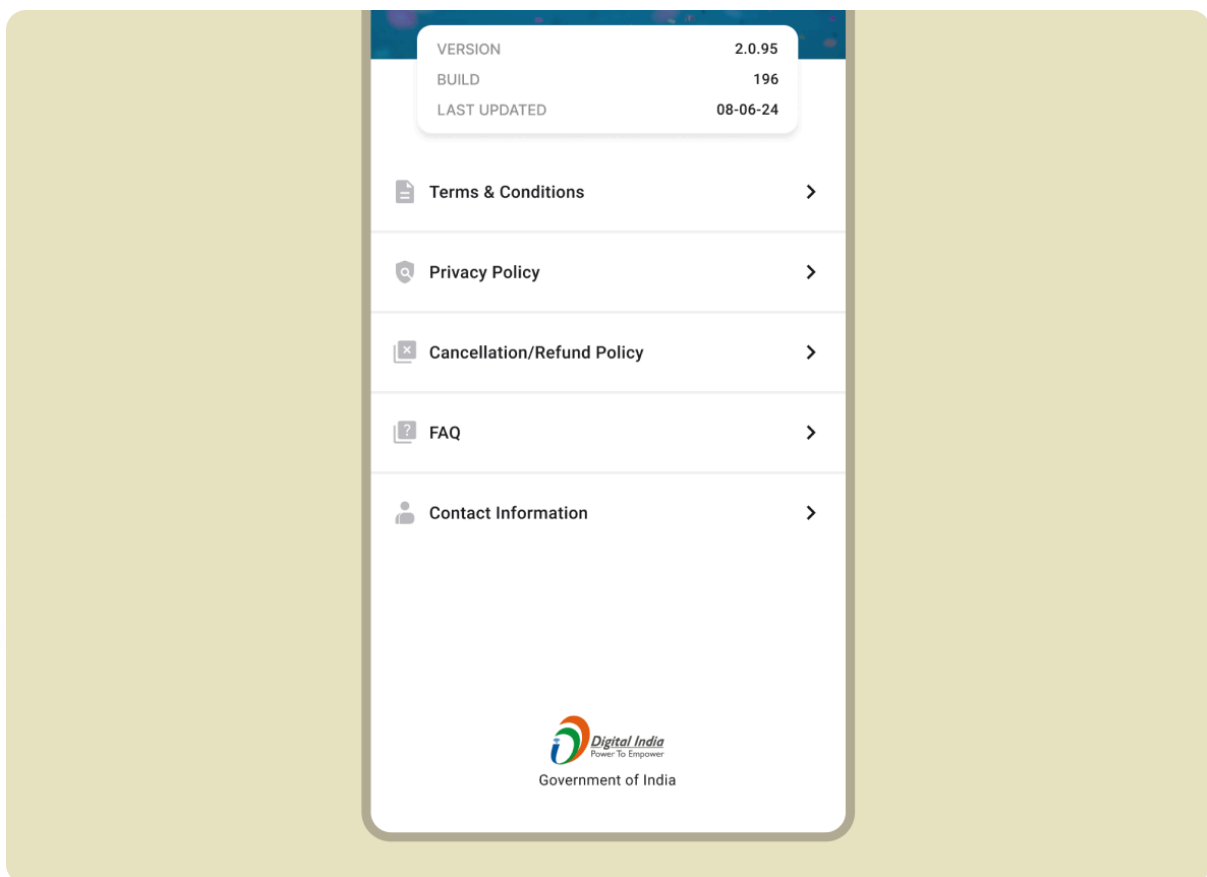
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National Single Sign-On (NSSO)



- **Purpose:** Enables a unified sign-on experience for mobile apps.
- **Features:** Secure authentication, single sign-on for multiple services, and user-friendly interface.

About Us



- **Purpose:** Provides information about the organization or app.
- **Features:** Company background, mission statement, team members, and contact information.

4. Documentation

The UX4G Design System documentation provides comprehensive points on key design elements to ensure consistency and accessibility. It includes:

Text Styles

- **Font Selection:** The UX4G Design System recommends the use of Noto Sans for its versatility and support for Indic scripts.
- **General points:** Covers font sizes, weights, and styles to ensure readability and a cohesive look across platforms.
- **Accessibility points:** Includes recommendations for text contrast, size, and spacing to meet web and mobile accessibility standards.

Color Styles

- **Different Color Styles:** Defines the primary, secondary, and accent colors used in the design system, including their specific applications.
- **Choosing Colors:** Offers guidance on selecting appropriate colors for different elements to maintain visual hierarchy and brand consistency.
- **Creating Color Swatches:** Instructions for creating and managing color swatches to ensure consistency across designs.
- **Changing Color Styles:** Details on how to update and implement color changes in design projects.
- **Accessibility points:** Provides criteria for color contrast and combinations to ensure visual accessibility for users with color vision deficiencies.

Shadows

- **Purpose & Usage:** Explains the role of shadows in design, including creating depth and emphasizing elements.
- **When to Use Shadows:** points on appropriate scenarios for applying shadows to enhance usability without causing distractions.
- **Accessibility points:** Ensures shadows do not hinder readability or accessibility, focusing on adequate contrast and clarity.

Layout Grid

- **Purpose of Containers:** Describes the function of containers in organizing content and maintaining layout consistency.
- **Container Types:** Details various container types (e.g., fixed, fluid) and their specific uses in layout design.
- **Implementation points:** Provides steps and best practices for implementing layout grids to achieve a structured and balanced design.

Icons

- **Material Icons:** Specifies the use of Material Icons, including their benefits for consistency and recognizability.

- **Icon Libraries:** Recommends additional icon libraries for exploring and integrating icons that fit within the UX4G design framework.

Components

- **Individual Usage points:** For each component (e.g., buttons, modals, tabs), the documentation provides specific instructions on where and how to use them.
- **Accessibility Criteria:** Outlines accessibility considerations for each component to ensure they are usable by individuals with disabilities, including proper labeling, contrast, and interaction feedback.

For detailed documentation and specifications related to the UX4G Design System, please refer to ux4g.gov.in. This resource provides comprehensive points and specifications for all aspects of the design system, including text styles, color styles, shadows, layout grids, icons, and components, along with their usage and accessibility criteria.

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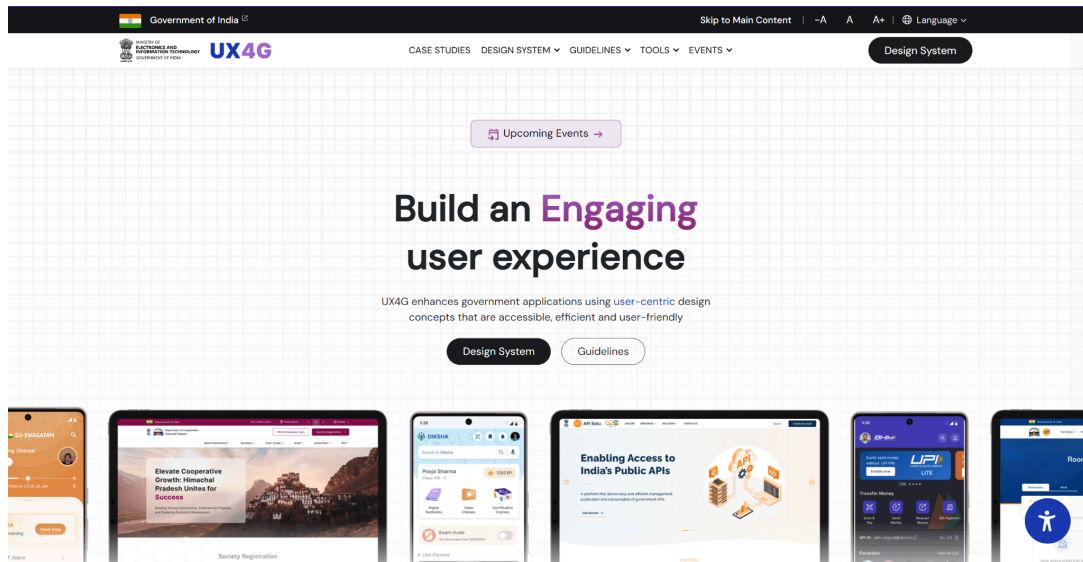
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Design System Implementation

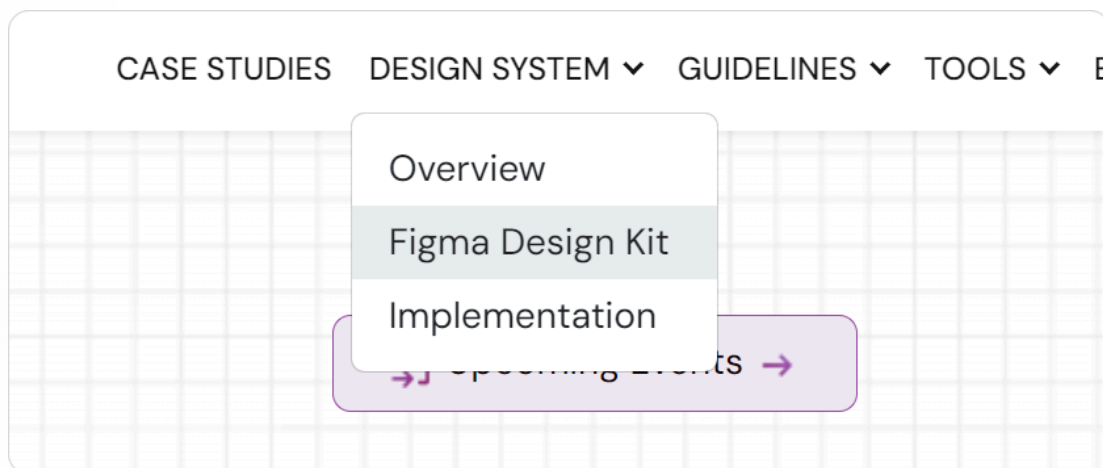
Know how to implement the UX4G design system in your work as a designer working on Figma or as a developer.

1. Implementation in Design (Figma)

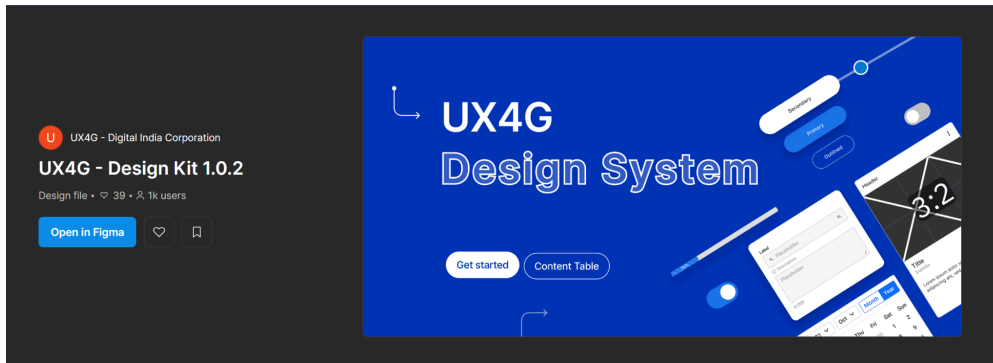
1. Go to ux4g.gov.in



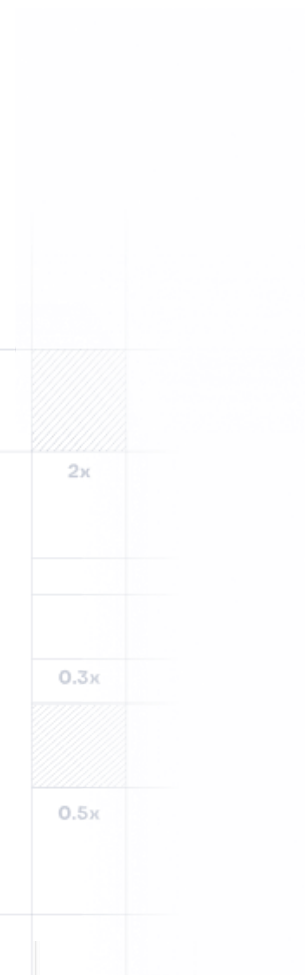
2. Click on Design System in the Header and Select “Figma Design Kit”



3. The Figma Community Page will appear. Click on “Open in Figma”

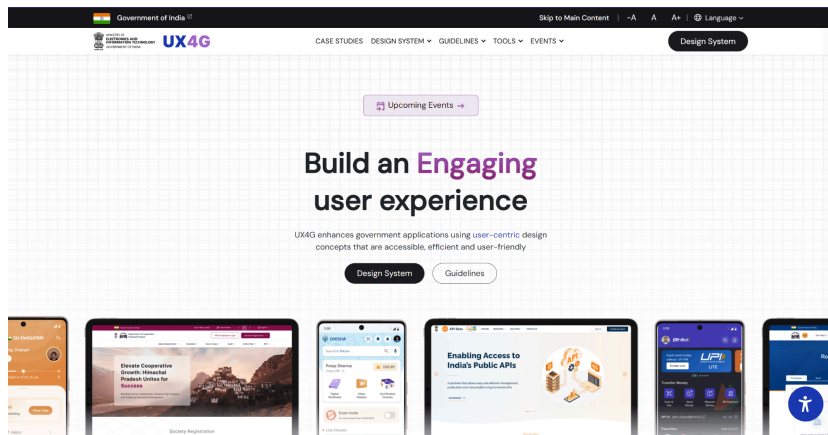


4. Customize the Typography, Color, Branding etc as per the documentation provided in Figma Kit.

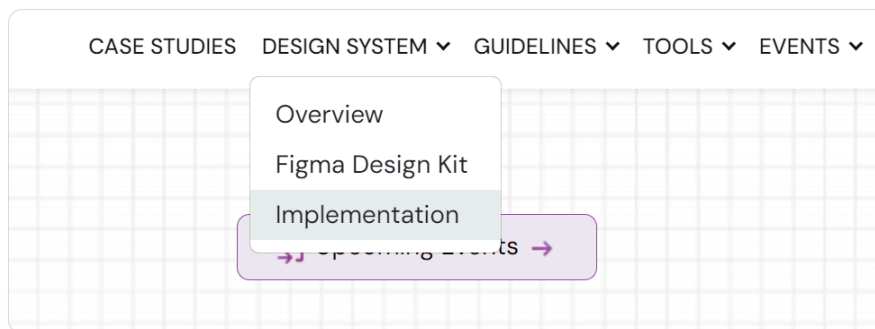


2. Implementation in Development

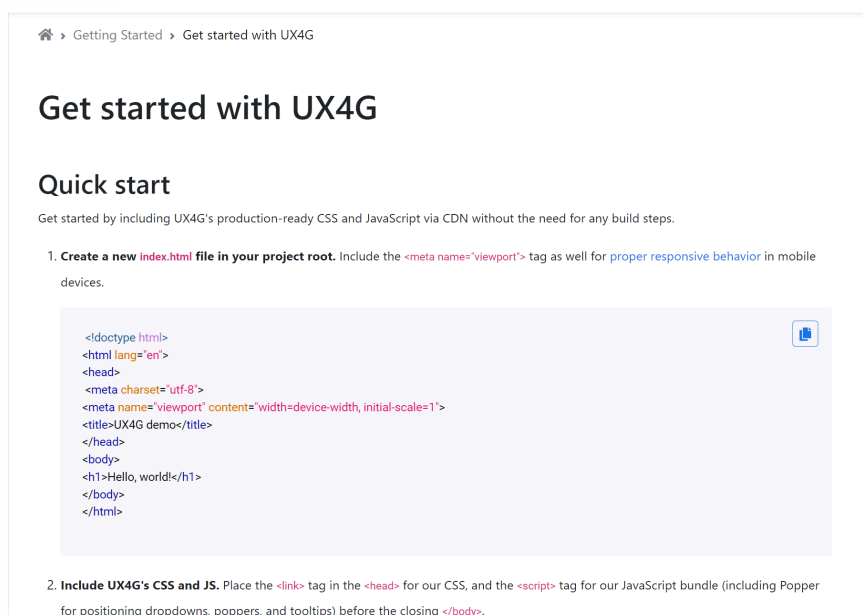
1. Go to ux4g.gov.in



2. Click on Design System in the Header and Select “Implementation Kit”



3. Include the “CDN link” into your project or download the code base to start using your project



3. Skills And Knowledge Required to Implement The Design System

Skills/Knowledge required	Resource who has these skills in general
Skills: Understanding of Design principles, Heuristic Laws, Information Architecture, Usability Testing, Wireframing, Accessibility. Tools: Design principles resources, wireframing tools, prototyping tools, user testing tools	UX Designer
Skills: Graphic Design, User-Centered Design, Visual Design, Interaction Design, Prototyping, Responsive Design Tools: Design software, design principles resources, iconography libraries, color theory resources	UI Designer
HTML, CSS, JavaScript, front-end frameworks (e.g., React, Angular), code editors, browser developer tools, responsive design and accessibility guidelines	Front-end Developer
Testing methodologies, bug tracking tools, test automation tools, knowledge of usability and quality standards	QA Engineer
Design concepts knowledge, collaboration and communication tools, understanding of user-centered design principles, technical understanding of implementation	Product Manager

Implementing a design system requires a diverse set of skills and knowledge across various disciplines, including design, development, and quality assurance. For a small team, the minimum requirements to successfully implement a design system would include a front-end developer and a UX designer. The skills required by these resources must include a good understanding of design principles, information architecture, usability testing, and accessibility points.

To establish a unified UX approach across the department, a common UX vertical can also be created. This vertical will act as a centralized hub from which various projects can draw

upon and collaborate. It will encompass a shared set of design principles, component libraries, and documentation, ensuring consistency and efficiency in user experience design. By creating and maintaining this common UX vertical, the department can foster a collaborative environment where design and development teams work seamlessly together, enhancing consistency and user experience across all projects.

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10

AI in Government Digital Design

10. Utilizing AI while Designing Government Digital Services

Artificial intelligence (AI) offers transformative potential across the entire service design lifecycle, from initial research and ideation to implementation and continuous improvement. By integrating AI tools and methodologies at various stages, designers can gain deeper insights, automate repetitive tasks, personalize experiences, and ultimately create more efficient, effective, and user-centric government services. This chapter will help teams learn how AI can be strategically leveraged at different times throughout the service design process to enhance outcomes and drive innovation.

1. During “Discovery” Stage

Using AI to Analyze Large Amounts of Data Quickly

When project teams encounter extensive data, such as user feedback or app store reviews, extracting actionable insights efficiently is crucial. AI can significantly reduce the time spent on laborious tasks like manually analyzing each review for sentiment (positive, negative, or neutral) or identifying recurring patterns, such as frequently requested features.

AI simplifies the process of turning raw information into clear patterns that teams can use to define better problems and therefore design more relevant solutions.

How to Use It Based on The Type of Data:

- **If you have survey data (e.g. from Google Forms):**

Google Forms automatically summarizes responses into simple charts and statistics. You can use that as a first step to understand trends.

For deeper insights, copy all the open-ended text responses (citizen comments, suggestions, etc.) and paste them into a generative AI tool like ChatGPT or Gemini. Then ask questions by putting prompts like:

“**Summarize the top 5 themes citizens are talking about.**”

“**List common positive and negative sentiments in this data.**”

“**What problems do citizens frequently mention that relate to our service?**”

“**Create a short summary I can share with the project team.**”

- **If you have large spreadsheets (Excel or Google Sheets):**

If you store feedback, complaint logs, or usage data in table format, you can

- Use Airtable AI or Notion AI: These tools let you query your tables conversationally. For example, typing “Show which service category has the highest complaints in the past 3 months” will return summarized results instantly.

- Use AI assistants (ChatGPT, Gemini, or Claude): Copy relevant parts of your table or attach it to your chat and ask questions like:
“Identify key trends or patterns in this dataset.”
“What are the top 3 issues citizens face based on this data?”
“Group similar responses together and list key insights from each group.”
“Summarize this data into an executive summary for stakeholder presentation.”

- **If you have qualitative data (e.g. interview transcripts):**
Paste these prompts into an AI chatbot:
“Summarize the most common themes mentioned in these interviews.”
“Highlight any frustrations or barriers citizens face based on these notes.”
“Categorize feedback into opportunities, issues, and positive experiences.”

Important Note for Teams

- Always review AI-generated summaries manually to confirm accuracy and tone.
- Store outputs (summaries, themes, insights) centrally so that all departments can reuse them later.
- Keep sensitive data (like personal identifiers) removed before uploading to AI tools.

Using Web Crawling Tools to Collect Large Amounts of Information

Sometimes, the information your team needs is spread across many online sources like app store reviews, social media posts, or public forums. Instead of copying this data manually, you can use simple web crawling tools to collect it quickly and organize it into spreadsheets or tables.

For example, a project team might want to understand citizen feedback on a government app by gathering all user reviews from its Play Store listing. With a crawling tool, you can automatically extract hundreds or thousands of reviews and export them to a file like Excel or Google Sheets for easy analysis.

Once your data is collected this way, AI tools can then help you analyze it efficiently by summarizing key themes, sentiments, and requests (as described earlier).

How Teams Can Use Crawling and AI Together

- Choose a user-friendly web crawler tool that does not require coding (many tools have free versions or simple interfaces).
- Use the tool to pull data such as app reviews, social media comments, or related news articles.
- Export the collected data into a table or a spreadsheet format.

- Upload the spreadsheet or copy portions of it into an AI chatbot (like ChatGPT or Gemini) and ask for insights such as:
"What are the most mentioned complaints in these app reviews?"
"Summarize the overall user satisfaction based on this data."
"Identify common feature requests or issues citizens mention."

Using AI to Transcribe Interviews Quickly and Accurately

Interviews and discussions with citizens or stakeholders provide rich insights. However, manually transcribing audio recordings is slow and error-prone.

AI-powered transcription tools can automatically convert your recorded interviews into text in minutes, including widely used Indian languages like Hindi, Marathi, Telugu, Bengali, etc. This saves valuable time for the teams & makes it easier to analyze and share insights.

How to Use These Tools:

1. Record interviews clearly, using good microphones if you're conducting them physically. For virtual interviews, preferably use video conferencing platforms that allow recording, or use the default screen recorder with audio on your system, or download one online.
2. Upload audio files to the selected transcription tool, choosing the correct language
3. Review and correct the generated transcript for accuracy.
4. Optionally, use AI chatbots or text analysis tools to summarize or extract key themes from the translated transcript (as explained earlier)

Translating Local Language Transcripts

If your project documentation or analysis is primarily in English, it's important to translate interviews done in local languages. AI translation tools can convert the transcription from languages like Hindi into English efficiently and accurately.

Bhashini is an AI-powered translation platform developed by the Government of India, specialized in Indian languages translation. Use it to convert transcripts into English so that the entire project team, regardless of their language skills, can understand the findings and collaborate effectively.

Using AI to Create Personas and Journey Maps

Creating citizen personas and journey maps are essential Discovery activities that help teams understand diverse user needs and experiences. AI tools can support these tasks by organizing research data and generating clear, ready-to-use outputs.

AI for Creating Personas

You can feed AI tools with survey data, interview transcripts, or feedback summaries, and ask them to create detailed personas describing typical citizens or stakeholder groups.

These personas include information like demographics, goals, challenges, and behaviors that guide design decisions.

Example prompt: **“Generate a persona for a first-time user of our service based on this data.”**

AI for Journey Mapping

Journey maps visualize the step-by-step experience citizens have with a service across various touchpoints. AI can assist by organizing user research insights into flow diagrams or structured narratives.

- You can provide AI with user journey data or interview summaries and ask it to outline key stages, actions, emotions, and pain points.
- Some AI-powered tools (like Figma or Miro AI) can help generate basic journey maps which your team can refine.

Example prompts

- **“Create a journey map highlighting citizen pain points when applying for a government certificate.”**
- **“Outline the key actions and emotions in the citizen’s service journey from awareness to completion.”**

FigJam Boards for Discovery Collaboration

FigJam is an online collaborative whiteboard tool by Figma. It provides easy access to hundreds of ready-made templates designed for workshops, brainstorming, journey mapping, and research sessions so teams can start quickly without building from scratch.

FigJam also has in-built AI-powered features to help summarize notes and group ideas, making it easier to organize information as teams work together. This unified setup supports real-time collaboration, allowing multidisciplinary teams to explore, align, and capture insights efficiently in one place.

2. During “Design” Stage

Using AI Assistants for Ideation

During the Design stage, generating a broad range of ideas quickly is important for innovative solutions. AI assistants like ChatGPT or Gemini can help teams brainstorm by offering diverse suggestions, creative alternatives, and fresh perspectives based on your design goals or user needs.

- Interact with AI by providing it context like user personas, problem statements, etc then ask the AI to generate ideas, content, or images.

Example prompts to AI assistants during ideation:

- **“Suggest 5 creative ways to simplify the citizen’s license renewal process.”**

- “Suggest 5 creative ways to simplify the citizen’s license renewal process.”
- “Offer content ideas to make form instructions easier to understand.”
- “Help me create ‘How Might We’ questions to address challenges in online voter registration.”

Ideation Tools in FigJam for Brainstorming

Recent AI additions in FigJam enable generating templates for brainstorming or planning based on simple prompts, automatically grouping sticky notes for easier organization, and summarizing key takeaways with a click.

FigJam has in-built AI bot called Jambot which can help the teams generate ideas or icebreakers directly on the board, helping reduce manual overhead and letting teams focus on problem-solving collaboratively.

FigJam's AI can create visual diagrams like mind maps or idea structures from simple prompts, helping to quickly organize complex ideas.

Use the "ideate" feature of the Jamboard to quickly generate and explore different ideas.

Leveraging AI for Wireframe Generation

In the Design stage, quickly visualizing ideas through wireframes helps teams experiment and iterate faster. AI-powered tools can generate wireframe layouts based on simple text descriptions or user goals, providing an initial visual draft without having to draw manually.

By describing the purpose, target users, or key features of a screen to an AI assistant, designers can receive multiple wireframe suggestions instantly. These wireframes can serve as a starting point on deciding what features to give on a screen, how to structure different elements or to get an idea of how screens could look visually.

Combining Rapid Wireframe Generation with Collaborative Feature Prioritization

After generating multiple wireframe options quickly using AI, teams can engage in collaborative activities like Dot voting to decide which features or design elements to include in the final layout. Each team member places “dots” or votes on preferred elements across different wireframes, making it easy to visualize collective preferences.

(Dot voting was explained in depth in the design process chapter earlier under the "design" stage)

By coupling AI-driven rapid wireframe generation with collaborative sessions, project teams can efficiently converge on user-centered layouts that incorporate the best ideas agreed upon by all involved.

Leveraging AI for Usability Testing

AI-powered usability testing tools can help government teams test low-fidelity prototypes early in the design process as well as later on with high fidelity prototypes. Some AI tools generate heatmaps showing where users click, hover, or get stuck, while others analyze user flows and dropout points to highlight design weaknesses

AI for Creating Insightful User Testing Reports

Some AI-driven tools can automatically analyze user test data to generate comprehensive, easy-to-understand reports. After people test your prototype, these tools collect the results like how many tasks users completed successfully, how long they took, and what problems they faced. They also gather comments and feedback from users.

The AI then creates easy summaries showing the most important problems and what worked well. This helps your team understand what needs fixing without spending a lot of time reading and analyzing data.

AI Tools that predict how users behave

Some AI tools predict how users might interact with a design without needing actual user tests yet. They analyze past user data and similar product interactions to forecast where users are likely to click, which paths they follow, where they might get confused, or where they could quit a task early.

This helps teams find problems early and improve the design before user testing. It saves time and helps make better designs from the start.

AI Tools That Check Accessibility

These AI tools scan prototypes or websites to check if they meet accessibility standards, looking at factors like color contrast, font size, keyboard navigation, and screen reader compatibility.

They generate detailed reports showing exactly which parts do not meet accessibility rules and offer clear suggestions for fixing them.

Using AI to Generate High-Fidelity Mockups

There are various AI powered tools online that help teams quickly create high-fidelity mockups. Using these AI mockup generators helps project teams move faster from finalized wireframes or ideas to finished designs, making it easier to visualize how the final product may look.

- **Figma's built-in feature called "First Draft"** lets designers describe the screen content in simple words, and it generates an initial detailed visual mockup automatically. This helps save time and provides a good starting point for designers to refine.
- Online tools like **UXPilot** also assist by turning wireframes or concept images into realistic mockups rapidly. These AI-driven tools focus on visual design and layout, producing clean interface screens without needing complex manual work.

Key AI Features in Figma Design for Designers

Figma offers several AI-powered features that help designers work faster and smarter.

- **First Draft:** Generate a detailed high-fidelity mockup automatically from a simple text description, speeding up the start of design work.
- **Text Generation & Enhancements:** Create relevant content for your designs, rewrite or translate text to maintain consistency across languages and regions.
- **Image Generation:** Quickly generate images directly inside Figma to fill layouts without needing outside tools.
- **Visual Asset Search:** Upload an image and find similar design components inside your project for easier reuse.
- **Background Removal:** Remove unwanted backgrounds from images automatically inside Figma without extra software.
- **Auto Layer Renaming:** Clean up and organize layer names automatically, helping teams navigate complex files easily.
- **AI Prototyping Assistance:** Suggest and create interactive flows by detecting common interaction patterns, saving manual linking time.

3. During "Build" Stage

Using AI During the Build Stage

During the Build stage, developers can use AI assistants to help write and correct code more efficiently. However, this section focuses on how designers and other team members can also benefit from AI.

Using AI Tools for No-Code Design and Development

AI-powered no-code tools like **Figma Make**, **Lovable**, and **V0** allow teams to turn design ideas into interactive apps or websites without writing code.

Figma Make works inside the **Figma** platform to quickly generate polished, front-end prototypes directly from design frames or text prompts, making it ideal for rapid

prototyping and design-first workflows. The generated elements can also be copied back to the designs.

These tools also serve as powerful platforms for exploring design ideas quickly by generating interactive prototypes. This helps teams visualize concepts early, test user flows, and gather feedback before heavy development begins.

4. During “Live” Stage

Real-Time User Behavior Tracking with AI Tools

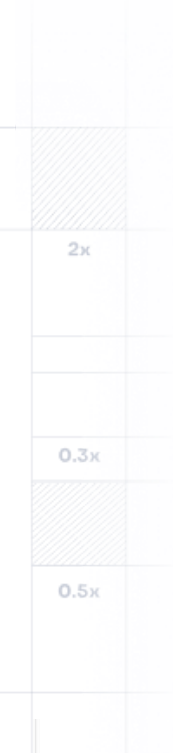
AI-powered tools can be used to track user behavior in real time by recording every click, scroll, and interaction on a website or app. They generate heatmaps to show which areas users engage with most and provide session replays to watch exactly how users move through the interface.

These tools also analyze user flows to identify where people struggle or drop off during tasks. By alerting teams instantly to usability issues or unusual behavior patterns, AI helps improve the service quickly and continuously.

Example: **Mixpanel**: A tool that helps teams analyze user behavior in digital products. It tracks and measures every user action (event) on a website or mobile app.

Usermaven: An AI-powered analytics platform that helps teams track user behavior, optimize engagement, and improve retention by providing real-time data and actionable insights.

Current Limitations of AI



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11

Compliance Matrix

Compliance Matrix

Compliances	Platform Support	Reference
Trust & Credibility		
Has SSL encryption been implemented (indicated by https:// protocol in the URL)?	 Web Desktop  Web Mobile	Refer: 5.1.1
Is ownership information displayed on the webpage?	 Web Desktop  Web Mobile	Refer: 5.1.2
Government mobile applications must prominently display official state emblems, ownership labels, and government identification on splash screens to establish authenticity and trustworthiness from first launch	 Mobile App	Refer: 4.1.2
Has the webpage clearly provided contact details? (example: email address or phone number)	 Web Desktop  Web Mobile	Refer: 5.1.2
Has consent been obtained before collecting or storing user data? (example: storing cookies consent)	 Web Desktop  Web Mobile  Mobile App	Refer: 5.1.6
Have been informed about what data is being collected and how it will be used?	 Web Desktop  Web Mobile	Refer: 5.1.6
Is the National Emblem displayed prominently on the webpage? (exact placement: header section)	 Web Desktop  Web Mobile  Mobile App	Refer: 5.1.4
Are trusted login systems (e.g., Meri Pehchan) implemented on the webpage?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.1.5
Is there a mechanism for grievance redressal?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.1.8
Does the webpage allow to track the status of their complaints?	 Web Desktop  Web Mobile	Refer: 5.1.8

	 Mobile App	
Does the webpage communicate resolutions to users?	 Web Desktop  Web Mobile	Refer: 5.1.8
Is there a system in place for leaving feedback, reviews and ratings?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.1.9
Is there a notification informing about redirection when using external links?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.1.12
Mobile applications should minimize external redirects and outbound links to prevent security vulnerabilities, maintain user trust within government ecosystem, and reduce phishing attack vectors	 Mobile App	Refer: 4.1.12
Are both the Privacy Policy and Terms and Conditions available on the webpage?	 Web Desktop  Web Mobile	Refer: 5.1.3
Users must have unrestricted access to privacy policies and terms documentation before accessing main application functionality to ensure informed consent and regulatory compliance	 Mobile App	Refer: 4.1.3
Legal documentation including privacy policies and terms must be consistently accessible from user profile and side menu sections throughout the application lifecycle	 Mobile App	Refer: 4.1.3
Does the webpage include a clearly visible "Contact Us" ?	 Web Desktop  Web Mobile	Refer: 5.3.16
Government applications require multi-platform distribution through official government channels including gov.in mobile app store in addition to commercial app stores for maximum accessibility	 Mobile App	Refer: 4.1.1
Applications must implement comprehensive security protocols as mandated by government cybersecurity frameworks including CERT-In guidelines and obtain necessary security certifications	 Mobile App	Refer: 4.1.1

About Us section must provide comprehensive organizational information including version metadata, ownership details, legal documentation links, and support resources for transparency and accountability	➡ Mobile App	Refer: 4.1.7
Visual brand identity including colors, typography, iconography, and design elements must remain unified across all application interfaces to reinforce government brand recognition and user trust	➡ Mobile App	Refer: 4.1.10
Mobile applications must implement comprehensive data security controls including encryption, secure authentication, data access controls, and secure storage mechanisms as per government cybersecurity standards	➡ Mobile App	Refer: 4.1.11
Applications must transparently communicate data collection, processing, storage, sharing practices, and user privacy rights through accessible privacy notices and consent mechanisms	➡ Mobile App	Refer: 4.1.11
Walkthrough Screens		
Complex application functionalities must be communicated using plain language principles accessible to users with diverse educational backgrounds and digital literacy levels	➡ Mobile App	Refer: 4.2.1
Information architecture should prioritize clarity by limiting cognitive load through focused content presentation without extraneous information	➡ Mobile App	Refer: 4.2.1
Visual storytelling through purposeful graphics and animations enhances user comprehension and engagement while maintaining accessibility standards	➡ Mobile App	Refer: 4.2.2
Progressive disclosure methodology guides users through features sequentially without overwhelming them with simultaneous information	➡ Mobile App	Refer: 4.2.3
Value proposition should be clearly communicated by emphasizing core benefits and high-impact features that address primary user needs	➡ Mobile App	Refer: 4.2.3

Text elements must meet comprehensive accessibility standards for minimum font sizes, contrast ratios, and typography that ensures legibility across devices and lighting conditions	➡  Mobile App	Refer: 4.2.5
Applications must provide comprehensive screen reader compatibility including semantic labeling, logical focus order, and alternative text for all interactive elements to ensure accessibility for blind and low-vision users	➡  Mobile App	Refer: 4.2.5
Applications must provide comprehensive screen reader compatibility including semantic labeling, logical focus order, and alternative text for all interactive elements to ensure accessibility for blind and low-vision users	➡  Mobile App	Refer: 4.2.6
Onboarding sequences should be concise with optimal screen count while providing sufficient feature introduction to maximize user comprehension and completion rates	➡  Mobile App	Refer: 4.2.7
First-time users should have controlled access to educational onboarding content with optional skip functionality and later access to prevent forced engagement	➡  Mobile App	Refer: 4.2.7
Communication style throughout onboarding should reinforce consistent brand identity and maintain unified voice across all touchpoints	➡  Mobile App	Refer: 4.2.8
User confidence should be built through encouraging, supportive language that reduces anxiety and promotes competence in application usage	➡  Mobile App	Refer: 4.2.8
Applications must accommodate diverse linguistic requirements of Indian users including support for 22 scheduled languages with culturally appropriate content and RTL language support	➡  Mobile App	Refer: 4.2.9
Mobile First Approach		
Is the core content or primary functionality accessible on the mobile screen?	 Web Mobile ➡  Mobile App	Refer: 5.2.1

Are flexible grids, fluid images, and media queries implemented for dynamic layouts?	 Web Desktop  Web Mobile	Refer: 5.2.1
Are touch interactions & targets with appropriately sized buttons designed? (example: 42x42px icon button)	 Web Mobile	Refer: 5.2.1
Is sufficient spacing provided between interactive elements to prevent accidental taps?	 Web Mobile  Mobile App	Refer: 5.2.1
Are mobile-friendly navigation patterns used (e.g., hamburger menus, bottom navigation bars)?	 Web Mobile  Mobile App	Refer: 5.2.1
Has loading time been minimised by using efficient coding practices? (example: ideal load time is under 2 seconds)	 Web Desktop  Web Mobile	Refer: 5.2.1
Has lazy loading been implemented for images and other resources?	 Web Desktop  Web Mobile	Refer: 5.2.1
Can users expand sections for additional details?	 Web Desktop  Web Mobile	Refer: 5.2.2
Is language selection list easily accessible on mobile devices?	 Web Mobile	Refer: 5.2.2
Are validation and error handling implemented to guide users through form completion?	 Web Desktop  Web Mobile	Refer: 5.2.4
Homepage		
Does the homepage design stand out from other pages, capturing user attention immediately?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.3.1
Is the webpage design professional, leaving a positive first impression? (example: clean - improved whitespacing, minimal visual elements)	 Web Desktop  Web Mobile	Refer: 5.2.1
Does the webpage establish a clear visual hierarchy ? (example: arranging elements based on their importance)	 Web Desktop  Web Mobile	Refer: 5.3.21

Is valuable content presented on the webpage or within one click to keep users engaged?	 Web Desktop  Web Mobile	Refer: 5.3.5
Does the webpage reveal information progressively to avoid overwhelming users with too much content at once?	 Web Desktop  Web Mobile	Refer: 5.2.2
Are the most primary task clearly highlighted on the webpage for easy identification and access? (example: CTA on the hero section or in the header)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.7
Does the webpage include a list of recently featured items and a link to archival content to keep content dynamic and accessible? (Example: Latest Updates)	 Web Desktop  Web Mobile	Refer: 5.3.9
Are content such as text, image, illustrations, icons etc used to convey meaningful context rather than for decoration?	 Web Desktop  Web Mobile	Refer: 5.3.19
Does the webpage design motivate users to browse and explore further?	 Web Desktop  Web Mobile	Refer: 5.3.18
Does the webpage clearly communicate the site's value proposition ? (example: tagline or welcome message)	 Web Desktop  Web Mobile	Refer: 5.3.10
The webpage uses a relevant and descriptive title (including ARIA labels and alt text where applicable) and places relevant keywords at the beginning of webpage links to enhance search engine visibility and improve clarity.	 Web Desktop  Web Mobile	Refer: 6.16.1
Is organisational or departmental information grouped into a dedicated section ? (example: About us overview section on webpage)	 Web Desktop  Web Mobile	Refer: 5.3.13
Does the webpage URL clearly reflect the website's purpose ?	 Web Desktop  Web Mobile	Refer: 5.3.10
Are branding elements consistently maintained on the webpage across all device types and screen sizes? (example: logos, colours, and fonts)	 Web Desktop  Web Mobile	Refer: 5.2.3
Navigation menu elements must follow established thumb-zone accessibility patterns positioning primary	 Mobile App	Refer: 4.3.2

navigation controls in optimal reachability zones for one-handed mobile device operation		
Government mobile applications should provide centralized service discovery interface enabling direct access to all available microservices and citizen services from primary entry screen	Mobile App	Refer: 4.3.4
Applications with advanced or multi-step features require guided user assistance mechanisms including contextual tours, interactive walkthroughs, and progressive help systems to reduce learning curve	Mobile App	Refer: 4.3.8
Homepage information architecture must enable rapid scanning and navigation through clear visual hierarchy, descriptive section labels, semantic markup, and logical content organization	Mobile App	Refer: 4.3.9
About Us		
Is the purpose of the webpage, such as its mission, vision, and values, clearly defined?	Web Desktop Web Mobile	Refer: 5.4.1
Does the webpage provide a detailed overview of the organisation or entity behind the webpage?	Web Desktop Web Mobile	Refer: 5.4.2
Are the core values of the organisation clearly outlined to convey the guiding principles behind its actions and decisions?	Web Desktop Web Mobile	Refer: 5.4.9
Does the webpage introduce key leaders and team members, providing their roles and brief bios (such as in a 'Who's Who' section)?	Web Desktop Web Mobile	Refer: 5.4.3
Are significant achievements and milestones highlighted?	Web Desktop Web Mobile	Refer: 5.4.5
Is a brief history of the organisation included?	Web Desktop Web Mobile	Refer: 5.4.8
Are relevant images or videos of the team or office used to add a personal touch and help users connect with the organisation visually?	Web Desktop Web Mobile	Refer: 5.4.7

Are links to related sections, such as careers or press releases, provided to encourage users to explore other relevant areas of the website?	 Web Desktop  Web Mobile	Refer: 5.4.12
Page Layout and Visual Design		
Does the webpage layout follow recognized scanning patterns ? (example: F-shaped or Z-shaped pattern)	 Web Desktop  Web Mobile	Refer: 5.3.24
Is the webpage content easy to scan without any cognitive overload ?	 Web Desktop  Web Mobile	Refer: 6.11.4
Is the screen density suitable for the target users and the activities they will be performing to enhance readability and usability?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.5.1
Are the fonts and their sizes legible and easy to read to ensure accessibility?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.5.18
Does the layout guide the visitor focus on the next action or step to ensure a smooth and intuitive user journey?	 Web Desktop  Web Mobile	Refer: 5.5.3
Does every page have a clear visual starting point to guide the visitor navigation?	 Web Desktop  Web Mobile	Refer: 5.5.12
Is the layout consistent on all pages of the website and mobile application to provide a cohesive experience?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.5.13
Does important information, such as commonly used features, appear on the first screen of all pages (above the first section) to improve efficiency?	 Web Desktop  Web Mobile	Refer: 5.5.3
Are clickable elements clearly recognizable as interactive? (example: buttons)	 Web Desktop  Web Mobile  Mobile App	Refer: 5.5.4
Do non-clickable items avoid visual attributes that may falsely suggest interactivity ?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.5.5

Are interactive components (like radio buttons and checkboxes) used appropriately, and do non-clickable items avoid visual styles that may falsely suggest interactivity?	 Web Desktop  Web Mobile	Refer: 5.5.6
Are hyperlinked texts readily identifiable? (example: underlining or color)	 Web Desktop  Web Mobile	Refer: 5.5.7
Are icons and graphics standard and intuitive? (i.e., recognizable and commonly understood)	 Web Desktop  Web Mobile	Refer: 5.5.11
Is the same font style used throughout the webpage?	 Web Desktop  Web Mobile	Refer: 5.5.8
Are colors used to organize and group items on the page to enhance visual hierarchy?	 Web Desktop  Web Mobile	Refer: 5.5.19
Is the color scheme visually harmonious, with an emphasis on avoiding complicated or distracting backgrounds, and does it comply with the color ratios of WCAG guidelines to ensure accessibility?	 Web Desktop  Web Mobile	Refer: 5.5.24
Are the webpage print-friendly or do they have a separate printable version available for convenience?	 Web Desktop	Refer: 5.5.14
Is italicized text avoided, and is underlining reserved solely for hyperlinked texts?	 Web Desktop  Web Mobile	Refer: 5.5.15
Are the pages designed using an underlying grid system to ensure proper alignment of items and widgets both horizontally and vertically for a structured layout?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.2.22
Are related information and functions grouped together so that each group can be scanned in a single go to enhance efficiency?	 Web Desktop  Web Mobile	Refer: 5.5.29
Is the webpage well-structured such as section by section to assist in locating each element?	 Web Desktop  Web Mobile	Refer: 5.5.30
Is consistency in the placement of the organization's logo on every page maintained ?	 Web Desktop  Web Mobile	Refer: 5.5.26

Does clicking on the logo lead to the homepage?	 Web Desktop  Web Mobile	Refer: 5.5.26
Are attention-grabbing elements (such as animation, bright colors, and size differences) used only when necessary to avoid overwhelming?	 Web Desktop  Web Mobile	Refer: 5.5.27
Does the UI components align with the overall theme and branding of the webpage?	 Web Desktop  Web Mobile	Refer: 6.3.9
Are graphs presented with access to the underlying data, such as numeric values or annotations on bar charts?	 Web Desktop  Web Mobile	Refer: 6.5.3
Visual design must employ systematic hierarchy principles using size differentiation, strategic color application, and spatial positioning to create intuitive information flow and guide user attention through interface elements	 Mobile App	Refer: 4.6.1
Font sizing, weight, line height, and spacing must be systematically applied across heading levels and body text to create scannable content structure that improves readability and information comprehension	 Mobile App	Refer: 4.6.4
Visual identity system including color palettes, typography specifications, iconography, and design elements must be consistently applied across all application touchpoints to reinforce brand recognition	 Mobile App	Refer: 4.6.5
Comprehensive design system documentation must be developed defining reusable UI components, interaction patterns, design tokens, accessibility requirements, and implementation guidelines to ensure consistency and maintainability	 Mobile App	Refer: 4.6.5
Information density must be strategically managed through logical grouping of related content elements and progressive disclosure mechanisms to prevent cognitive overload while maintaining information accessibility	 Mobile App	Refer: 4.6.6
Interface affordances must clearly communicate element functionality through visual characteristics including shape, color, iconography, and interactive states to reduce cognitive load and improve usability	 Mobile App	Refer: 4.6.8

Rich media content including images, videos, animations, and audio must be purposefully integrated to enhance narrative and engagement without creating visual clutter or accessibility barriers	 Mobile App	Refer: 4.6.8
Platform-specific design patterns including navigation paradigms, gesture conventions, and interface components must be implemented per iOS Human Interface Guidelines and Material Design while maintaining unified brand identity across platforms	 Mobile App	Refer: 4.6.9
Responsiveness		
Are branding elements such as logos, colours, and fonts consistently applied across all screen sizes of the webpage?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.2.3
Are touch-friendly elements designed with appropriate spacing to ensure buttons and links are easy to tap on touchscreens?	 Web Mobile  Mobile App	Refer: 5.2.1
Are images and media elements optimized for different platforms and screens, remaining flexible and resizing within their containers to maintain visual integrity and prevent layout issues	 Web Desktop  Web Mobile	Refer: 5.6.2
Is performance optimized for mobile devices by minimizing file sizes and using efficient coding practices?	 Web Mobile  Mobile App	Refer: 5.6.14
Are responsive containers used to manage layout and maintain a consistent structure?	 Web Desktop  Web Mobile	Refer: 5.6.5
Is a flexible, adaptive grid layout implemented to provide a structured design that adjusts based on screen size and device capabilities?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.6.6
Is text size & line height adjusted for readability on different devices to ensure content is easy to read?	 Web Desktop  Web Mobile	Refer: 5.6.8
Are CSS media queries used to apply different styles for different screen sizes?	 Web Desktop  Web Mobile	Refer: 5.6.12

Are fluid layouts created using relative units like percentages to adjust smoothly to different screen sizes?	 Web Desktop  Web Mobile	Refer: 5.6.13
Is the viewport meta tag included in the HTML to control the layout on mobile browsers?	 Web Desktop  Web Mobile	Refer: 5.6.7
Exploration Without Login		
Is a significant portion of the content accessible? (example: explore content without login)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.1.1
Is teaser content or a preview of premium features provided on the webpage? (example: explore content without login)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.1.1
Are interactive features (e.g., applying, commenting) limited for non-logged-in users to maintain simplicity and security?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.1.6
Is the single sign-on (SSO) integrated into the product to enable seamless single sign-on (SSO) capabilities?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.2.1
Is offline access to previously viewed content or cached information provided where feasible?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.1.8
Are users prompted to create an account or log in when they attempt to access restricted features or content?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.1.9
Search functionality must be accessible and discoverable without authentication barriers, enabling guest users to locate specific content, services, or features through keyword-based queries with autocomplete, spell correction, and filter capabilities	 Mobile App	Refer: 6.1.4
Is content sharing enabled through social media handles ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.1.4

Registration value proposition should be clearly communicated through incentive mechanisms including exclusive content access, personalized services, priority support, or benefit programs to demonstrate tangible advantages of authenticated access while maintaining voluntary opt-in approach	 Mobile App	Refer: 6.1.9
Login and Signup Guidelines		
Is the single sign-on (SSO) API integrated into the product to enable seamless capabilities?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.2.1
Is the SSO integration documentation followed to ensure proper implementation and compliance with security standards?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.2.1
Are the login/sign-in button placed prominently on every webpage of the website (ideally placed at navbar) to ensure easy access to login page?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.2.2
Is official SSO branding, including logos, used consistently everywhere ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.2.2
Does the authentication process adhere to the highest security standards to protect user data? (such as encryption and hashing for stored credentials, CAPTCHA for login page and multi-factor authentication)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.2.3
Are data privacy policies and terms of service clearly communicated, detailing how data will be used and protected?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.2.3
Is explicit consent obtained before initiating the SSO process, with clear explanations of data access and usage?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.2.4
Are existing website or app accounts seamlessly linkable with Single Sign-On (SSO) credentials (e.g., Meri Pehchan), ensuring a smooth transition that preserves user data, preferences, and continuity in the login process?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.2.6

Is the user interface (UI) designed intuitively to simplify the login and signup process by minimizing steps or information required to login/signup?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.2.7
Is thorough testing of the Login/Method methods and SSO (e.g., Meri Pehchan) integration conducted to ensure proper functionality under various conditions? For example., OTP Validation, Server Issues.	 Web Desktop  Web Mobile  Mobile App	
Is the integration kept up-to-date with the latest SSO (e.g., Meri Pehchan) API updates and security patches?	 Web Desktop  Web Mobile  Mobile App	
Are trust indicators, such as security badges and endorsements, used to reassure users about the safety and legitimacy of the login process?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.2.9
Applications must provide contextual error guidance and recovery mechanisms offering specific suggestions for resolving common issues including authentication failures, network connectivity problems, and input validation errors to reduce user frustration and abandonment	 Mobile App	Refer: 6.2.5
Search		
Is the search bar is included if product is large and requires exploration to help users easily find content ?	 Web Desktop  Web Mobile  Mobile App	Refer: 4.3.7
Search functionality must be positioned in prominent, easily discoverable locations typically at screen top within primary navigation area to enable quick access without extensive navigation or scrolling	 Mobile App	Refer: 6.3.1
Does the system provide search auto-suggestions as users type to improve search efficiency?	 Web Desktop  Web Mobile	Refer: 6.3.23
Is it indicated if the search is global (e.g., search throughout pages) or local (e.g., section or page specific)?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.3.3
Can users filter search results or sorting in search result to refine their search?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.3.4

Are auto complete search suggestions provided as users type to help them find content faster? (e.g., auto-fill suggestion)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.3.5
Are search results relevant and sorted by importance using algorithms?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.3.6
Is voice search functionality integrated for hands-free searching?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.3.7
Do search results load quickly, with loading indicators to show processing?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.3.8
Is lazy loading implemented for results not immediately visible to improve load times?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.3.8
Search interface design and placement must maintain consistency across all application screens and contexts to build user familiarity and reduce cognitive load through predictable interaction patterns	 Mobile App	Refer: 6.3.9
Search bar visual styling including colors, typography, iconography, and dimensions must integrate seamlessly with overall brand identity and design system to maintain cohesive user experience	 Mobile App	Refer: 6.3.9
Personalisation		
Is user data used with consent to personalise content recommendations, notifications, and features tailored to individual preferences and behaviour?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.4.1
Does the collection of personal information adhere to government Data Protection and other relevant regulations?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.4.1
Are various theme options, such as light mode and dark mode, provided to accommodate user preferences and enhance visual comfort?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.4.2

Can users adjust font sizes, styles, and layout settings to optimise readability and usability according to individual needs?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.4.2
Are algorithms or user input used to suggest relevant content, products, or services based on user interests and past interactions?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.4.3
Are location-based services offered to provide relevant information based on geographic location?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.4.3
Can users customise notification preferences, such as frequency and type, to receive relevant updates without overwhelming notifications? (e.g., mediums like SMS or Email)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.4.5
Do intelligent notification systems prioritise important messages and adapt based on user interactions and preferences? (e.g., real-time alerts)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.4.5
Dynamic content personalization must reflect user preference changes and behavioral patterns through real-time synchronization mechanisms to provide immediately relevant and contextual experiences	 Mobile App	Refer: 6.4.7
Personalization features must enhance user autonomy and experience through transparent algorithms that respect user privacy without employing manipulative dark patterns or exploiting psychological vulnerabilities to influence choices	 Mobile App	Refer: 6.4.8
Task Orientation		
Is irrelevant and unnecessary information avoided to keep the user focused? (e.g., context specific information and fulfill primary goal of website)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.1
Only relevant scripts, videos, audio files, graphics, and images are used but not overused?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.1
Are unnecessary registrations avoided, and are primary tasks like availing services or applying for service made clear and distraction-free?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.1

Are user tasks optimized by minimizing the number of screens and interaction steps (clicks/taps) required, thereby streamlining the journey, reducing cognitive load, and enhancing efficiency?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.2
Does the system let people do things in the same order they would normally do them in real life ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.2
Are automated actions (e.g., autofill state and district inputfields using pincode) implemented to reduce manual effort?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.3
Are users allowed to compare items easily when necessary to aid decision-making?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.3
Are important & frequently used features positioned at easy accessibility area of the webpage? (e.g., sticky accessibility widget at the bottom-right of the viewport) Link for Accessibility Widget .	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.4
Are users not required to enter the same information repeatedly, saving time and effort?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.4
Are all necessary steps for multi-step tasks displayed, with progress feedback provided to keep informed?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.4
Are users not required to remember information as they move between sections, supporting recognition over recall?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.5
Are easily understood metaphors and relevant cultural conventions for data formats used to improve comprehension?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.5
Are the internal workings of the software hidden to avoid confusion? (example: technical jargons avoided to showcase to the users)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.6
Is there a mechanism for users to come back from critical errors? (e.g. confirming form submission before submitting)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.6

Are common tasks made easy for without requiring external assistance? (e.g., tooltips)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.7
Can users resume actions from where they left off if they quit and return later, improving continuity?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.7
Are sorting and filtering options provided for content-heavy webpage?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.8
Are text & images on buttons or icons relevant to the task, ensuring clarity of action?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.8
Is there a message with timer before automatically logging off to avoid unintended interruptions?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.9
Are the needs of both novice and expert users catered to by offering detailed explanations and tours for beginners and shortcuts for advanced users?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.10
Are users allowed to edit any information they provide, such as delivery addresses or account details, ensuring flexibility?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.5.10
Are step-by-step onboarding guides provided for new users to familiarise them with the website or app?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.2
Are buttons used for commands and actions instead of hyperlinked text?	 Web Desktop  Web Mobile	Refer: 6.5.5
Is real-time validation provided for incorrect entries?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.1
Primary call-to-action buttons must be prominently positioned and visually distinguished on all screens to guide users toward key actions and desired user flows through clear visual hierarchy	 Mobile App	Refer: 6.5.7

System interactions requiring data submission or state changes must be explicitly triggered by intentional user actions rather than automated processes to ensure user control and prevent accidental submissions	 Mobile App	Refer: 6.5.8
Navigation and Information Architecture		
Are webpage titles easily accessible and recognizable to support consistent navigation?	 Web Desktop  Web Mobile	Refer: 5.5.25
Does the navigation have a clear and logical hierarchy that allows users to easily understand the structure and find what they need?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.1
Are primary navigation elements easily accessible and clearly labeled with descriptive text (alongside icons where applicable), ensuring that categories and sections are intuitive and support clear wayfinding across the webpage or mobile application?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.1
Are consistent navigation patterns maintained throughout to help users predict how to move between screens? (e.g., breadcrumbs)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.1
Are key navigation elements (e.g., navigation bar in the header) persistent across the main screens to provide a stable user experience?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.1
Are navigation elements placed in prominent location ? (example: such as at the bottom or top of the webpage)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.1
Are navigation elements large enough to be clicked easily? (e.g., icon buttons should be 44x44 px)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.1
Is visual feedback (e.g., highlighting, colour changes) provided when navigation elements are clicked to confirm user actions?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.1
Are smooth transitions between screens implemented to enhance the user experience and provide a sense of continuity?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.1

Can users easily navigate back to the previous screen using standard gestures or a back button?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.1
Are breadcrumbs or similar indicators used to show the user's path and make navigation back to previous screens easier when the navigation has more than three steps?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.1
Is the information architecture structured based on user needs and behaviours, ensuring the most important content is easy to find?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.2
Are related content grouped logically ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.2
Is the information architecture kept as shallow as possible, avoiding deep hierarchies that can confuse users?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.2
Is a consistent structure applied to similar sections ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.2
Are multiple pathways to important content (e.g., navigation menu, search, shortcuts) provided to accommodate different user preferences?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.2
Is the information architecture regularly updated and refined based on user feedback and changing needs?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.6.2
Lists, Filters, and Sorting		
Are list items structured logically, with concise and relevant information that avoids clutter and supports quick scanning and readability?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.1
Do all list items use consistent styling ? (example: fonts, colors, and spacing)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.1

Are visual separators or dividers used between list items ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.1
Are list items easily clickable with sufficient spacing ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.1
Is visual feedback (e.g., highlighting or colour changes) provided when a list item is clicked or selected, enhancing interactivity?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.1
Are efficient loading techniques, like lazy loading or infinite scroll, implemented to handle large lists without performance issues?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.1
Are loading indicators (e.g., spinners or progress bars) used to inform users when additional content is being loaded?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.1
If applicable, Are filters positioned in a prominent and easily accessible location ? (example, ribbon of chips at the top)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.2
Are collapsible sections for filters used to save screen space and keep the interface clean, depending on the amount of information present?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.2
Do filters have clear and descriptive labels, avoiding jargon to ensure users understand their choices?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.2
Can users select multiple filter options, providing flexibility and better control over the results?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.2
Are filters applied in real-time updating the list while not re-loading the whole page or with a clear action button (e.g., “Apply Filters”) to minimise waiting time?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.2
Is visual confirmation of active filters provided, such as highlighting selected filters or displaying a count of active filters?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.2

Is a clear option to reset or clear all filters included, allowing users to start fresh easily?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.2
If applicable, make users save their filter preferences for future use, offering convenience and a personalised experience?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.2
Can users create and save custom filters based on their specific needs and preferences?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.2
Are sorting options provided based on relevant criteria, such as date, popularity, price, or alphabetical order?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.3
Is a logical default sorting order set that makes sense for the majority of users?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.3
Can users toggle between ascending and descending order for each sorting criterion?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.3
Is combination sorting (e.g., sort by price and then by rating) enabled if applicable?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.3
Are clear icons or indicators (e.g., arrows) used to show the current sorting order?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.3
Is the active sorting option highlighted to provide visual feedback to the user?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.3
Forms and Data Entry Checklist		
Are only essential fields relevant to the task or data entry process included in the webpage?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.8.1

Are steppers or multi-step navigation used to break down longer forms into manageable sections, revealing additional fields progressively?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.8.1
Are visual indicators (e.g., numbered steps, progress bars) provided to communicate the user's current position and overall progress within the form?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.8.3
Are labels positioned prominently above, beside or inside input fields in the webpage ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.8.2
Are appropriate input types (e.g., text, number, date picker) optimised for mobile devices to streamline data entry and minimise user effort?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.8.2
Is real-time validation implemented to provide immediate feedback (e.g., error message with relevant solution) on input errors, allowing users to correct mistakes promptly?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.8.4
Are input fields and interactive elements (e.g., buttons, checkboxes) optimised for touch interactions, ensuring they are adequately sized and spaced?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.8.5
Are autofill features enabled where applicable to expedite data entry and enhance user convenience, especially for repetitive or predictable information (e.g., SIM Selection, OTP Autofill)?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.8.6
Are intelligent suggestions or predictive text provided based on user input to accelerate form completion and reduce manual effort?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.8.6
Is placeholder text used to guide for the expected input?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.1
Banners and Graphics Checklist		
Does each banner or graphic serve a clear purpose, such as promoting a product, providing information, or guiding user actions?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.1

Are banners and graphics relevant to the content or context of the website section they appear in?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.1
Do banners and graphics maintain consistency with the website's branding, using colours, fonts, and overall style?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.2
Are high-resolution images and graphics used to ensure clarity and professionalism?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.2
Are designs visually appealing, attracting attention without being overwhelming?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.2
Are banners and graphics positioned in appropriate locations and do not obstruct core functionalities?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.3
Are banners and graphics appropriately sized for different screen sizes and resolutions, maintaining readability and usability?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.3
If applicable, Do banners include clear and compelling calls to action, guiding users on what to do next with CTA button placed prominently in the banner (e.g., "Apply," "Learn More")?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.4
Are banners and graphics interactive where applicable, allowing users to tap for more information or to perform an action?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.5
Are animations and transitions used subtly to draw attention without being distracting?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.6
Is the animation designed in a way that it does not negatively impact the website's performance or battery life?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.6
Is the text on banners concise, to the point, and supported by compelling visuals to effectively convey the message?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.7

Is text large enough to read comfortably on all screen sizes and does it contrast well with the background?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.7
Is alternative text provided for images and graphics to support screen readers and improve accessibility?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.8
Are users prevented from being overwhelmed by too many banners or graphics at once, with a rotating carousel used when multiple banners are needed?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.9
Are banners and graphics updated regularly to maintain fresh and relevant content?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.9
Are banners and graphics localised appropriately for different regions, considering language and cultural differences?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.10
Is the content tailored to be contextually relevant to the user's location or preferences?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.10
Are images and graphics optimised for fast loading times without compromising quality?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.10
Is lazy loading implemented for images that are not immediately visible to improve initial load times?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.11
Are banner notifications clear, concise, non-intrusive, and easily dismissible while effectively conveying important information?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.9.12
Writing and Content Quality Checklist		
Is content of the webpage organised into categories to explore content easily? (example: section wise content)	 Web Desktop  Web Mobile	Refer: 6.10.1
Is personalized content recommended? (e.g., personalized push notification)	 Web Desktop  Web Mobile	Refer: 6.10.2

	 Mobile App	
Is the content of the webpage easy to understand or incase of complex information simplified version is provided? (for example, information icons)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.1
Is content tailored based on target audience demographics ? (example: considering their language proficiency, cultural background, and preferences)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.1
Is a consistent brand voice maintained across all content of the webpage ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.3
Is the tone of voice adjusted based on the context and purpose of the content on the webpage?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.3
Is content organized hierarchically with clear headings, subheadings, and bullet points ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.4
Is important information highlighted prominently on the webpage ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.4
Is grammatical correctness ensured in all written content on the webpage?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.5
Is all webpage content free from spelling, grammar, punctuation, and typographical errors, ensuring language quality, consistency, and clarity	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.5
Is the content on the webpage broken into smaller paragraphs with whitespace ? (example: utilized for readability, avoiding dense blocks of text)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.6
Are clear instructions and guidance provided within the website to help users navigate features and functionalities effectively?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.7
Are accessibility guidelines (e.g., WCAG) adhered to, ensuring content is accessible to individuals with	 Web Desktop  Web Mobile	Refer: 6.10.8

disabilities, including screen reader compatibility and text resizing capabilities?	 Mobile App	
Is descriptive alternative text provided for images and non-text content to accommodate those who rely on assistive technologies?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.8
Is the content kept up to date with accurate information, reflecting changes in website features, policies, or external factors?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.9
Is user feedback and analytics tools incorporated to refine content quality and relevance over time, addressing user needs and preferences?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.9
Does the placeholder text in the input fields provide clear and concise guidance on what can be put in (e.g., products, categories, numeric values), while avoiding jargon and ensuring accessibility?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.3.2
Is tooltip text kept concise and relevant to the task at hand?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.1
Macro & Micro Interactions and Animations		
Are loading indicators, success messages, and error alerts used to keep users informed?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.1
Do buttons provide visual feedback (such as hover, active, disabled and pressed state) to indicate their status and improve user interaction?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.1
Are form fields highlighted when in focus?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.1
Do tooltips appear on hover to provide additional information without cluttering the interface?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.1
Are skeleton loading screens implemented for content-heavy pages to give a visual cue that content	 Web Desktop  Web Mobile	Refer: 6.11.1

is being loaded and to improve perceived performance?	 Mobile App	
If a process takes longer, are textual updates provided to keep users informed? (example, processing, please wait, etc.)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.1
Are notifications displayed in a consistent, noticeable but non-intrusive location (e.g., top-right) and do they include clear, relevant actions to enable quick user response?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.1
Are confirmation messages provided for actions like form submissions or setting changes?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.1
Are users allowed to undo recent actions to improve error tolerance?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.1
Are consistent animations used to create a cohesive user experience? (e.g., same hover interaction on all cards in a section)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.2
Are expandable sections or accordions used for secondary information, keeping the primary content focused? (e.g., ideal transition time is 200ms to 350ms)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.2
Are interactive maps incorporated for location-based services or information?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.2
Are all interactive elements accessible via keyboard navigation?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.2
Multi-touch gesture interactions including swipe navigation, pinch-to-zoom, and drag operations must be supported with single-pointer alternatives to accommodate diverse user abilities and assistive technology requirements	 Mobile App	Refer: 6.8.5
Help, Feedback, and Error Tolerance Checklist		

Is a dedicated help centre included within the website or app, offering FAQs, tutorials, and a knowledge base?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.1
Is context-sensitive help provided, offering relevant information based on the user's current activity or screen?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.1
Is a searchable database implemented where users can quickly find answers to their queries?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.1
Are easy-to-access feedback forms included, allowing users to report issues (e.g., bugs), suggest features, or provide general comments?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.2
Are short surveys or polls used to gather user feedback on their experience ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.2
Does the webpage provide options to contact customer support ? (example: email, chat, or phone)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.2
Are clear and concise error messages displayed, explaining what went wrong and how the user can fix it?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.3
Are users allowed to undo actions or revert to a previous state to correct mistakes without severe consequences?	 Web  Web  App	Refer: 6.12.3
Are interactive tutorials or guided walkthroughs provided for new users to help them understand key features and functionalities?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.4
Are tooltips and hints used to guide users through complex processes or unfamiliar features?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.4
Is the receipt of user feedback acknowledged immediately, reassuring users that their input is valued?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.5

Are users kept informed about the status of their feedback or reported issues, especially if it involves bug fixes or feature requests?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.5
Is follow-up communication provided to users when their feedback has led to changes or improvements in the website?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.5
Are auto-save features implemented to prevent data loss in case of website crashes or unexpected shutdowns?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.6
Are easy recovery options provided for users to restore lost data or continue interrupted tasks?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.6
Does the product continue to function at a basic level even if certain features fail or encounter errors?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.6
Are self-service tools like a knowledge base provided to empower users to resolve common issues independently?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.7
Are users educated on best practices for using the website through tips, articles, and video tutorials?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.7
Are all help and feedback features accessible to individuals with disabilities, adhering to accessibility standards (e.g., WCAG)?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.8
Are help and feedback resources offered in multiple languages to cater to a diverse user base?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.8
Are error reporting tools integrated to automatically capture and report website crashes or errors?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.9
Government Service Integration Checklist		

Are relevant government services (e.g., DigiLocker, myScheme, Bhashini, and Service APIs) identified based on the product's objectives and user needs?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.1
Are clear use cases defined for each integrated service, ensuring they add value to the website and enhance user experience?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.1
Is official API documentation for each government service followed meticulously, adhering to integration guidelines and best practices?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.2
Is all data exchanged with government services encrypted and compliant with relevant data protection regulations?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.3
Is explicit user consent obtained before accessing or sharing their data with integrated services, with a clear explanation of the purpose and benefits?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.3
Is the role and are the benefits of each integrated service clearly communicated to users, including how their data will be used and protected?	 Web Desktop  Web Mobile	Refer: 6.13.6
Is the user interface designed to seamlessly incorporate features from integrated services, maintaining a consistent look and feel?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.4
Are navigation elements for accessing integrated services intuitive and consistent with the overall product design?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.4
Are onboarding materials, including step-by-step guides or tutorials, provided to educate users on the benefits and usage of integrated services?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.4
Is Bhashini leveraged to offer multilingual support, making the website accessible to users in different languages?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.5
Do integrated services comply with accessibility standards (e.g., WCAG) ?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.5

Are users informed about updates or changes to integrated services, including new features, security updates, and maintenance schedules?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.6
Are comprehensive help resources and documentation provided for integrated services, assisting users with common issues and questions?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.7
Is the product architecture designed to support the addition of new services and scalability as user demand grows?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.8
Are plans in place for future integrations, staying updated with emerging government services and APIs to expand the product's functionality over time?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.13.8
Offline Functionality Checklist		
Are needs and scenarios where offline access is critical, particularly for those in areas with poor internet connectivity, understood and addressed for critical features and functionalities (such as filling out forms, and saving drafts)?	 Web Mobile  Mobile App	Refer: 6.14.1
Is automatic synchronization implemented to ensure that data is synced seamlessly when the device regains internet connectivity, maintaining data integrity and preventing duplication?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.14.2
Is a manual sync option provided, allowing for on-demand data refresh when internet access is available?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.14.2
Do users receive notifications when data synchronisation is complete or if there are any issues with syncing data?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.14.3
Does the interface remain consistent whether the product is online or offline, minimizing disruptions to the experience?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.14.4
Is meaningful fallback content, such as cached data or placeholders, provided when the product is offline, ensuring navigation and use are still possible?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.14.4

Are clear and helpful error messages displayed when actions requiring internet connectivity are attempted while offline?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.14.5
Is a retry mechanism implemented for failed operations once the connection is restored, requiring minimal intervention?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.14.5
Is the product thoroughly tested in both online and offline modes to identify and resolve any issues related to offline functionality?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.14.6
Is clear documentation provided within the product explaining how to use offline features (if), including steps to manually sync data and troubleshoot common issues?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.14.7
Data Visualisations and Infographics Checklist		
Are simple and straightforward design elements used in data visualisations to prevent overwhelming users?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.15.1
Are text alternatives for charts and graphs provided to ensure accessibility for those with visual impairments?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.15.1
Are high-contrast colors used to make data points and labels easy to distinguish?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.15.1
Are data visualizations made compatible with screen readers by using appropriate ARIA labels and descriptions?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.15.1
Is a consistent color scheme and font style applied across all visualizations to maintain a uniform look and feel?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.15.1
Are consistent scales, legends, and labels applied across similar types of visualizations to facilitate easy data comparison?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.15.1

Are interactive elements, such as tooltips, hover effects, and clickable areas and explanatory text or captions included to allow for more detailed data exploration?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.15.1
Are visualizations responsive and do they adapt well to different screen sizes and devices?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.15.1
Are descriptive titles and labels used to provide context for the data being presented?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.15.1
Performance Optimization		
Are HTTP requests minimized by combining files using tools (such as webpack or Gulp) to bundle CSS and JavaScript files?	 Web Desktop  Mobile App	Refer: 6.16.1
Does the system implement lazy loading for media content (such as images, videos, and other large assets) to improve initial load times?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Are JavaScript files loaded asynchronously to prevent blocking the rendering of page content?	 Web Desktop  Mobile App	Refer: 6.16.1
Are responsive image techniques (such as src set) used to serve different image sizes based on the device?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Are images compressed using tools (like TinyPNG or ImageOptim) to reduce file sizes without compromising quality?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Are next-gen image formats (like WebP) used for better compression and quality?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Does the system set appropriate caching headers to leverage browser caching for static assets?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1

Is a CDN used to distribute static content across multiple servers, reducing latency & improving load times?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Are CSS, JavaScript, and HTML files minified to reduce file sizes & improve load times?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Is unused CSS and JavaScript removed (using tools like PurifyCSS) to decrease file sizes?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Is critical CSS inlined to render content above the fold faster, and is non-critical CSS deferred?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Are database queries optimised to reduce load times to improve performance?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Is appropriate indexing used to speed up query performance?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Is query caching implemented to reduce the load on the database server?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Is HTTP/2 enabled to improve performance ? (through multiplexing, header compression, and server push)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Is compression tools (like Gzip or Brotli) used to reduce the size of transmitted files?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Is load balancing implemented to distribute traffic across multiple servers, ensuring reliability and faster load times?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Is the product fully responsive and does it provide a seamless experience across different devices & screen sizes?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1

Are touch interactions optimized for mobile by using appropriate touch targets and gestures?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.1
Are real-time monitoring tools (e.g., Google Analytics, Firebase, or Microsoft Clarity) used to monitor real-time performance and identify bottlenecks?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.2
Does feedback on performance issues collected and used to guide optimisation efforts?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.2
Are error logging tools (e.g., Sentry or LogRocket) implemented to track and resolve errors in real time?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.2
Are crash reporting tools used to identify and fix issues that cause crashes or instability in websites?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.2
Is the <link rel="preload"> tag used to preload key resources to improve page load times?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.2
Is critical content loaded first, while secondary content can be loaded asynchronously?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.2
Are animations free from jank or performance issues?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.2
Are feedback mechanisms provided to let users know actions are being processed, reducing perceived wait times?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.16.2
Is there a process monitored for performance and reliability, addressing any issues promptly?	 Web Desktop  Web Mobile  Mobile App	
Is the website or mobile application reliable, with all essential features functioning correctly and no broken links or errors?	 Web Desktop  Web Mobile  Mobile App	

Is content delivery optimised to minimise loading times and improve overall website performance, particularly for users with slower network connections? (e.g., image optimization)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.10.10
Is essential content preloaded to ensure quick access?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.2
Analytics		
Are the analytics which are relevant to your website integrated? (e.g., user behaviour tracking, feature usage, user engagement, website performance)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.1
Have key performance indicators (KPIs) relevant to the website's or webpage's objectives have been identified? (e.g., active users, session duration, retention rates)	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.1
Is a tool added to visualise user interactions through heatmaps and session recordings to help identify UX issues?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.2
Is tracking for key events that represent significant user actions (e.g., button clicks, form submissions) pre-defined and implemented?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.2
Does the system categorizes users based on demographics, behaviour, and usage patterns to gain deeper insights?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.3
Does the system ensure compliance with data privacy regulations (e.g., GDPR, CCPA) by obtaining user consent for data collection?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.4
Is user data anonymised to protect privacy and maintain trust while still gathering useful insights?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.4
Are data collection practices and the privacy policy clearly communicated to users within the website?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.4

Is real-time analytics used to monitor immediate user interactions and website performance, allowing for quick response to issues?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.5
Are crash reporting tools integrated to track and analyse website crashes and performance issues?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.6
Are user flows analysed to identify drop-offs and analyze the user journey?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.6
Are custom dashboards created to visualise key metrics and KPIs, making it easier to monitor and analyse data?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.7
Are regular reports (e.g., weekly, monthly) generated to review performance trends and make informed decisions?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.7
Is A/B testing conducted to experiment with different features or designs and measure their impact on user behaviour and engagement?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.17.8
Is analytics used to monitor user interactions with help and feedback features, identifying areas for improvement?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.12.9
Accessibility		
Does your website support multi-lingual support?	 Web Desktop  Web Mobile  Mobile App	
Is there sufficient contrast between text and background for readability?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.2.3
Does the webpage adhere to WCAG accessibility standards ? (example: readability of text, visual content)	 Web Desktop  Web Mobile  Mobile App	Refer: 5.2.3

Does the system adhere to accessibility standards (WCAG) to ensure content is readable for all, including those with visual impairments?	 Web Desktop  Web Mobile  Mobile App	Refer: 5.2.3
Does the webpage interface accessible to those with disabilities, supporting screen readers and other assistive technologies?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.2.8
Is keyboard navigation supported for all interactive elements in the webpage?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.2
Is the webpage designed to be easy to use for people with limited web and mobile experience?	 Web Desktop  Web Mobile	Refer: 6.5.6
Are list items accessible to screen readers with appropriate labeling and focus management?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.1
Are sorting options properly labelled for screen readers, providing a seamless experience for visually impaired users?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.7.1
Are forms designed with accessibility in mind, including descriptive field labels and sufficient color contrast to support those with visual impairments?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.8.7
Are all form elements accessible via keyboard navigation for those who rely on assistive technologies?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.8.7
Are ARIA landmark roles implemented to enhance compatibility with screen readers?	 Web Desktop  Web Mobile  Mobile App	Refer: 6.11.2
Side/Profile/Avatar Menu		
Navigation menu must be positioned in optimal thumb-zone accessibility area using consistent placement patterns that follow platform conventions for single-handed mobile device operation and immediate discoverability	 Mobile App	Refer: 4.4.1

User profile sections must display personalized identification information including full name, profile photograph, account status, and relevant metadata to establish user context and ownership	➡ Mobile App	Refer: 4.4.2
Navigation hierarchy must implement logical information architecture grouping related functions into clear categories that align with user mental models and task-oriented workflows	➡ Mobile App	Refer: 4.4.3
Menu labels must use descriptive, action-oriented language that clearly communicates destination purpose and expected outcomes per WCAG accessibility requirements for headings and labels	➡ Mobile App	Refer: 4.4.3
Navigation structure must maintain flat hierarchy limiting nesting depth to maximum 2-3 levels to reduce cognitive load and enable rapid information discovery	➡ Mobile App	Refer: 4.4.4
High-frequency user actions including account management, notification access, and session termination must be positioned prominently for immediate accessibility	➡ Mobile App	Refer: 4.4.4
User identification elements including name and avatar must occupy primary position at menu top to establish context and ownership before navigation options	➡ Mobile App	Refer: 4.4.6
Comprehensive account management actions covering profile editing, transaction history, organizational information, localization settings, accessibility controls, support access, security management, and logout functionality must be available	➡ Mobile App	Refer: 4.4.6
Support infrastructure including FAQ databases, contact mechanisms, help documentation, and user guides must be integrated into navigation system with clear access paths	➡ Mobile App	Refer: 4.4.7
Organizational metadata including app information, version identifiers, build numbers, ownership details, and company information must be accessible to users	➡ Mobile App	Refer: 4.4.7

Privacy control mechanisms enabling granular management of data sharing preferences, consent management, and privacy settings must be provided within user-accessible interface	→ Mobile App	Refer: 4.4.8
Security-critical functions including account settings, payment information, personal data access, and financial transactions must implement re-authentication mechanisms using password or biometric verification	→ Mobile App	Refer: 4.4.8
Navigation menu must achieve sub-300ms response times for open/close operations with smooth animations and no performance degradation to maintain user engagement	→ Mobile App	Refer: 4.4.10

Compliance	Reference	Website	Website (Mobile)	Mobile App
Trust & Credibility				
Has SSL encryption been implemented (indicated by https:// protocol in the URL)?	Refer: 5.1.1	✓	✓	✗
Is ownership information displayed on the webpage?	Refer: 5.1.2	✓	✓	✗
Government mobile applications must prominently display official state emblems, ownership labels, and government identification on splash screens to establish authenticity and trustworthiness from first launch	Refer: 4.1.2	✗	✗	✓
Has the webpage clearly provided contact details? (example: email address or phone number)	Refer: 5.1.2	✓	✓	✗
Has consent been obtained before collecting or storing user data? (example: storing cookies consent)	Refer: 5.1.6	✓	✓	✓
Have been informed about what data is being collected and how it will be used?	Refer: 5.1.6	✓	✓	✗

Is the National Emblem displayed prominently on the webpage? (exact placement: header section)	Refer: 5.1.4	✓	✓	✓
Are trusted login systems (e.g., Meri Pehchan) implemented on the webpage?	Refer: 5.1.5	✓	✓	✓
Is there a mechanism for grievance redressal?	Refer: 5.1.8	✓	✓	✓
Does the webpage allow to track the status of their complaints?	Refer: 5.1.8	✓	✓	✓
Does the webpage communicate resolutions to users?	Refer: 5.1.8	✓	✓	✗
Is there a system in place for leaving feedback, reviews and ratings?	Refer: 5.1.9	✓	✓	✓
Is there a notification informing about redirection when using external links?	Refer: 5.1.12	✓	✓	✓
Mobile applications should minimize external redirects and outbound links to prevent security vulnerabilities, maintain user trust within government ecosystem, and reduce phishing attack vectors	Refer: 4.1.12	✗	✗	✓
Are both the Privacy Policy and Terms and Conditions available on the webpage?	Refer: 5.1.3	✓	✓	✗
Users must have unrestricted access to privacy policies and terms documentation before accessing main application functionality to ensure informed consent and regulatory compliance	Refer: 4.1.3	✗	✗	✓
Legal documentation including privacy policies and terms must be consistently accessible from user profile and side menu sections throughout the application lifecycle	Refer: 4.1.3	✗	✗	✓
Does the webpage include a clearly visible "Contact Us" ?	Refer: 5.3.16	✓	✓	✗
Government applications require multi-platform distribution through official government channels including gov.in mobile app store in addition to commercial app stores for maximum accessibility	Refer: 4.1.1	✗	✗	✓
Applications must implement comprehensive security protocols as mandated by government cybersecurity	Refer: 4.1.1	✗	✗	✓

frameworks including CERT-In guidelines and obtain necessary security certifications				
About Us section must provide comprehensive organizational information including version metadata, ownership details, legal documentation links, and support resources for transparency and accountability	Refer: 4.1.7	✗	✗	✓
Visual brand identity including colors, typography, iconography, and design elements must remain unified across all application interfaces to reinforce government brand recognition and user trust	Refer: 4.1.10	✗	✗	✓
Mobile applications must implement comprehensive data security controls including encryption, secure authentication, data access controls, and secure storage mechanisms as per government cybersecurity standards	Refer: 4.1.11	✗	✗	✓
Applications must transparently communicate data collection, processing, storage, sharing practices, and user privacy rights through accessible privacy notices and consent mechanisms	Refer: 4.1.11	✗	✗	✓
Walkthrough Screens				
Complex application functionalities must be communicated using plain language principles accessible to users with diverse educational backgrounds and digital literacy levels	Refer: 4.2.1	✗	✗	✓
Information architecture should prioritize clarity by limiting cognitive load through focused content presentation without extraneous information	Refer: 4.2.1	✗	✗	✓
Visual storytelling through purposeful graphics and animations enhances user comprehension and engagement while maintaining accessibility standards	Refer: 4.2.2	✗	✗	✓
Progressive disclosure methodology guides users through features sequentially without overwhelming them with simultaneous information	Refer: 4.2.2	✗	✗	✓

Value proposition should be clearly communicated by emphasizing core benefits and high-impact features that address primary user needs		✗	✗	✓
Text elements must meet comprehensive accessibility standards for minimum font sizes, contrast ratios, and typography that ensures legibility across devices and lighting conditions		✗	✗	✓
Applications must provide comprehensive screen reader compatibility including semantic labeling, logical focus order, and alternative text for all interactive elements to ensure accessibility for blind and low-vision users		✗	✗	✓
Applications must provide comprehensive screen reader compatibility including semantic labeling, logical focus order, and alternative text for all interactive elements to ensure accessibility for blind and low-vision users		✗	✗	✓
Onboarding sequences should be concise with optimal screen count while providing sufficient feature introduction to maximize user comprehension and completion rates		✗	✗	✓
First-time users should have controlled access to educational onboarding content with optional skip functionality and later access to prevent forced engagement		✗	✗	✓
Communication style throughout onboarding should reinforce consistent brand identity and maintain unified voice across all touchpoints		✗	✗	✓
User confidence should be built through encouraging, supportive language that reduces anxiety and promotes competence in application usage		✗	✗	✓
Applications must accommodate diverse linguistic requirements of Indian users including support for 22 scheduled languages with culturally appropriate content and RTL language support		✗	✗	✓
Mobile First Approach				

Is the core content or primary functionality accessible on the mobile screen?		✗	✓	✗
Are flexible grids, fluid images, and media queries implemented for dynamic layouts?		✓	✓	✗
Are touch interactions & targets with appropriately sized buttons designed? (example: 42x42px icon button)		✗	✓	✗
Is sufficient spacing provided between interactive elements to prevent accidental taps?		✗	✓	✓
Are mobile-friendly navigation patterns used (e.g., hamburger menus, bottom navigation bars)?		✗	✓	✓
Has loading time been minimised by using efficient coding practices? (example: ideal load time is under 2 seconds)		✓	✓	✗
Has lazy loading been implemented for images and other resources?		✓	✓	✗
Can users expand sections for additional details?		✓	✓	✗
Is language selection list easily accessible on mobile devices?		✗	✓	✗
Are validation and error handling implemented to guide users through form completion?		✓	✓	✗
Homepage				
Does the homepage design stand out from other pages, capturing user attention immediately?		✓	✓	✓
Is the webpage design professional, leaving a positive first impression? (example: clean - improved whitespacing, minimal visual elements)		✓	✓	✗
Does the webpage establish a clear visual hierarchy ? (example: arranging elements based on their importance)		✓	✓	✗
Is valuable content presented on the webpage or within one click to keep users engaged?		✓	✓	✗

Does the webpage reveal information progressively to avoid overwhelming users with too much content at once?		✓	✓	✗
Are the most primary task clearly highlighted on the webpage for easy identification and access? (example: CTA on the hero section or in the header)		✓	✓	✓
Does the webpage includes overview of internal pages to engage users effectively. For example: Entrypoints to the About Us, Dashboard, etc.		✓	✓	✗
Does the webpage include a list of recently featured items and a link to archival content to keep content dynamic and accessible? (Example: Latest Updates)		✓	✓	✗
Are content such as text, image, illustrations, icons etc used to convey meaningful context rather than for decoration?		✓	✓	✗
Does the webpage design motivate users to browse and explore further?		✓	✓	✗
Does the webpage clearly communicate the site's value proposition ? (example: tagline or welcome message)		✓	✓	✗
The webpage uses a relevant and descriptive title (including ARIA labels and alt text where applicable) and places relevant keywords at the beginning of webpage links to enhance search engine visibility and improve clarity.		✓	✓	✗
Is organisational or departmental information grouped into a dedicated section ? (example: About us overview section on webpage)		✓	✓	✗
Does the webpage URL clearly reflect the website's purpose ?		✓	✓	✗
Are branding elements consistently maintained on the webpage across all device types and screen sizes? (example: logos, colours, and fonts)		✓	✓	✗
Navigation menu elements must follow established thumb-zone accessibility patterns positioning primary navigation		✗	✗	✓

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controls in optimal reachability zones for one-handed mobile device operation				
Government mobile applications should provide centralized service discovery interface enabling direct access to all available microservices and citizen services from primary entry screen		✗	✗	✓
Applications with advanced or multi-step features require guided user assistance mechanisms including contextual tours, interactive walkthroughs, and progressive help systems to reduce learning curve		✗	✗	✓
Homepage information architecture must enable rapid scanning and navigation through clear visual hierarchy, descriptive section labels, semantic markup, and logical content organization		✗	✗	✓
About Us				
Is the purpose of the webpage, such as its mission, vision, and values, clearly defined?		✓	✓	✗
Does the webpage provide a detailed overview of the organisation or entity behind the webpage?		✓	✓	✗
Are the core values of the organisation clearly outlined to convey the guiding principles behind its actions and decisions?		✓	✓	✗
Does the webpage introduce key leaders and team members, providing their roles and brief bios (such as in a 'Who's Who' section)?		✓	✓	✗
Are significant achievements and milestones highlighted?		✓	✓	✗
Is a brief history of the organisation included?		✓	✓	✗
Are relevant images or videos of the team or office used to add a personal touch and help users connect with the organisation visually?		✓	✓	✗
Are links to related sections, such as careers or press releases, provided to		✓	✓	✗

encourage users to explore other relevant areas of the website?				
Page Layout and Visual Design				
Does the webpage layout follow recognized scanning patterns ? (example: F-shaped or Z-shaped pattern)		✓	✓	✗
Is the webpage content easy to scan without any cognitive overload ?		✓	✓	✗
Is the screen density suitable for the target users and the activities they will be performing to enhance readability and usability?		✓	✓	✓
Are the fonts and their sizes legible and easy to read to ensure accessibility?		✓	✓	✓
Does the layout guide the visitor focus on the next action or step to ensure a smooth and intuitive user journey?		✓	✓	✗
Does every page have a clear visual starting point to guide the visitor navigation?		✓	✓	✗
Is the layout consistent on all pages of the website and mobile application to provide a cohesive experience?		✓	✓	✓
Does important information, such as commonly used features, appear on the first screen of all pages (above the first section) to improve efficiency?		✓	✓	✗
Are clickable elements clearly recognizable as interactive? (example: buttons)		✓	✓	✓
Do non-clickable items avoid visual attributes that may falsely suggest interactivity ?		✓	✓	✓
Are interactive components (like radio buttons and checkboxes) used appropriately, and do non-clickable items avoid visual styles that may falsely suggest interactivity?		✓	✓	✗
Are hyperlinked texts readily identifiable? (example: underlining or color)		✓	✓	✗
Are icons and graphics standard and intuitive? (i.e., recognizable and commonly understood)		✓	✓	✗

Is the same font style used throughout the webpage?		✓	✓	✗
Are colors used to organize and group items on the page to enhance visual hierarchy?		✓	✓	✗
Is the color scheme visually harmonious, with an emphasis on avoiding complicated or distracting backgrounds, and does it comply with the color ratios of WCAG guidelines to ensure accessibility?		✓	✓	✗
Are the webpage print-friendly or do they have a separate printable version available for convenience?		✓	✗	✗
Is italicized text avoided, and is underlining reserved solely for hyperlinked texts?		✓	✓	✗
Are the pages designed using an underlying grid system to ensure proper alignment of items and widgets both horizontally and vertically for a structured layout?		✓	✓	✓
Are related information and functions grouped together so that each group can be scanned in a single go to enhance efficiency?		✓	✓	✗
Is the webpage well-structured such as section by section to assist in locating each element?		✓	✓	✗
Is consistency in the placement of the organization's logo on every page maintained ?		✓	✓	✗
Does clicking on the logo lead to the homepage?		✓	✓	✗
Are attention-grabbing elements (such as animation, bright colors, and size differences) used only when necessary to avoid overwhelming?		✓	✓	✗
Does the UI components align with the overall theme and branding of the webpage?		✓	✓	✗
Are graphs presented with access to the underlying data, such as numeric values or annotations on bar charts?		✓	✓	✗

Visual design must employ systematic hierarchy principles using size differentiation, strategic color application, and spatial positioning to create intuitive information flow and guide user attention through interface elements		✗	✗	✓
Font sizing, weight, line height, and spacing must be systematically applied across heading levels and body text to create scannable content structure that improves readability and information comprehension		✗	✗	✓
Visual identity system including color palettes, typography specifications, iconography, and design elements must be consistently applied across all application touchpoints to reinforce brand recognition		✗	✗	✓
Comprehensive design system documentation must be developed defining reusable UI components, interaction patterns, design tokens, accessibility requirements, and implementation guidelines to ensure consistency and maintainability		✗	✗	✓
Information density must be strategically managed through logical grouping of related content elements and progressive disclosure mechanisms to prevent cognitive overload while maintaining information accessibility		✗	✗	✓
Interface affordances must clearly communicate element functionality through visual characteristics including shape, color, iconography, and interactive states to reduce cognitive load and improve usability		✗	✗	✓
Rich media content including images, videos, animations, and audio must be purposefully integrated to enhance narrative and engagement without creating visual clutter or accessibility barriers		✗	✗	✓
Platform-specific design patterns including navigation paradigms, gesture conventions, and interface components must be implemented per iOS Human Interface Guidelines and Material Design while		✗	✗	✓

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maintaining unified brand identity across platforms				
Responsiveness				
Are branding elements such as logos, colours, and fonts consistently applied across all screen sizes of the webpage?		✓	✓	✓
Are touch-friendly elements designed with appropriate spacing to ensure buttons and links are easy to tap on touchscreens?		✗	✓	✓
Are images and media elements optimized for different platforms and screens, remaining flexible and resizing within their containers to maintain visual integrity and prevent layout issues		✓	✓	✗
Is performance optimized for mobile devices by minimizing file sizes and using efficient coding practices?		✗	✓	✓
Are responsive containers used to manage layout and maintain a consistent structure?		✓	✓	✗
Is a flexible, adaptive grid layout implemented to provide a structured design that adjusts based on screen size and device capabilities?		✓	✓	✓
Is text size & line height adjusted for readability on different devices to ensure content is easy to read?		✓	✓	✗
Are CSS media queries used to apply different styles for different screen sizes?		✓	✓	✗
Are fluid layouts created using relative units like percentages to adjust smoothly to different screen sizes?		✓	✓	✗
Is the viewport meta tag included in the HTML to control the layout on mobile browsers?		✓	✓	✗
Exploration Without Login				
Is significant portion of the content accessible? (example: explore content without login)		✓	✓	✓
Is teaser content or a preview of premium features provided on the webpage? (example: explore content without login)		✓	✓	✓

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Are interactive features (e.g., applying, commenting) limited for non-logged-in users to maintain simplicity and security?		✓	✓	✓
Is the single sign-on (SSO) integrated into the product to enable seamless single sign-on (SSO) capabilities?		✓	✓	✓
Is offline access to previously viewed content or cached information provided where feasible?		✓	✓	✓
Are users prompted to create an account or log in when they attempt to access restricted features or content?		✓	✓	✓
Search functionality must be accessible and discoverable without authentication barriers, enabling guest users to locate specific content, services, or features through keyword-based queries with autocomplete, spell correction, and filter capabilities		✗	✗	✓
Is content sharing enabled through social media handles ?		✓	✓	✓
Registration value proposition should be clearly communicated through incentive mechanisms including exclusive content access, personalized services, priority support, or benefit programs to demonstrate tangible advantages of authenticated access while maintaining voluntary opt-in approach		✗	✗	✓
Login and Signup Guidelines				
Is the single sign-on (SSO) API integrated into the product to enable seamless capabilities?		✓	✓	✓
Is the SSO integration documentation followed to ensure proper implementation and compliance with security standards?		✓	✓	✓
Are the login/sign-in button placed prominently on every webpage of the website (ideally placed at navbar) to ensure easy access to login page?		✓	✓	✓
Is official SSO branding, including logos, used consistently everywhere ?		✓	✓	✓

Does the authentication process adhere to the highest security standards to protect user data? (such as encryption and hashing for stored credentials, CAPTCHA for login page and multi-factor authentication)		✓	✓	✓
Are data privacy policies and terms of service clearly communicated, detailing how data will be used and protected?		✓	✓	✓
Is explicit consent obtained before initiating the SSO process, with clear explanations of data access and usage?		✓	✓	✓
Are existing website or app accounts seamlessly linkable with Single Sign-On (SSO) credentials (e.g., Meri Pehchan), ensuring a smooth transition that preserves user data, preferences, and continuity in the login process?		✓	✓	✓
Is the user interface (UI) designed intuitively to simplify the login and signup process by minimizing steps or information required to login/signup?		✓	✓	✓
Is thorough testing of the Login/Method methods and SSO (e.g., Meri Pehchan) integration conducted to ensure proper functionality under various conditions? For example., OTP Validation, Server Issues.		✓	✓	✓
Is the integration kept up-to-date with the latest SSO (e.g., Meri Pehchan) API updates and security patches?		✓	✓	✓
Are trust indicators, such as security badges and endorsements, used to reassure users about the safety and legitimacy of the login process?		✓	✓	✓
Applications must provide contextual error guidance and recovery mechanisms offering specific suggestions for resolving common issues including authentication failures, network connectivity problems, and input validation errors to reduce user frustration and abandonment		✗	✗	✓
Search				

Is the search bar is included if product is large and requires exploration to help users easily find content ?		✓	✓	✓
Search functionality must be positioned in prominent, easily discoverable locations typically at screen top within primary navigation area to enable quick access without extensive navigation or scrolling		✗	✗	✓
Does the system provide search auto-suggestions as users type to improve search efficiency?		✓	✓	✗
Is it indicated if the search is global (e.g., search throughout pages) or local (e.g., section or page specific)?		✓	✓	✓
Can users filter search results or sorting in search result to refine their search?		✓	✓	✓
Are auto complete search suggestions provided as users type to help them find content faster? (e.g., auto-fill suggestion)		✓	✓	✓
Are search results relevant and sorted by importance using algorithms?		✓	✓	✓
Is voice search functionality integrated for hands-free searching?		✓	✓	✓
Do search results load quickly, with loading indicators to show processing?		✓	✓	✓
Is lazy loading implemented for results not immediately visible to improve load times?		✓	✓	✓
Search interface design and placement must maintain consistency across all application screens and contexts to build user familiarity and reduce cognitive load through predictable interaction patterns		✗	✗	✓
Search bar visual styling including colors, typography, iconography, and dimensions must integrate seamlessly with overall brand identity and design system to maintain cohesive user experience		✗	✗	✓
Personalisation				
Is user data used with consent to personalise content recommendations, notifications, and features tailored to individual preferences and behaviour?		✓	✓	✓

Does the collection of personal information adhere to government Data Protection and other relevant regulations?		✓	✓	✓
Are various theme options, such as light mode and dark mode, provided to accommodate user preferences and enhance visual comfort?		✓	✓	✓
Can users adjust font sizes, styles, and layout settings to optimise readability and usability according to individual needs?		✓	✓	✓
Are algorithms or user input used to suggest relevant content, products, or services based on user interests and past interactions?		✓	✓	✓
Are location-based services offered to provide relevant information based on geographic location?		✓	✓	✓
Can users customise notification preferences, such as frequency and type, to receive relevant updates without overwhelming notifications? (e.g., mediums like SMS or Email)		✓	✓	✓
Do intelligent notification systems prioritise important messages and adapt based on user interactions and preferences? (e.g., real-time alerts)		✓	✓	✓
Dynamic content personalization must reflect user preference changes and behavioral patterns through real-time synchronization mechanisms to provide immediately relevant and contextual experiences		✗	✗	✓
Personalization features must enhance user autonomy and experience through transparent algorithms that respect user privacy without employing manipulative dark patterns or exploiting psychological vulnerabilities to influence choices		✗	✗	✓
Task Orientation				
Is irrelevant and unnecessary information avoided to keep the user focused? (e.g., context specific information and fulfill primary goal of website)		✓	✓	✓

Only relevant scripts, videos, audio files, graphics, and images are used but not overused?		✓	✓	✓
Are unnecessary registrations avoided, and are primary tasks like availing services or applying for service made clear and distraction-free?		✓	✓	✓
Are user tasks optimized by minimizing the number of screens and interaction steps (clicks/taps) required, thereby streamlining the journey, reducing cognitive load, and enhancing efficiency?		✓	✓	✓
Does the system let people do things in the same order they would normally do them in real life ?		✓	✓	✓
Are automated actions (e.g., autofill state and district inputfields using pincode) implemented to reduce manual effort?		✓	✓	✓
Are users allowed to compare items easily when necessary to aid decision-making?		✓	✓	✓
Are important & frequently used features positioned at easy accessibly area of the webpage? (e.g., sticky accessibility widget at the bottom-right of the viewport) Link for Accessibility Widget .		✓	✓	✓
Are users not required to enter the same information repeatedly, saving time and effort?		✓	✓	✓
Are all necessary steps for multi-step tasks displayed, with progress feedback provided to keep informed?		✓	✓	✓
Are users not required to remember information as they move between sections, supporting recognition over recall?		✓	✓	✓
Are easily understood metaphors and relevant cultural conventions for data formats used to improve comprehension?		✓	✓	✓
Are the internal workings of the software hidden to avoid confusion? (example: technical jargons avoided to showcase to the users)		✓	✓	✓

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Is there a mechanism for users to come back from critical errors? (e.g. confirming form submission before submitting)		✓	✓	✓
Are common tasks made easy for without requiring external assistance? (e.g., tooltips)		✓	✓	✓
Can users resume actions from where they left off if they quit and return later, improving continuity?		✓	✓	✓
Are sorting and filtering options provided for content-heavy webpage?		✓	✓	✓
Are text & images on buttons or icons relevant to the task, ensuring clarity of action?		✓	✓	✓
Is there a message with timer before automatically logging off to avoid unintended interruptions?		✓	✓	✓
Are the needs of both novice and expert users catered to by offering detailed explanations and tours for beginners and shortcuts for advanced users?		✓	✓	✓
Are users allowed to edit any information they provide, such as delivery addresses or account details, ensuring flexibility?		✓	✓	✓
Are step-by-step onboarding guides provided for new users to familiarise them with the website or app?		✓	✓	✓
Are buttons used for commands and actions instead of hyperlinked text?		✓	✓	✗
Is real-time validation provided for incorrect entries?		✓	✓	✓
Primary call-to-action buttons must be prominently positioned and visually distinguished on all screens to guide users toward key actions and desired user flows through clear visual hierarchy		✗	✗	✓
System interactions requiring data submission or state changes must be explicitly triggered by intentional user actions rather than automated processes to ensure user control and prevent accidental submissions		✗	✗	✓

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Navigation and Information Architecture				
Are webpage titles easily accessible and recognizable to support consistent navigation?		✓	✓	✗
Does the navigation have a clear and logical hierarchy that allows users to easily understand the structure and find what they need?		✓	✓	✓
Are primary navigation elements easily accessible and clearly labeled with descriptive text (alongside icons where applicable), ensuring that categories and sections are intuitive and support clear wayfinding across the webpage or mobile application?		✓	✓	✓
Are consistent navigation patterns maintained throughout to help users predict how to move between screens? (e.g., breadcrumbs)		✓	✓	✓
Are key navigation elements (e.g., navigation bar in the header) persistent across the main screens to provide a stable user experience?		✓	✓	✓
Are navigation elements placed in prominent location ? (example: such as at the bottom or top of the webpage)		✓	✓	✓
Are navigation elements large enough to be clicked easily? (e.g., icon buttons should be 44x44 px)		✓	✓	✓
Is visual feedback (e.g., highlighting, colour changes) provided when navigation elements are clicked to confirm user actions?		✓	✓	✓
Are smooth transitions between screens implemented to enhance the user experience and provide a sense of continuity?		✓	✓	✓
Can users easily navigate back to the previous screen using standard gestures or a back button?		✓	✓	✓
Are breadcrumbs or similar indicators used to show the user's path and make navigation back to previous screens easier		✓	✓	✓

when the navigation has more than three steps?				
Is the information architecture structured based on user needs and behaviours, ensuring the most important content is easy to find?		✓	✓	✓
Are related content grouped logically ?		✓	✓	✓
Is the information architecture kept as shallow as possible, avoiding deep hierarchies that can confuse users?		✓	✓	✓
Is a consistent structure applied to similar sections ?		✓	✓	✓
Are multiple pathways to important content (e.g., navigation menu, search, shortcuts) provided to accommodate different user preferences?		✓	✓	✓
Is the information architecture regularly updated and refined based on user feedback and changing needs?		✓	✓	✓
Lists, Filters and Sorting				
Are list items structured logically, with concise and relevant information that avoids clutter and supports quick scanning and readability?		✓	✓	✓
Do all list items use consistent styling ? (example: fonts, colors, and spacing)		✓	✓	✓
Are visual separators or dividers used between list items ?		✓	✓	✓
Are list items easily clickable with sufficient spacing ?		✓	✓	✓
Is visual feedback (e.g., highlighting or colour changes) provided when a list item is clicked or selected, enhancing interactivity?		✓	✓	✓
Are efficient loading techniques, like lazy loading or infinite scroll, implemented to handle large lists without performance issues?		✓	✓	✓
Are loading indicators (e.g., spinners or progress bars) used to inform users when additional content is being loaded?		✓	✓	✓

If applicable, Are filters positioned in a prominent and easily accessible location ? (example, ribbon of chips at the top)		✓	✓	✓
Are collapsible sections for filters used to save screen space and keep the interface clean, depending on the amount of information present?		✓	✓	✓
Do filters have clear and descriptive labels, avoiding jargon to ensure users understand their choices?		✓	✓	✓
Can users select multiple filter options, providing flexibility and better control over the results?		✓	✓	✓
Are filters applied in real-time updating the list while not re-loading the whole page or with a clear action button (e.g., “Apply Filters”) to minimise waiting time?		✓	✓	✓
Is visual confirmation of active filters provided, such as highlighting selected filters or displaying a count of active filters?		✓	✓	✓
Is a clear option to reset or clear all filters included, allowing users to start fresh easily?		✓	✓	✓
If applicable, make users save their filter preferences for future use, offering convenience and a personalised experience?		✓	✓	✓
Can users create and save custom filters based on their specific needs and preferences?		✓	✓	✓
Are sorting options provided based on relevant criteria, such as date, popularity, price, or alphabetical order?		✓	✓	✓
Is a logical default sorting order set that makes sense for the majority of users?		✓	✓	✓
Can users toggle between ascending and descending order for each sorting criterion?		✓	✓	✓
Is combination sorting (e.g., sort by price and then by rating) enabled if applicable?		✓	✓	✓
Are clear icons or indicators (e.g., arrows) used to show the current sorting order?		✓	✓	✓

Is the active sorting option highlighted to provide visual feedback to the user?		✓	✓	✓
Forms and Data Entry Checklist				
Are only essential fields relevant to the task or data entry process included in the webpage?		✓	✓	✓
Are steppers or multi-step navigation used to break down longer forms into manageable sections, revealing additional fields progressively?		✓	✓	✓
Are visual indicators (e.g., numbered steps, progress bars) provided to communicate the user's current position and overall progress within the form?		✓	✓	✓
Are labels positioned prominently above, beside or inside input fields in the webpage?		✓	✓	✓
Are appropriate input types (e.g., text, number, date picker) optimised for mobile devices to streamline data entry and minimise user effort?		✓	✓	✓
Is real-time validation implemented to provide immediate feedback (e.g., error message with relevant solution) on input errors, allowing users to correct mistakes promptly?		✓	✓	✓
Are input fields and interactive elements (e.g., buttons, checkboxes) optimised for touch interactions, ensuring they are adequately sized and spaced?		✓	✓	✓
Are autofill features enabled where applicable to expedite data entry and enhance user convenience, especially for repetitive or predictable information (e.g., SIM Selection, OTP Autofill)?		✓	✓	✓
Are intelligent suggestions or predictive text provided based on user input to accelerate form completion and reduce manual effort?		✓	✓	✓
Is placeholder text used to guide for the expected input?		✓	✓	✓
Banners and Graphics Checklist				

Does each banner or graphic serve a clear purpose, such as promoting a product, providing information, or guiding user actions?		✓	✓	✓
Are banners and graphics relevant to the content or context of the website section they appear in?		✓	✓	✓
Do banners and graphics maintain consistency with the website's branding, using colours, fonts, and overall style?		✓	✓	✓
Are high-resolution images and graphics used to ensure clarity and professionalism?		✓	✓	✓
Are designs visually appealing, attracting attention without being overwhelming?		✓	✓	✓
Are banners and graphics positioned in appropriate locations and do not obstruct core functionalities?		✓	✓	✓
Are banners and graphics appropriately sized for different screen sizes and resolutions, maintaining readability and usability?		✓	✓	✓
If applicable, Do banners include clear and compelling calls to action, guiding users on what to do next with CTA button placed prominently in the banner (e.g., "Apply," "Learn More")?		✓	✓	✓
Are banners and graphics interactive where applicable, allowing users to tap for more information or to perform an action?		✓	✓	✓
Are animations and transitions used subtly to draw attention without being distracting?		✓	✓	✓
Is the animation designed in a way that it does not negatively impact the website's performance or battery life?		✓	✓	✓
Is the text on banners concise, to the point, and supported by compelling visuals to effectively convey the message?		✓	✓	✓
Is text large enough to read comfortably on all screen sizes and does it contrast well with the background?		✓	✓	✓

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Is alternative text provided for images and graphics to support screen readers and improve accessibility?		✓	✓	✓
Are users prevented from being overwhelmed by too many banners or graphics at once, with a rotating carousel used when multiple banners are needed?		✓	✓	✓
Are banners and graphics updated regularly to maintain fresh and relevant content?		✓	✓	✓
Are banners and graphics localised appropriately for different regions, considering language and cultural differences?		✓	✓	✓
Is the content tailored to be contextually relevant to the user's location or preferences?		✓	✓	✓
Are images and graphics optimised for fast loading times without compromising quality?		✓	✓	✓
Is lazy loading implemented for images that are not immediately visible to improve initial load times?		✓	✓	✓
Are banner notifications clear, concise, non-intrusive, and easily dismissible while effectively conveying important information?		✓	✓	✓
Writing and Content Quality Checklist				
Is content of the webpage organised into categories to explore content easily? (example: section wise content)		✓	✓	✗
Is personalized content recommended? (e.g., personalized push notification)		✓	✓	✓
Is the content of the webpage easy to understand or incase of complex information simplified version is provided? (for example, information icons)		✓	✓	✓
Is content tailored based on target audience demographics ? (example: considering their language proficiency, cultural background, and preferences)		✓	✓	✓

Is a consistent brand voice maintained across all content of the webpage ?		✓	✓	✓
Is the tone of voice adjusted based on the context and purpose of the content on the webpage?		✓	✓	✓
Is content organized hierarchically with clear headings, subheadings, and bullet points ?		✓	✓	✓
Is important information highlighted prominently on the webpage ?		✓	✓	✓
Is grammatical correctness ensured in all written content on the webpage?		✓	✓	✓
Is all webpage content free from spelling, grammar, punctuation, and typographical errors, ensuring language quality, consistency, and clarity		✓	✓	✓
Is the content on the webpage broken into smaller paragraphs with whitespace ? (example: utilized for readability, avoiding dense blocks of text)		✓	✓	✓
Are clear instructions and guidance provided within the website to help users navigate features and functionalities effectively?		✓	✓	✓
Are accessibility guidelines (e.g., WCAG) adhered to, ensuring content is accessible to individuals with disabilities, including screen reader compatibility and text resizing capabilities?		✓	✓	✓
Is descriptive alternative text provided for images and non-text content to accommodate those who rely on assistive technologies?		✓	✓	✓
Is the content kept up to date with accurate information, reflecting changes in website features, policies, or external factors?		✓	✓	✓
Is user feedback and analytics tools incorporated to refine content quality and relevance over time, addressing user needs and preferences?		✓	✓	✓
Does the placeholder text in the input fields provide clear and concise guidance on what can be put in (e.g., products,		✓	✓	✓

categories, numeric values), while avoiding jargon and ensuring accessibility?				
Is tooltip text kept concise and relevant to the task at hand?		✓	✓	✓
Macro & Micro Interactions and Animations				
Are loading indicators, success messages, and error alerts used to keep users informed?		✓	✓	✓
Do buttons provide visual feedback (such as hover, active, disabled and pressed state) to indicate their status and improve user interaction?		✓	✓	✓
Are form fields highlighted when in focus?		✓	✓	✓
Do tooltips appear on hover to provide additional information without cluttering the interface?		✓	✓	✓
Are skeleton loading screens implemented for content-heavy pages to give a visual cue that content is being loaded and to improve perceived performance?		✓	✓	✓
If a process takes longer, are textual updates provided to keep users informed? (example, processing, please wait, etc.)		✓	✓	✓
Are notifications displayed in a consistent, noticeable but non-intrusive location (e.g., top-right) and do they include clear, relevant actions to enable quick user response?		✓	✓	✓
Are confirmation messages provided for actions like form submissions or setting changes?		✓	✓	✓
Are users allowed to undo recent actions to improve error tolerance?		✓	✓	✓
Are consistent animations used to create a cohesive user experience? (e.g., same hover interaction on all cards in a section)		✓	✓	✓
Are expandable sections or accordions used for secondary information, keeping the primary content focused? (e.g., ideal transition time is 200ms to 350ms)		✓	✓	✓

Are interactive maps incorporated for location-based services or information?		✓	✓	✓
Are all interactive elements accessible via keyboard navigation?		✓	✓	✓
Multi-touch gesture interactions including swipe navigation, pinch-to-zoom, and drag operations must be supported with single-pointer alternatives to accommodate diverse user abilities and assistive technology requirements		✗	✗	✓
Help, Feedback and Error Tolerance Checklist				
Is a dedicated help centre included within the website or app, offering FAQs, tutorials, and a knowledge base?		✓	✓	✓
Is context-sensitive help provided, offering relevant information based on the user's current activity or screen?		✓	✓	✓
Is a searchable database implemented where users can quickly find answers to their queries?		✓	✓	✓
Are easy-to-access feedback forms included, allowing users to report issues (e.g., bugs), suggest features, or provide general comments?		✓	✓	✓
Are short surveys or polls used to gather user feedback on their experience ?		✓	✓	✓
Does the webpage provide options to contact customer support ? (example: email, chat, or phone)		✓	✓	✓
Are clear and concise error messages displayed, explaining what went wrong and how the user can fix it?		✓	✓	✓
Are users allowed to undo actions or revert to a previous state to correct mistakes without severe consequences?		✓	✓	✓
Are interactive tutorials or guided walkthroughs provided for new users to help them understand key features and functionalities?		✓	✓	✓
Are tooltips and hints used to guide users through complex processes or unfamiliar features?		✓	✓	✓

Is the receipt of user feedback acknowledged immediately, reassuring users that their input is valued?		✓	✓	✓
Are users kept informed about the status of their feedback or reported issues, especially if it involves bug fixes or feature requests?		✓	✓	✓
Is follow-up communication provided to users when their feedback has led to changes or improvements in the website?		✓	✓	✓
Are auto-save features implemented to prevent data loss in case of website crashes or unexpected shutdowns?		✓	✓	✓
Are easy recovery options provided for users to restore lost data or continue interrupted tasks?		✓	✓	✓
Does the product continue to function at a basic level even if certain features fail or encounter errors?		✓	✓	✓
Are self-service tools like a knowledge base provided to empower users to resolve common issues independently?		✓	✓	✓
Are users educated on best practices for using the website through tips, articles, and video tutorials?		✓	✓	✓
Are all help and feedback features accessible to individuals with disabilities, adhering to accessibility standards (e.g., WCAG)?		✓	✓	✓
Are help and feedback resources offered in multiple languages to cater to a diverse user base?		✓	✓	✓
Are error reporting tools integrated to automatically capture and report website crashes or errors?		✓	✓	✓
Government Service Integration Checklist				
Are relevant government services (e.g., DigiLocker, myScheme, Bhashini, and Service APIs) identified based on the product's objectives and user needs?		✓	✓	✓
Are clear use cases defined for each integrated service, ensuring they add value		✓	✓	✓

to the website and enhance user experience?				
Is official API documentation for each government service followed meticulously, adhering to integration guidelines and best practices?		✓	✓	✓
Is all data exchanged with government services encrypted and compliant with relevant data protection regulations?		✓	✓	✓
Is explicit user consent obtained before accessing or sharing their data with integrated services, with a clear explanation of the purpose and benefits?		✓	✓	✓
Is the role and are the benefits of each integrated service clearly communicated to users, including how their data will be used and protected?		✓	✓	✗
Is the user interface designed to seamlessly incorporate features from integrated services, maintaining a consistent look and feel?		✓	✓	✓
Are navigation elements for accessing integrated services intuitive and consistent with the overall product design?		✓	✓	✓
Are onboarding materials, including step-by-step guides or tutorials, provided to educate users on the benefits and usage of integrated services?		✓	✓	✓
Is Bhashini leveraged to offer multilingual support, making the website accessible to users in different languages?		✓	✓	✓
Do integrated services comply with accessibility standards (e.g., WCAG) ?		✓	✓	✓
Are users informed about updates or changes to integrated services, including new features, security updates, and maintenance schedules?		✓	✓	✓
Are comprehensive help resources and documentation provided for integrated services, assisting users with common issues and questions?		✓	✓	✓

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Is the product architecture designed to support the addition of new services and scalability as user demand grows?		✓	✓	✓
Are plans in place for future integrations, staying updated with emerging government services and APIs to expand the product's functionality over time?		✓	✓	✓
Offline Functionality Checklist				
Are needs and scenarios where offline access is critical, particularly for those in areas with poor internet connectivity, understood and addressed for critical features and functionalities (such as filling out forms, and saving drafts)?		✗	✓	✓
Is automatic synchronization implemented to ensure that data is synced seamlessly when the device regains internet connectivity, maintaining data integrity and preventing duplication?		✓	✓	✓
Is a manual sync option provided, allowing for on-demand data refresh when internet access is available?		✓	✓	✓
Do users receive notifications when data synchronisation is complete or if there are any issues with syncing data?		✓	✓	✓
Does the interface remain consistent whether the product is online or offline, minimizing disruptions to the experience?		✓	✓	✓
Is meaningful fallback content, such as cached data or placeholders, provided when the product is offline, ensuring navigation and use are still possible?		✓	✓	✓
Are clear and helpful error messages displayed when actions requiring internet connectivity are attempted while offline?		✓	✓	✓
Is a retry mechanism implemented for failed operations once the connection is restored, requiring minimal intervention?		✓	✓	✓
Is the product thoroughly tested in both online and offline modes to identify and resolve any issues related to offline functionality?		✓	✓	✓

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Is clear documentation provided within the product explaining how to use offline features (if), including steps to manually sync data and troubleshoot common issues?		✓	✓	✓
Data Visualisations and Infographics Checklist				
Are simple and straightforward design elements used in data visualisations to prevent overwhelming users?		✓	✓	✓
Are text alternatives for charts and graphs provided to ensure accessibility for those with visual impairments?		✓	✓	✓
Are high-contrast colors used to make data points and labels easy to distinguish?		✓	✓	✓
Are data visualizations made compatible with screen readers by using appropriate ARIA labels and descriptions?		✓	✓	✓
Is a consistent color scheme and font style applied across all visualizations to maintain a uniform look and feel?		✓	✓	✓
Are consistent scales, legends, and labels applied across similar types of visualizations to facilitate easy data comparison?		✓	✓	✓
Are interactive elements, such as tooltips, hover effects, and clickable areas and explanatory text or captions included to allow for more detailed data exploration?		✓	✓	✓
Are visualizations responsive and do they adapt well to different screen sizes and devices?		✓	✓	✓
Are descriptive titles and labels used to provide context for the data being presented?		✓	✓	✓
Performance Optimization				
Are HTTP requests minimized by combining files using tools (such as webpack or Gulp) to bundle CSS and JavaScript files?		✓	✗	✓
Does the system implement lazy loading for media content (such as images, videos,		✓	✓	✓

and other large assets) to improve initial load times?				
Are JavaScript files loaded asynchronously to prevent blocking the rendering of page content?		✓	✗	✓
Are responsive image techniques (such as src set) used to serve different image sizes based on the device?		✓	✓	✓
Are images compressed using tools (like TinyPNG or ImageOptim) to reduce file sizes without compromising quality?		✓	✓	✓
Are next-gen image formats (like WebP) used for better compression and quality?		✓	✓	✓
Does the system set appropriate caching headers to leverage browser caching for static assets?		✓	✓	✓
Is a CDN used to distribute static content across multiple servers, reducing latency & improving load times?		✓	✓	✓
Are CSS, JavaScript, and HTML files minified to reduce file sizes & improve load times?		✓	✓	✓
Is unused CSS and JavaScript removed (using tools like PurifyCSS) to decrease file sizes?		✓	✓	✓
Is critical CSS inlined to render content above the fold faster, and is non-critical CSS deferred?		✓	✓	✓
Are database queries optimised to reduce load times to improve performance?		✓	✓	✓
Is appropriate indexing used to speed up query performance?		✓	✓	✓
Is query caching implemented to reduce the load on the database server?		✓	✓	✓
Is HTTP/2 enabled to improve performance ? (through multiplexing, header compression, and server push)		✓	✓	✓
Is compression tools (like Gzip or Brotli) used to reduce the size of transmitted files?		✓	✓	✓
Is load balancing implemented to distribute traffic across multiple servers, ensuring reliability and faster load times?		✓	✓	✓

Is the product fully responsive and does it provide a seamless experience across different devices & screen sizes?		✓	✓	✓
Are touch interactions optimized for mobile by using appropriate touch targets and gestures?		✓	✓	✓
Are real-time monitoring tools (e.g., Google Analytics, Firebase, or Microsoft Clarity) used to monitor real-time performance and identify bottlenecks?		✓	✓	✓
Does feedback on performance issues collected and used to guide optimisation efforts?		✓	✓	✓
Are error logging tools (e.g., Sentry or LogRocket) implemented to track and resolve errors in real time?		✓	✓	✓
Are crash reporting tools used to identify and fix issues that cause crashes or instability in websites?		✓	✓	✓
Is the <link rel="preload"> tag used to preload key resources to improve page load times?		✓	✓	✓
Is critical content loaded first, while secondary content can be loaded asynchronously?		✓	✓	✓
Are animations free from jank or performance issues?		✓	✓	✓
Are feedback mechanisms provided to let users know actions are being processed, reducing perceived wait times?		✓	✓	✓
Is there a process monitored for performance and reliability, addressing any issues promptly?		✓	✓	✓
Is the website or mobile application reliable, with all essential features functioning correctly and no broken links or errors?		✓	✓	✓
Is content delivery optimised to minimise loading times and improve overall website performance, particularly for users with slower network connections? (e.g., image optimization)		✓	✓	✓

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Is essential content preloaded to ensure quick access?		✓	✓	✓
Analytics				
Are the analytics which are relevant to your website integrated? (e.g., user behaviour tracking, feature usage, user engagement, website performance)		✓	✓	✓
Have key performance indicators (KPIs) relevant to the website's or webpage's objectives have been identified ? (e.g., active users, session duration, retention rates)		✓	✓	✓
Is a tool added to visualise user interactions through heatmaps and session recordings to help identify UX issues?		✓	✓	✓
Is tracking for key events that represent significant user actions (e.g., button clicks, form submissions) pre-defined and implemented?		✓	✓	✓
Does the system categorizes users based on demographics, behaviour, and usage patterns to gain deeper insights?		✓	✓	✓
Does the system ensure compliance with data privacy regulations (e.g., GDPR, CCPA) by obtaining user consent for data collection?		✓	✓	✓
Is user data anonymised to protect privacy and maintain trust while still gathering useful insights?		✓	✓	✓
Are data collection practices and the privacy policy clearly communicated to users within the website?		✓	✓	✓
Is real-time analytics used to monitor immediate user interactions and website performance, allowing for quick response to issues?		✓	✓	✓
Are crash reporting tools integrated to track and analyse website crashes and performance issues?		✓	✓	✓
Are user flows analysed to identify drop-offs and analyze the user journey?		✓	✓	✓

Are custom dashboards created to visualise key metrics and KPIs, making it easier to monitor and analyse data?		✓	✓	✓
Are regular reports (e.g., weekly, monthly) generated to review performance trends and make informed decisions?		✓	✓	✓
Is A/B testing conducted to experiment with different features or designs and measure their impact on user behaviour and engagement?		✓	✓	✓
Is analytics used to monitor user interactions with help and feedback features, identifying areas for improvement?		✓	✓	✓
Accessibility				
Does your website support multi-lingual support?		✓	✓	✓
Is there sufficient contrast between text and background for readability?		✓	✓	✓
Does the webpage adhere to WCAG accessibility standards ? (example: readability of text, visual content)		✓	✓	✓
Does the system adhere to accessibility standards (WCAG) to ensure content is readable for all, including those with visual impairments?		✓	✓	✓
Does the webpage interface accessible to those with disabilities, supporting screen readers and other assistive technologies?		✓	✓	✓
Is keyboard navigation supported for all interactive elements in the webpage?		✓	✓	✓
Is the webpage designed to be easy to use for people with limited web and mobile experience?		✓	✓	
Are list items accessible to screen readers with appropriate labeling and focus management?		✓	✓	✓
Are sorting options properly labelled for screen readers, providing a seamless experience for visually impaired users?		✓	✓	✓
Are forms designed with accessibility in mind, including descriptive field labels and		✓	✓	✓

sufficient color contrast to support those with visual impairments?				
Are all form elements accessible via keyboard navigation for those who rely on assistive technologies?		✓	✓	✓
Are ARIA landmark roles implemented to enhance compatibility with screen readers?		✓	✓	✓
Side/Profile/Avatar Menu				
Navigation menu must be positioned in optimal thumb-zone accessibility area using consistent placement patterns that follow platform conventions for single-handed mobile device operation and immediate discoverability		✗	✗	✓
User profile sections must display personalized identification information including full name, profile photograph, account status, and relevant metadata to establish user context and ownership		✗	✗	✓
Navigation hierarchy must implement logical information architecture grouping related functions into clear categories that align with user mental models and task-oriented workflows		✗	✗	✓
Menu labels must use descriptive, action-oriented language that clearly communicates destination purpose and expected outcomes per WCAG accessibility requirements for headings and labels		✗	✗	✓
Navigation structure must maintain flat hierarchy limiting nesting depth to maximum 2-3 levels to reduce cognitive load and enable rapid information discovery		✗	✗	✓
High-frequency user actions including account management, notification access, and session termination must be positioned prominently for immediate accessibility		✗	✗	✓
User identification elements including name and avatar must occupy primary position at menu top to establish context and ownership before navigation options		✗	✗	✓

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Comprehensive account management actions covering profile editing, transaction history, organizational information, localization settings, accessibility controls, support access, security management, and logout functionality must be available		×	×	✓
Support infrastructure including FAQ databases, contact mechanisms, help documentation, and user guides must be integrated into navigation system with clear access paths		×	×	✓
Organizational metadata including app information, version identifiers, build numbers, ownership details, and company information must be accessible to users		×	×	✓
Privacy control mechanisms enabling granular management of data sharing preferences, consent management, and privacy settings must be provided within user-accessible interface		×	×	✓
Security-critical functions including account settings, payment information, personal data access, and financial transactions must implement re-authentication mechanisms using password or biometric verification		×	×	✓
Navigation menu must achieve sub-300ms response times for open/close operations with smooth animations and no performance degradation to maintain user engagement		×	×	✓

Mobile App Compliances

Trust & Credibility:

Hosting and Certification

- ☐ Your app is hosted on the Government App Store (GOV.IN App Store), Google Play Store, and Apple App Store. (Refer: 5.1.1)
- ☐ Your app follows defined security points and has obtained necessary certifications. (Refer: 5.1.1)

Ownership Information

- ☐ The ownership information, including state emblems and labels, is displayed on the splash screen. (Refer: 5.1.2)

Privacy and Terms

- ☐ The “Privacy Policy” and “Terms and Conditions” are available to users before they land on the homepage. (Refer: 5.1.3)
- ☐ The “Privacy Policy” and “Terms and Conditions” are accessible from the side/profile menu. (Refer: 5.1.3)

National Emblem

- ☐ The National Emblem of India is displayed on the homepage of your government app. (Refer: 5.1.4)

User Login

- ☐ If your app requires user login, it is done using “MeriPehchaan.” (Refer: 5.1.5)

User Consent

- ☐ Your app does not store any user data without explicit consent from the user. (Refer: 5.1.6)

About Us Section

- ☐ The “About Us” option in the side/profile menu includes: (Refer: 5.1.7)
 - ☐ Last Updated
 - ☐ Build Number
 - ☐ Owner Information
 - ☐ Contact Details
 - ☐ Terms and Conditions
 - ☐ Privacy Policy
 - ☐ FAQs

User Grievances

- ☐ Your app has clear mechanisms for users to file grievances, track applications, and receive satisfactory resolutions. (Refer: 5.1.8)

User Feedback

- ☐ Your app allows users to leave reviews and ratings within the app. (Refer: 5.1.9)

Consistent Branding

- ☐ Your app maintains consistent branding across all pages of the mobile application. (Refer: 5.1.10)

Data Security

- ☐ Your app implements robust data security measures as defined in the Government Security points. (Refer: 5.1.11)
- ☐ Your app clearly defines data handling and privacy practices. (Refer: 5.1.11)
- ☐ Your app keeps users well-informed and always obtains consent regarding data collection and safety mechanisms. (Refer: 5.1.11)

External Links

- ☐ Your app avoids links to external pages to maintain trust and user security. (Refer: 5.1.12)
- ☐ If an external link is necessary, your app clearly informs users that they will be redirected to another site. (Refer: 5.1.12)

Walkthrough Screens

Purpose and Clarity

- ☐ The major functions of the app are explained in a simple and easy-to-understand manner. (Refer: 5.2.1)
- ☐ The information on each screen is concise and focused to avoid information overload. (Refer: 5.2.1)

Visual Appeal

- ☐ Engaging and visually appealing graphics or animations are used to illustrate app features. (Refer: 5.2.2)
- ☐ A consistent visual style is maintained that aligns with the overall design and branding of the app. (Refer: 5.2.2)

User Guidance

- ☐ The app's features are introduced step-by-step, guiding users through essential functionalities one at a time. (Refer: 5.2.3)
- ☐ Key features that provide the most value to users are highlighted. (Refer: 5.2.3)

Interactivity

- ☐ Interactive elements, such as swipes, taps, or animations, are included to keep users engaged and enhance understanding. (Refer: 5.2.4)
- ☐ Clear progress indicators (e.g., dots or numbers) are provided to show users their position in the walkthrough and how many steps remain. (Refer: 5.2.4)

Accessibility

- ☐ Text is readable with appropriate font size, color contrast, and legible fonts. (Refer: 5.2.5)
- ☐ Voiceover support is included for visually impaired users to ensure accessibility. (Refer: 5.2.5)

Skippable Option

- ☐ A skip button is offered to allow users to bypass the walkthrough if they prefer to explore the app on their own (Reactance). (Refer: 5.2.6)

Length and Timing

- ☐ The walkthrough is kept short and to the point, ideally under 4 screens, to maintain user interest. (Refer: 5.2.7)
- ☐ The walkthrough is presented at the first launch of the app, with an option to view it later. (Refer: 5.2.7)

Consistent Messaging

- ☐ The messaging on the walkthrough screens is consistent with the app's tone and style, reinforcing the brand's voice. (Refer: 5.2.8)
- ☐ A motivational and friendly tone is used to encourage users and make them feel confident about using the app. (Refer: 5.2.8)

Localization

- ☐ The walkthrough screens are localized to support multiple languages and cultural contexts, ensuring all users have an equally good onboarding experience. (Refer: 5.2.9)

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Home Page

Distinctiveness and Branding

- ☐ The homepage is designed to stand out from all other pages in the mobile application, ensuring it captures user attention and sets the tone for the app. (Refer: 5.3.1)
- ☐ The “National Emblem” and “App Logo” are prominently placed in the top left corner of the homepage for immediate brand recognition. (Refer: 5.3.1)

Navigation and Accessibility

- ☐ The Hamburger/Profile/Side Menu icon is positioned in the top right corner of the homepage for easy access to additional features and settings. (Refer: 5.3.2)
- ☐ The items on the homepage are clearly focused on the most important tasks for the users, guiding them towards key actions and features. (Refer: 5.3.2)

Highlighting Key Tasks

- ☐ The most important tasks are highlighted on the homepage so that users have a clear starting point, making it easy to navigate and engage with essential functions. (Refer: 5.3.3)

Gateway to Microservices

- ☐ Gateways to all microservices are included on the homepage, providing users with quick access to the various functionalities offered by the app. (Refer: 5.3.4)

Categories and Information

- ☐ All major categories and relevant information are listed on the homepage, allowing users to easily find and explore different sections of the app. (Refer: 5.3.5)

Action-Focused Design

- ☐ The homepage is designed to be action-focused, enabling users to quickly retrieve information or perform actions they desire with minimal effort. (Refer: 5.3.6)

Search Functionality

- ☐ A search box is included on the homepage for large mobile applications to help users easily find the content they are looking for. (Refer: 5.3.7)

User Guidance

- ☐ Tours and walkthroughs are provided on the homepage for apps with complex functionalities, helping users understand and navigate the app effectively. (Refer: 5.3.8)

Scannability and Organization

- ☐ The homepage is easily scannable with proper section labels, allowing users to quickly locate and access different parts of the app. (Refer: 5.3.9)

Side/Profile/Avatar Menu

Accessibility and Visibility

- ☐ The side/profile/avatar menu is easily accessible and placed in the top-right corner of the app interface. (Refer: 5.4.1)
- ☐ A universally recognized icon, such as a hamburger menu, user initials, or an avatar/profile picture, indicates the menu's presence. (Refer: 5.4.1)

User-Centered Content

- ☐ Personalized information, such as the user's name, profile picture, and relevant account details, is displayed. (Refer: 5.4.2)

Clear Organization

- ☐ Menu items are organized into logical groups or sections, such as Account, Settings, Help, Security, etc. (Refer: 5.4.3)
- ☐ Clear and descriptive labels for each menu item ensure users understand their purpose. (Refer: 5.4.3)

Easy Navigation

- ☐ The menu structure is kept simple, avoiding deep nesting of items to make it easy for users to find what they need. (Refer: 5.4.4)
- ☐ Quick access is provided to important and frequently used features, such as account settings, notifications, and logout. (Refer: 5.4.4)

Interactive Elements

- ☐ All menu items are easily tappable, with sufficient spacing to prevent accidental taps. (Refer: 5.4.5)
- ☐ Visual feedback, such as highlighting or color changes, is provided when a menu item is selected to confirm user actions. (Refer: 5.4.5)

Important Information and Actions

- ☐ Key profile information, such as the user's name and avatar, is displayed at the top of the menu for easy identification. (Refer: 5.4.6)
- ☐ Important action items such as Edit Profile, View Transactions, About Us, Language and Accessibility Options, Help & Support, Security and Privacy, and Logout are included. (Refer: 5.4.6)

Supporting Documentation

- ☐ Links to help and support resources, such as FAQs, contact support, and user guides, are included. (Refer: 5.4.7)
- ☐ An "About Us" section with information about the app, version number, and company details is provided. (Refer: 5.4.7)

Security and Privacy

- ☐ Options for users to manage their privacy settings and control data sharing preferences are included. (Refer: 5.4.8)
- ☐ Access to sensitive areas, such as account settings and payment information, requires authentication (e.g., password, biometrics). (Refer: 5.4.8)

Feedback and Updates

- ☐ A mechanism for users to give feedback or report issues directly from the menu is provided. (Refer: 5.4.9)

Efficiency and Performance

- ☐ The menu opens and functions smoothly without delays or lag. (Refer: 5.4.10)

Page Layout and Visual Design

Consistent Visual Hierarchy

- ☐ Elements are arranged in order of importance to guide user attention effectively. (Refer: 5.6.1)
- ☐ Hierarchy cues like size, color, and positioning are used to establish a clear visual flow on each screen. (Refer: 5.6.1)

Responsive Design Principles

- ☐ Layouts adapt seamlessly across different screen sizes and orientations, ensuring a consistent experience. (Refer: 5.6.2)
- ☐ Responsive grid systems are utilized to maintain consistency and alignment of elements across various devices. (Refer: 5.6.2)

Intuitive Navigation

- ☐ Familiar navigation patterns, such as bottom navigation and side menus, are implemented for easy access to different sections of the app. (Refer: 5.6.3)
- ☐ Intuitive gestures, like swipe and pinch-to-zoom, are incorporated to enhance user interaction and navigation efficiency. (Refer: 5.6.3)

Typography and Readability

- ☐ Legible fonts like Noto Sans are used for optimal readability across different devices and screen resolutions. (Refer: 5.6.4)
- ☐ A clear typographic hierarchy is established with appropriate font sizes, weights, and spacing to improve content scanning and comprehension. (Refer: 5.6.4)

Visual Consistency and Branding

- ☐ Consistent use of colors, typography, and visual elements that align with the app's brand points is maintained throughout the design. (Refer: 5.6.5)
- ☐ A design system is developed and adhered to, documenting UI components, patterns, and interactions to ensure visual consistency. (Refer: 5.6.5)

Space and Layout

- ☐ Ample whitespace (negative space) is used to improve content legibility, reduce visual clutter, and create a balanced visual composition. (Refer: 5.6.6)
- ☐ Content density is balanced by grouping related information and utilizing collapsible sections or accordions for detailed content. (Refer: 5.6.6)

Accessibility Considerations

- ☐ Sufficient color contrast between text and background elements is ensured to meet accessibility standards (e.g., WCAG). (Refer: 5.6.7)
- ☐ Interactive elements, like buttons and links, are designed with touch-friendly sizes and states, accommodating users with motor disabilities. (Refer: 5.6.7)

Visual Feedback and Affordance

- ☐ Visual feedback, such as hover effects and animations, is provided to indicate interactive elements and user actions. (Refer: 5.6.8)
- ☐ Elements are designed with clear visual cues that suggest their functionality, enhancing user understanding. (Refer: 5.6.8)

Image and Video Use

- ☐ Multimedia elements are integrated judiciously to enhance content engagement and storytelling, ensuring they complement rather than overwhelm the interface. (Refer: 5.6.8)
- ☐ Multimedia files are optimized for fast loading times and minimal impact on app performance, especially for users on mobile data. (Refer: 5.6.8)

Cross-Platform Considerations

- ☐ UI elements and interactions are adapted to suit platform conventions (e.g., iOS vs. Android) while maintaining brand consistency. (Refer: 5.6.9)

- ☐ Page layouts and visual designs are tested across multiple devices and operating systems to ensure a consistent user experience. (Refer: 5.6.9)

Performance Optimization

- ☐ Images, icons, and other visual assets are optimized to minimize file size and improve app performance, especially for slower network connections. (Refer: 5.6.10)
- ☐ Content loading is prioritized to ensure critical information appears promptly, enhancing user engagement and satisfaction. (Refer: 5.6.10)

Exploration Without Login

Accessible Content Preview

- ☐ A significant portion of the app's content is visible without requiring login, allowing users to explore and understand the product offerings. (Refer: 7.1.1)
- ☐ Teaser content or previews of premium features are provided to encourage users to create an account or log in for full access. (Refer: 7.1.1)

Seamless Onboarding Experience

- ☐ Users can explore the product without mandatory registration or login, promoting a frictionless onboarding experience. (Refer: 7.1.2)
- ☐ A guest mode or demo mode is offered that provides limited access to features and content without requiring account creation. (Refer: 7.1.2)

Clear Navigation and Structure

- ☐ Intuitive navigation paths are designed to guide users through available content sections and features easily. (Refer: 7.1.3)

Content Discovery Features

- ☐ A search feature is included (if required) to allow users to find specific content or features easily without logging in. (Refer: 7.1.4)
- ☐ Content is organized into categories or filters to help users refine their exploration based on their interests. (Refer: 7.1.4)

Personalization and Recommendations

- ☐ Personalized content recommendations are offered based on user behavior or trends, even without user login (e.g., Location, Mostly Used, Top Services). (Refer: 7.1.5)

Limited Interactivity

2x

0.3x

0.5x

- ☐ Interactive features (e.g., applying, commenting) are limited for non-logged-in users to maintain simplicity and security. (Refer: 7.1.6)
- ☐ Content sharing through external platforms or social media is enabled. (Refer: 7.1.6)

Performance Optimization

- ☐ App performance is optimized to ensure fast loading times for content and features accessed without login. (Refer: 7.1.7)
- ☐ Offline access to previously viewed content or cached information is provided where feasible. (Refer: 7.1.7)

Educational Resources

- ☐ Guided tours or tooltips are offered to introduce key app features and functionalities during the exploration phase. (Refer: 7.1.8)
- ☐ An accessible FAQ section or help center is included to address common user questions and support self-service exploration. (Refer: 7.1.8)

Conversion and Engagement

- ☐ Users are prompted to create an account or log in when they attempt to access restricted features or content. (Refer: 7.1.9)
- ☐ Incentives such as exclusive content or discounts are offered to encourage users to register or log in for enhanced benefits. (Refer: 7.1.9)

Login and Signup using National Single Sign-On

Integration with Meri pehchaan

- ☐ Meri pehchaan API is integrated into your product to enable seamless single sign-on (SSO) capabilities. (Refer: 7.2.1)
- ☐ Integration documentation is followed to ensure proper implementation and compliance with security standards. (Refer: 7.2.1)

User Experience

- ☐ Meri pehchaan login and signup buttons are placed prominently on the login screen for easy access. (Refer: 7.2.2)
- ☐ Official Meri pehchaan branding and logos are used to maintain consistency and user trust. (Refer: 7.2.2)

Security and Privacy

- ☐ Authentication process adheres to the highest security standards to protect user data. (Refer: 7.2.3)
- ☐ Data privacy policies are clearly communicated to users, detailing how their data will be used and protected. (Refer: 7.2.3)

User Consent

- ☐ Explicit user consent is obtained before initiating the SSO process, with clear explanations of data access and usage. (Refer: 7.2.4)
- ☐ Easy access is provided to the app's privacy policy and terms of service during the login/signup process. (Refer: 7.2.4)

Error Handling and Feedback

- ☐ Clear and user-friendly error messages are displayed for issues encountered during login or signup. (Refer: 7.2.5)
- ☐ Guidance is offered for resolving common issues, such as incorrect credentials or connectivity problems. (Refer: 7.2.5)

Account Linking

- ☐ Existing app accounts can be linked with Meri pehchaan credentials to streamline the login process. (Refer: 7.2.6)
- ☐ A seamless transition is ensured for users linking their accounts, maintaining their data and preferences. (Refer: 7.2.6)

User Interface Design

- ☐ The user interface is designed intuitively to simplify the login and signup process, minimizing steps required to authenticate. (Refer: 7.2.7)
- ☐ The login/signup interface is responsive and functions well on different devices and screen sizes. (Refer: 7.2.7)

Accessibility

- ☐ The Meri pehchaan login/signup interface is accessible to users with disabilities, supporting screen readers and other assistive technologies. (Refer: 7.2.8)
- ☐ Keyboard navigation is supported for all interactive elements in the login/signup process. (Refer: 7.2.8)

Testing and Validation

- ☐ Thorough testing of the Meri pehchaan integration is conducted to ensure proper functionality under various conditions.
- ☐ User feedback is collected and incorporated to continuously improve the login/signup experience.

Continuous Improvement

- ☐ Keep the integration up-to-date with the latest Meri pehchaan API updates and security patches.
- ☐ Monitor the login/signup process for performance and reliability, addressing any issues promptly.

Branding and Customization

- ☐ Your app's branding is incorporated alongside Meri pehchaan branding to build trust and credibility. (Refer: 7.2.9)
- ☐ Trust indicators, such as security badges and endorsements, are used to reassure users about the safety and legitimacy of the login process. (Refer: 7.2.9)

Search

Positioning and Visibility

- A search box is included if the product is large and requires exploration to help users easily find content.(Refer: 7.3.1)
- The search bar is prominently placed, typically at the top of the screen, for easy access.(Refer: 7.3.1)

Placeholder Text

- Placeholder text in the search bar guides users on what they can search for, such as "Search products, categories, or brands."(Refer: 7.3.2)
- The placeholder text is kept clear and concise, avoiding jargon.(Refer: 7.3.2)

Search Scope Indicators

- Indicate if the search is global or local, with context-specific cues, like "Search within this list." (Refer: 7.3.3)

Filters and Categories

- Users can filter search results or select categories to refine their search.(Refer: 7.3.4)

Instant Feedback

- Provide real-time search suggestions as users type to help them find content faster.(Refer: 7.3.5)

Result Relevance

- Ensure search results are relevant and sorted by importance using algorithms.(Refer: 7.3.6)

Usability and Accessibility

- Support multiple languages if the app has a global audience, ensuring accurate results.(Refer: 7.3.7)
- Integrate voice search functionality for hands-free searching.(Refer: 7.3.7)

Loading and Performance

- ☐ Ensure search results load quickly, with loading indicators to show processing.(Refer: 7.3.8)
- ☐ Implement lazy loading for results not immediately visible to improve load times.(Refer: 7.3.8)

Design Consistency

- ☐ Maintain consistency in the design and placement of search bars across the app.(Refer: 7.3.9)
- ☐ Ensure the search bar aligns with the overall theme and branding of the app (Refer: 7.3.9)

Personalisation

User-Centric Approach

- ☐ Users are allowed to customize their product experience based on personal preferences such as language, theme, or content interests.(Refer: 7.4.1)
- ☐ User data is used with consent to personalize content recommendations, notifications, and features tailored to individual preferences and behavior. (Refer: 7.4.1)
- ☐ The collection of personal information adheres to government Data Protection and other relevant regulations. (Refer: 7.4.1)

Customizable Interface

- ☐ Various theme options, such as light mode and dark mode, are provided to accommodate user preferences and enhance visual comfort.(Refer: 7.4.2)
- ☐ Users can adjust font sizes, styles, and layout settings to optimize readability and usability according to individual needs. (Refer: 7.4.2)

Personalized Content Delivery

- ☐ Algorithms or user input are used to suggest relevant content, products, or services based on user interests and past interactions.(Refer: 7.4.3)
- ☐ Location-based services or content recommendations are offered to provide relevant information based on the user's geographic location.(Refer: 7.4.3)

Adaptive User Interfaces

- ☐ Product interfaces adjust dynamically based on user context, such as time of day or device type, to optimize usability and relevance.(Refer: 7.4.4)

- ☐ User behavior is analyzed to personalize UI elements, such as displaying frequently used features prominently for faster access. (Refer: 7.4.4)

Notification Personalization

- ☐ Users can customize notification preferences, such as frequency and type, to receive relevant updates without overwhelming notifications. (Refer: 7.4.5)
- ☐ Intelligent notification systems prioritize important messages and adapt based on user interactions and preferences. (Refer: 7.4.5)

Interactive Personalization

- ☐ Interactive features, such as quizzes or surveys, are incorporated to gather user preferences and feedback for more personalized recommendations. (Refer: 7.4.6)

Performance Optimization

- ☐ Personalized content and features are updated in real-time to reflect changes in user preferences or behaviors. (Refer: 7.4.7)

Ethical Considerations

- ☐ Explicit user consent is obtained before personalizing experiences based on sensitive data or behavioral patterns. (Refer: 7.4.8)
- ☐ Personalization is used responsibly to enhance user experience without manipulating user behavior or choices. (Refer: 7.4.8)

Task Orientation

Minimize Distractions

- ☐ Irrelevant and unnecessary information is avoided to keep the user focused. (Refer: 7.5.1)
- ☐ Scripts, applets, movies, audio files, graphics, and images are not overused to prevent distraction. (Refer: 7.5.1)
- ☐ Unnecessary registrations are avoided, and critical actions like purchases or subscriptions are made clear and distraction-free. (Refer: 7.5.1)

Optimize Workflow

- ☐ The number of screens necessary for each task is minimized to streamline the user journey. (Refer: 7.5.2)
- ☐ The number of clicks required for any action is reduced to enhance efficiency. (Refer: 7.5.2)
- ☐ The workflow matches the natural sequence of tasks in the user's real-world processes. (Refer: 7.5.2)

Present Data Clearly

- ☐ Graphs are displayed with access to actual data, such as numeric annotations on bar charts. (Refer: 7.5.3)
- ☐ Automated actions like postcode lookup complement user input to reduce manual effort. (Refer: 7.5.3)
- ☐ Users are allowed to compare items easily when necessary to aid decision-making. (Refer: 7.5.3)

Enhance User Efficiency

- ☐ Important and frequently used features are positioned near the center of the page for quick access. (Refer: 7.5.4)
- ☐ Users are not required to enter the same information repeatedly, saving time and effort. (Refer: 7.5.4)
- ☐ All necessary steps for multi-step tasks are displayed, with progress feedback provided to keep users informed. (Refer: 7.5.4)

User-Friendly Navigation

- ☐ Users do not need to remember information as they move between sections, supporting recognition over recall. (Refer: 7.5.5)
- ☐ Easily understood metaphors and relevant cultural conventions for data formats are used to improve comprehension. (Refer: 7.5.5)
- ☐ Buttons are used for commands and actions instead of hyperlinked text to clarify functionality. (Refer: 7.5.5)

Simplify Interaction

- ☐ The internal workings of the software are hidden from the user to avoid confusion. (Refer: 7.5.6)
- ☐ The application is designed to be easy to use for people with limited web and mobile experience. (Refer: 7.5.6)
- ☐ Users are enabled to explore and experiment with options before making commitments, reducing the risk of errors. (Refer: 7.5.6)

Design for All Users

- ☐ Common tasks are made easy for first-time users without requiring external assistance. (Refer: 7.5.7)
- ☐ Crucial call-to-action buttons are prominently displayed on all pages and screens to guide users. (Refer: 7.5.7)
- ☐ Users can resume actions from where they left off if they quit and return later, improving continuity. (Refer: 7.5.7)

User Control

- ☐ Action buttons (such as "Submit") are manually invoked by the user, not automatically by the system, ensuring user control. (Refer: 7.5.8)
- ☐ Sorting and filtering options are provided for pages with a lot of information to enhance usability. (Refer: 7.5.8)
- ☐ Text and images on buttons or icons are relevant to the task, ensuring clarity of action. (Refer: 7.5.8)

Session Management

- ☐ Users are prompted before automatically being logged off to avoid unintended interruptions. (Refer: 7.5.9)
- ☐ Users are allowed to stop or skip unwanted features, such as Flash animations, to reduce frustration. (Refer: 7.5.9)

Reliability and Usability

- ☐ The application is reliable, with all essential features functioning correctly and no broken links or errors. (Refer: 7.5.10)
- ☐ The needs of both novice and expert users are catered to by offering detailed explanations and tours for beginners and shortcuts for advanced users. (Refer: 7.5.10)
- ☐ Users are allowed to edit any information they provide, such as delivery addresses or account details, ensuring flexibility. (Refer: 7.5.10)

Navigation and Information Architecture

Navigation

Intuitive Structure

- ☐ The navigation has a clear and logical hierarchy that allows users to easily understand the structure and find what they need..(Refer: 7.6.1)
- ☐ Primary navigation elements (e.g., tabs, menu items) are easily accessible and clearly labeled. .(Refer: 7.6.1)

Consistency

- ☐ Consistent navigation patterns throughout the app are maintained to help users predict how to move between screens. (Refer: 7.6.1)
- ☐ Key navigation elements (e.g., bottom navigation bar) are persistent across the main screens to provide a stable user experience. (Refer: 7.6.1)

Visibility and Accessibility

- ☐ Navigation elements are placed in prominent locations, such as at the bottom or top of the screen, where users can easily reach them. (Refer: 7.6.1)

- ☐ Navigation elements are large enough to be tapped easily and are accessible to users with disabilities. (Refer: 7.6.1)

Feedback and Interaction

- ☐ Visual feedback (e.g., highlighting, color changes) is provided when navigation elements are tapped to confirm user actions. (Refer: 7.6.1)
- ☐ Smooth transitions between screens are implemented to enhance the user experience and provide a sense of continuity. (Refer: 7.6.1)

Back Navigation

- ☐ Users can easily navigate back to the previous screen using standard gestures or a back button. (Refer: 7.6.1)
- ☐ Breadcrumbs or similar indicators are used to show the user's path and make navigation back to previous screens easier when the navigation has more than three steps. (Refer: 7.6.1)

Information Architecture

User-Centered Design

- ☐ The app's information architecture is structured based on user needs and behaviors, ensuring the most important content is easy to find. (Refer: 7.6.2)
- ☐ User research and testing are conducted to understand how users expect to navigate the app and what information is most critical to them. (Refer: 7.6.2)

Logical Grouping

- ☐ Related content and features are grouped logically to help users understand where to find specific information. (Refer: 7.6.2)
- ☐ Clear and descriptive labels are used for categories and sections to make navigation intuitive. (Refer: 7.6.2)

Simplicity and Focus

- ☐ The information architecture is kept as shallow as possible, avoiding deep hierarchies that can confuse users. (Refer: 7.6.2)
- ☐ Primary actions and important content are highlighted on each screen, reducing the need for excessive navigation. (Refer: 7.6.2)

Consistency

- ☐ A consistent structure is applied to similar sections and features, helping users develop a mental model of the app's layout. (Refer: 7.6.2)
- ☐ Standard navigation patterns and familiar design conventions are used to make the app easier to learn and use. (Refer: 7.6.2)

Flexibility

- ☐ Multiple pathways to important content (e.g., navigation menu, search, shortcuts) are provided to accommodate different user preferences. (Refer: 7.6.2)
- ☐ The information architecture adapts to different screen sizes and orientations, maintaining usability across all devices. (Refer: 7.6.2)

Feedback and Iteration

- ☐ User feedback on the information architecture and navigation is continuously gathered to identify pain points and areas for improvement. (Refer: 7.6.2)
- ☐ The information architecture is regularly updated and refined based on user feedback and changing needs. (Refer: 7.6.2)

Lists, Filters, and Sorting Checklist

Lists

Clarity and Simplicity

- ☐ List items are designed with a clear and logical structure, allowing users to quickly scan and find information. (Refer: 7.8.1)
- ☐ Information in each list item is kept concise and relevant, avoiding clutter and enhancing readability. (Refer: 7.8.1)

Visual Design

- ☐ All list items use consistent styling, including fonts, colors, and spacing, for a uniform look and feel. (Refer: 7.8.1)
- ☐ Visual separators or dividers are used between list items to enhance readability and distinguish between items. (Refer: 7.8.1)

Usability and Interaction

- ☐ List items are easily tappable with sufficient spacing, preventing accidental taps and improving touch accuracy. (Refer: 7.8.1)
- ☐ Visual feedback (e.g., highlighting or color changes) is provided when a list item is tapped or selected, enhancing interactivity. (Refer: 7.8.1)

Load Performance

- ☐ Efficient loading techniques, like lazy loading or infinite scroll, are implemented to handle large lists without performance issues. (Refer: 7.8.1)
- ☐ Loading indicators (e.g., spinners or progress bars) are used to inform users when additional content is being loaded. (Refer: 7.8.1)

Accessibility

- ☐ List items are accessible to screen readers with appropriate labeling and focus management. (Refer: 7.8.1)
- ☐ Keyboard navigation is enabled for list items, accommodating users who rely on external keyboards or accessibility tools. (Refer: 7.8.1)

Filter

Visibility and Accessibility

- ☐ Filters are positioned in a prominent and easily accessible location, such as at the top of the list or in a fixed menu. (Refer: 7.8.2)
- ☐ Collapsible sections for filters are used to save screen space and keep the interface clean, depending on the amount of information present. (Refer: 7.8.2)

User-Friendly Design

- ☐ Filters have clear and descriptive labels, avoiding jargon to ensure users understand their choices. (Refer: 7.8.2)
- ☐ Users can select multiple filter options when applicable, providing flexibility and better control over the results. (Refer: 7.8.2)

Real-Time Feedback

- ☐ Filters are applied in real-time or with a clear action button (e.g., “Apply Filters”) to minimize waiting time. (Refer: 7.8.2)
- ☐ Visual confirmation of active filters is provided, such as highlighting selected filters or displaying a count of active filters. (Refer: 7.8.2)

Reset and Clear

- ☐ A clear option to reset or clear all filters is included, allowing users to start fresh easily. (Refer: 7.8.2)
- ☐ An undo option for the last filter change is offered to improve user control and satisfaction. (Refer: 7.8.2)

Customization and Save

- ☐ Users can save their filter preferences for future use, offering convenience and a personalized experience. (Refer: 7.8.2)
- ☐ Users can create and save custom filters based on their specific needs and preferences. (Refer: 7.8.2)

Sorting

Intuitive Options

- ☐ Sorting options are provided based on relevant criteria, such as date, popularity, price, or alphabetical order. (Refer: 7.8.2)
- ☐ A logical default sorting order is set that makes sense for the majority of users. (Refer: 7.8.2)

User Control

- ☐ Users can toggle between ascending and descending order for each sorting criterion. (Refer: 7.8.2)
- ☐ Combination sorting (e.g., sort by price and then by rating) is enabled if applicable. (Refer: 7.8.2)

Visual Indicators

- ☐ Clear icons or indicators (e.g., arrows) are used to show the current sorting order. (Refer: 7.8.2)
- ☐ The active sorting option is highlighted to provide visual feedback to the user. (Refer: 7.8.2)

Performance

- ☐ Sorting operations are performed efficiently, even with large datasets, to avoid delays. (Refer: 7.8.2)
- ☐ Feedback (e.g., loading spinner) is provided during sorting operations to keep users informed of ongoing processes. (Refer: 7.8.2)

Accessibility

- ☐ Sorting options are properly labeled for screen readers, providing a seamless experience for visually impaired users. (Refer: 7.8.2)

Forms and Data Entry Checklist

Form Design Principles

- ☐ Forms are concise, including only essential fields relevant to the user task or data entry process. (Refer: 7.9.1)
- ☐ Steppers or multi-step navigation are used to break down longer forms into manageable sections, revealing additional fields progressively. (Refer: 7.9.1)

Input Fields and Labels

- ☐ Labels are positioned prominently above or beside input fields, clearly indicating the type of information required. (Refer: 7.9.2)
- ☐ Appropriate input types (e.g., text, number, date picker) optimized for mobile devices are used to streamline data entry and minimize user effort. (Refer: 7.9.2)

Steppers for Long Forms

- ☐ Longer forms are divided into logical steps or stages using steppers to guide users systematically through each section. (Refer: 7.9.3)
- ☐ Visual indicators (e.g., numbered steps, progress bars) are provided to communicate the user's current position and overall progress within the form. (Refer: 7.9.3)

Validation and Error Handling

- ☐ Real-time validation is implemented to provide immediate feedback on input errors, allowing users to correct mistakes promptly. (Refer: 7.9.4)
- ☐ Concise error messages are displayed near the relevant fields, explaining how to resolve issues effectively without disrupting the data entry flow. (Refer: 7.9.4)

Mobile-Friendly Interactions

- ☐ Input fields and interactive elements (e.g., buttons, checkboxes) are optimized for touch interactions, ensuring they are adequately sized and spaced. (Refer: 7.9.5)
- ☐ Common mobile gestures (e.g., swipe, pinch-to-zoom) are supported to enhance usability and streamline user interaction across different devices. (Refer: 7.9.5)

Autofill and Suggestions

- ☐ Autofill features are enabled where applicable to expedite data entry and enhance user convenience, especially for repetitive or predictable information (e.g., SIM Selection, OTP Autofill). (Refer: 7.9.6)
- ☐ Intelligent suggestions or predictive text are provided based on user input to accelerate form completion and reduce manual effort. (Refer: 7.9.6)

Accessibility Considerations

- ☐ Forms are designed with accessibility in mind, including descriptive field labels and sufficient color contrast to support users with visual impairments. (Refer: 7.9.7)
- ☐ All form elements are accessible via keyboard navigation for users who rely on assistive technologies. (Refer: 7.9.7)

Banners & Graphics Checklist

Purpose and Relevance

- ☐ Each banner or graphic serves a clear purpose, such as promoting a product, providing information, or guiding user actions. (Refer: 7.10.1)
- ☐ Banners and graphics are relevant to the content or context of the app section they appear in. (Refer: 7.10.1)

Design and Aesthetics

- ☐ Banners and graphics maintain consistency with the app's branding, including colors, fonts, and overall style. (Refer: 7.10.2)
- ☐ High-resolution images and graphics are used to ensure clarity and professionalism. (Refer: 7.10.2)
- ☐ Designs are visually appealing, attracting attention without being overwhelming. (Refer: 7.10.2)

Placement and Size

- ☐ Banners and graphics are positioned in prominent locations where they are easily visible but do not obstruct core functionalities. (Refer: 7.10.3)
- ☐ Banners and graphics are appropriately sized for different screen sizes and resolutions, maintaining readability and usability. (Refer: 7.10.3)

Call to Action (CTA)

- ☐ Banners include clear and compelling calls to action, guiding users on what to do next (e.g., "Apply," "Learn More"). (Refer: 7.10.4)
- ☐ The CTA is prominently displayed and stands out from the rest of the banner content. (Refer: 7.10.4)

Interactivity

- ☐ Banners and graphics are interactive where applicable, allowing users to tap for more information or to perform an action. (Refer: 7.10.5)
- ☐ Interactive elements respond quickly to user input, providing a seamless experience. (Refer: 7.10.5)

Animation and Transitions

- ☐ Animations and transitions are used sparingly and subtly to draw attention without being distracting. (Refer: 7.10.6)
- ☐ Animations do not negatively impact the app's performance or battery life. (Refer: 7.10.6)

Content Balance

- ☐ Text on banners is concise and to the point, using compelling visuals to convey the message. (Refer: 7.10.7)
- ☐ Text is large enough to read comfortably on all screen sizes and contrasts well with the background. (Refer: 7.10.7)

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Accessibility

- ☐ Alternative text is provided for images and graphics to support screen readers and improve accessibility. (Refer: 7.10.8)
- ☐ High-contrast colors are used to ensure readability for users with visual impairments. (Refer: 7.10.8)

Frequency and Rotation

- ☐ Users are not overwhelmed with too many banners or graphics at once. A rotating carousel is used if multiple banners are needed. (Refer: 7.10.9)
- ☐ Banners and graphics are updated regularly to keep content fresh and relevant. (Refer: 7.10.9)

Localization

- ☐ Banners and graphics are localized for different regions, considering language and cultural differences. (Refer: 7.10.10)
- ☐ Content is tailored to be contextually relevant to the user's location or preferences. (Refer: 7.10.10)

Loading and Performance

- ☐ Images and graphics are optimized for fast loading times without compromising quality. (Refer: 7.10.11)
- ☐ Lazy loading is implemented for images that are not immediately visible to improve initial load times. (Refer: 7.10.11)

Notifications and Alerts

- ☐ Banner notifications and alerts are non-intrusive and can be easily dismissed by users. (Refer: 7.10.12)
- ☐ Messaging in alert banners is clear and concise, quickly conveying important information. (Refer: 7.10.12)

Writing and Content Quality Checklist

Clarity and Conciseness

- ☐ Simple and direct language is used to ensure that content is easy to understand, especially on smaller screens. (Refer: 7.11.1)
- ☐ Sentences and paragraphs are kept brief to maintain user engagement and facilitate quick comprehension. (Refer: 7.11.1)

User-Centered Approach

- ☐ Content is tailored to the app's target audience, considering their language proficiency, cultural background, and preferences. (Refer: 7.11.2)
- ☐ Content aligns with user needs and expectations, providing relevant information that adds value to their experience. (Refer: 7.11.2)

Brand Voice and Tone

- ☐ A consistent brand voice is maintained across all content, reflecting the app's personality and values. (Refer: 7.11.3)
- ☐ The tone of voice is adjusted based on the context and purpose of the content (e.g., formal for legal notices, friendly for user interactions). (Refer: 7.11.3)

Information Hierarchy

- ☐ Content is organized hierarchically with clear headings, subheadings, and bullet points to facilitate scanning and navigation. (Refer: 7.11.4)
- ☐ Important information is highlighted prominently, ensuring that critical details stand out for users. (Refer: 7.11.4)

Grammar and Mechanics

- ☐ Grammatical correctness is ensured in all written content to enhance professionalism and credibility. (Refer: 7.11.5)
- ☐ Content is reviewed for spelling errors, typos, and punctuation mistakes before publication to maintain quality standards. (Refer: 7.11.5)

Visual and Textual Balance

- ☐ Visuals (e.g., icons, images) are used alongside text to enhance understanding and engagement, especially in instructional or explanatory content. (Refer: 7.11.6)
- ☐ Dense blocks of text are avoided; content is broken into smaller paragraphs, and whitespace is utilized for readability. (Refer: 7.11.6)

Contextual Guidance

- ☐ Clear instructions and guidance are provided within the app to help users navigate features and functionalities effectively. (Refer: 7.11.7)
- ☐ Accessible help sections or FAQs are included to address common user queries and support self-service information retrieval. (Refer: 7.11.7)

Accessibility Considerations

- ☐ Accessibility points (e.g., WCAG) are adhered to, ensuring content is accessible to users with disabilities, including screen reader compatibility and text resizing capabilities. (Refer: 7.11.8)

- ☐ Descriptive alternative text is provided for images and non-text content to accommodate users who rely on assistive technologies. (Refer: 7.11.8)

Content Updates and Maintenance

- ☐ Content is kept up-to-date with accurate information, reflecting changes in app features, policies, or external factors. (Refer: 7.11.9)
- ☐ User feedback and analytics are incorporated to refine content quality and relevance over time, addressing user needs and preferences. (Refer: 7.11.9)

Performance Optimization

- ☐ Content delivery is optimized to minimize loading times and improve overall app performance, particularly for users with slower network connections. (Refer: 7.11.10)

Macro & Micro Interactions and Animations

Micro Interactions

Button States

- ☐ Buttons provide visual feedback (hover, active, disabled states) to indicate their status and improve user interaction. . (Refer: 7.12.1)
- ☐ Subtle animations are used for button clicks to provide a responsive feel. (Refer: 7.12.1)

Input Field Interactions

- ☐ Form fields are highlighted when in focus to guide the user. (Refer: 7.12.1)
- ☐ Real-time validation and clear error messages are provided for incorrect entries. (Refer: 7.12.1)
- ☐ Informative placeholder text is used to guide users on the expected input.(Refer: 7.12.1)

Tooltips and Help Icons

- ☐ Tooltips appear on hover or tap to provide additional information without cluttering the interface. (Refer: 7.12.1)
- ☐ Tooltip text is kept concise and relevant to the task at hand. (Refer: 7.12.1)

Loading Indicators

- ☐ Progress bars or spinners are used to indicate ongoing processes, reducing user frustration during wait times. (Refer: 7.12.1)
- ☐ Skeleton loading screens are implemented for content-heavy pages to give users a visual cue that content is being loaded and to improve perceived performance. (Refer: 7.12.1)

- ☐ If the process takes longer, textual updates are provided to keep users informed. (Refer: 7.12.1)

Notifications and Alerts

- ☐ Notifications are noticeable but not intrusive, appearing in a consistent location. (Refer: 7.12.1)
- ☐ Relevant actions are included within notifications for quick user response. (Refer: 7.12.1)

Interactive Feedback

- ☐ Confirmation messages are provided for actions like form submissions or setting changes. (Refer: 7.12.1)
- ☐ Users are allowed to undo recent actions to improve error tolerance. (Refer: 7.12.1)

Macro Interactions

Navigation Flow

- ☐ A clear and logical navigation structure is designed to be easy to follow. (Refer: 7.12.2)
- ☐ Consistency in navigation elements is maintained across the website or app to avoid confusion. (Refer: 7.12.2)
- ☐ Breadcrumbs are used to help users understand their location within the site hierarchy. (Refer: 7.12.2)

User Onboarding

- ☐ Step-by-step onboarding guides are provided for new users to familiarize them with the website or app. (Refer: 7.12.2)
- ☐ Interactive tutorials are used to demonstrate key features and functionalities. (Refer: 7.12.2)

Page Transitions

- ☐ Smooth and fast page transitions are ensured to maintain user engagement. (Refer: 7.12.2)
- ☐ Consistent animations are used to create a cohesive user experience. (Refer: 7.12.2)

Form Submission

- ☐ Multi-step processes with a progress indicator are used for long forms to make them more manageable. (Refer: 7.12.2)
- ☐ Users are allowed to save their progress and resume later if the form is extensive. (Refer: 7.12.2)

Content Loading

- ☐ Lazy loading is implemented for content-heavy pages to improve performance and user experience. (Refer: 7.12.2)
- ☐ Essential content is preloaded to ensure quick access for users. (Refer: 7.12.2)

Interactive Elements

- ☐ Expandable sections or accordions are used for secondary information, keeping the primary content clean and focused. (Refer: 7.12.2)
- ☐ Interactive maps are incorporated for location-based services or information. (Refer: 7.12.2)

User Feedback Mechanisms

- ☐ Surveys and polls are used to gather user feedback on their experience and areas for improvement. (Refer: 7.12.2)
- ☐ Easy access to feedback forms is provided to report issues or suggest enhancements. (Refer: 7.12.2)

Accessibility Considerations

- ☐ All interactive elements are accessible via keyboard navigation. (Refer: 7.12.2)
- ☐ ARIA landmarks and roles are implemented to enhance compatibility with screen readers. (Refer: 7.12.2)

Help, Feedback, and Error Tolerance Checklist

Comprehensive Help System

- ☐ A dedicated help center is included within the app, offering FAQs, tutorials, and a knowledge base. (Refer: 7.13.1)
- ☐ Context-sensitive help is provided, offering relevant information based on the user's current activity or screen. (Refer: 7.13.1)
- ☐ A searchable database is implemented where users can quickly find answers to their queries. (Refer: 7.13.1)

User Feedback Mechanisms

- ☐ Easy-to-access feedback forms are included, allowing users to report issues, suggest features, or provide general comments. (Refer: 7.13.2)
- ☐ Short surveys or polls are used to gather user opinions on specific aspects of the app. (Refer: 7.13.2)
- ☐ Options are provided for users to contact customer support directly via email, chat, or phone for more complex issues. (Refer: 7.13.2)

Error Prevention and Handling

- ☐ Real-time validation is implemented for data entry fields to prevent errors before they occur.(Refer: 7.13.3)
- ☐ Clear and concise error messages are displayed, explaining what went wrong and how the user can fix it.(Refer: 7.13.3)
- ☐ Users are allowed to undo actions or revert to a previous state to correct mistakes without severe consequences.(Refer: 7.13.3)

User Guidance and Onboarding

- ☐ Interactive tutorials or guided walkthroughs are provided for new users to help them understand key features and functionalities.(Refer: 7.13.4)
- ☐ Tooltips and hints are used to guide users through complex processes or unfamiliar features.(Refer: 7.13.4)
- ☐ Progress indicators are shown for multi-step processes, keeping users informed about their progress and what steps remain.(Refer: 7.13.4)

Feedback Acknowledgement and Follow-Up

- ☐ Receipt of user feedback is acknowledged immediately, reassuring users that their input is valued.(Refer: 7.13.5)
- ☐ Users are kept informed about the status of their feedback or reported issues, especially if it involves bug fixes or feature requests.(Refer: 7.13.5)
- ☐ Follow-up communication is provided to users when their feedback has led to changes or improvements in the app.(Refer: 7.13.5)

Error Recovery and Tolerance

- ☐ Auto-save features are implemented to prevent data loss in case of app crashes or unexpected shutdowns.(Refer: 7.13.6)
- ☐ Easy recovery options are provided for users to restore lost data or continue interrupted tasks.(Refer: 7.13.6)
- ☐ The app continues to function at a basic level even if certain features fail or encounter errors.(Refer: 7.13.6)

User Empowerment

- ☐ Self-service tools like a knowledge base are provided to empower users to resolve common issues independently.(Refer: 7.13.7)
- ☐ Users are educated on best practices for using the app through tips, articles, and video tutorials.(Refer: 7.13.7)

Accessibility in Help and Feedback

- ☐ All help and feedback features are accessible to users with disabilities, adhering to accessibility standards (e.g., WCAG).(Refer: 7.13.8)

- ☐ Help and feedback resources are offered in multiple languages to cater to a diverse user base.(Refer: 7.13.8)

Performance Monitoring and Reporting

- ☐ Error reporting tools are integrated to automatically capture and report app crashes or errors.(Refer: 7.13.9)
- ☐ Analytics are used to monitor user interactions with help and feedback features, identifying areas for improvement.(Refer: 7.13.9)
- ☐ Users are allowed to report bugs or issues directly within the app, simplifying the error reporting process.(Refer: 7.13.9)

Government Service Integration Checklist

Identifying Relevant Services

- ☐ Relevant government services like DigiLocker, myScheme, Bhashini, and Service APIs are identified based on your product's objectives and user needs.(Refer: 7.14.1)
- ☐ Clear use cases are defined for each integrated service, ensuring they add value to the app and enhance user experience.(Refer: 7.14.1)

API Integration

- ☐ Official API documentation for each government service is followed meticulously, adhering to integration points and best practices.(Refer: 7.14.2)

Security and Compliance

- ☐ All data exchanged with government services is encrypted and complies with relevant data protection regulations.(Refer: 7.14.3)
- ☐ Explicit user consent is obtained before accessing or sharing their data with integrated services, with a clear explanation of the purpose and benefits.(Refer: 7.14.3)

User Interface and Experience

- ☐ The user interface is designed to seamlessly incorporate features from integrated services, maintaining a consistent look and feel.(Refer: 7.14.4)
- ☐ Navigation elements for accessing integrated services are intuitive and consistent with the overall product design.(Refer: 7.14.4)
- ☐ Onboarding materials, including step-by-step guides or tutorials, are provided to educate users on the benefits and usage of integrated services.(Refer: 7.14.4)

Accessibility and Localization

- ☐ Bhashini is leveraged to offer multilingual support, making the app accessible to users in different languages.(Refer: 7.14.5)
- ☐ Integrated services comply with accessibility standards (e.g., WCAG), ensuring support for users with disabilities.(Refer: 7.14.5)

Transparency and Trust

- ☐ The role and benefits of each integrated service are clearly communicated to users, including how their data will be used and protected.(Refer: 7.14.6)
- ☐ Users are informed about updates or changes to integrated services, including new features, security updates, and maintenance schedules.(Refer: 7.14.6)

Support and Documentation

- ☐ Comprehensive help resources and documentation are provided for integrated services, assisting users with common issues and questions.(Refer: 7.14.7)

Scalability and Future Integration

- ☐ The product architecture is designed to support the addition of new services and scalability as user demand grows.(Refer: 7.14.8)
- ☐ Plans are in place for future integrations, staying updated with emerging government services and APIs to expand the product's functionality over time.(Refer: 7.14.8)

Offline Functionality Checklist

Identify Core Offline Features

- ☐ Core features and functionalities essential for offline access, such as viewing previously loaded content, filling out forms, and saving drafts, are identified.(Refer: 7.15.1)
- ☐ User needs and scenarios where offline access is critical, particularly for users in areas with poor internet connectivity, are understood and addressed.(Refer: 7.15.1)

Data Synchronization

- ☐ Automatic synchronization is implemented to ensure that data is synced seamlessly when the device regains internet connectivity, maintaining data integrity and preventing duplication.(Refer: 7.15.2)
- ☐ A manual sync option is provided, allowing users to refresh data on demand when they have internet access.(Refer: 7.15.2)

User Notifications and Alerts

- ☐ Users are informed about their current connectivity status (online or offline) through clear indicators.(Refer: 7.15.3)
- ☐ Users receive notifications when data synchronization is complete or if there are any issues with syncing data.(Refer: 7.15.3)

Seamless User Experience

- ☐ The user interface remains consistent whether the product is online or offline, minimizing disruptions to the user experience.(Refer: 7.15.4)
- ☐ Meaningful fallback content, such as cached data or placeholders, is provided when the app is offline, ensuring users can still navigate and use the app.(Refer: 7.15.4)

Error Handling and Feedback

- ☐ Clear and helpful error messages are displayed when users attempt actions that require internet connectivity while offline.(Refer: 7.15.5)
- ☐ A retry mechanism is implemented for failed operations once the connection is restored, requiring minimal user intervention.(Refer: 7.15.5)

Testing and Validation

- ☐ The app is thoroughly tested in both online and offline modes to identify and resolve any issues related to offline functionality.(Refer: 7.15.6)

Documentation and Support

- ☐ Clear documentation within the product explains how to use offline features, including steps to manually sync data and troubleshoot common issues.(Refer: 7.15.7)
- ☐ Support channels are available for users to report issues or seek help related to offline functionality.(Refer: 7.15.7)

Data Visualizations and Infographics Checklist

General Principles

- ☐ Each data visualization conveys a clear and specific message, avoiding clutter and unnecessary elements.(Refer: 7.16.1)
- ☐ Simple and straightforward design elements are used to prevent overwhelming users.(Refer: 7.16.1)

Accessibility

- ☐ Text alternatives for charts and graphs are provided to ensure accessibility for users with visual impairments.(Refer: 7.16.1)

- ☐ High-contrast colors are used to make data points and labels easy to distinguish.(Refer: 7.16.1)
- ☐ Data visualizations are made compatible with screen readers by using appropriate ARIA labels and descriptions.(Refer: 7.16.1)

Consistency

- ☐ A consistent color scheme and font style are applied across all visualizations to maintain a uniform look and feel.(Refer: 7.16.1)
- ☐ Consistent scales, legends, and labels are applied across similar types of visualizations to facilitate easy data comparison.(Refer: 7.16.1)

Interactivity

- ☐ Interactive elements, such as tooltips, hover effects, and clickable areas, are included to allow users to explore the data in more detail.(Refer: 7.16.1)
- ☐ Visualizations are responsive and adapt well to different screen sizes and devices.(Refer: 7.16.1)

Context and Interpretation

- ☐ Descriptive titles and labels are used to provide context for the data being presented.(Refer: 7.16.1)
- ☐ Explanatory text or captions are included to help users interpret the data accurately.(Refer: 7.16.1)

Performance Optimization

Efficient Loading

- ☐ You have minimized HTTP requests by combining files using tools like webpack or Gulp to bundle CSS and JavaScript files..(Refer: 7.17.1)
- ☐ The system implements lazy loading for images, videos, and other large assets to improve initial load times..(Refer: 7.17.1)
- ☐ JavaScript files are loaded asynchronously to prevent blocking the rendering of page content..(Refer: 7.17.1)

Image Optimization

- ☐ Responsive images techniques such as “srcset” are used to serve different image sizes based on the user's device..(Refer: 7.17.1)
- ☐ Images are compressed using tools like TinyPNG or ImageOptim to reduce file sizes without compromising quality.(Refer: 7.17.1)
- ☐ Next-gen image formats like WebP are used for better compression and quality.(Refer: 7.17.1)

Caching Strategies

- ☐ The system sets appropriate caching headers to leverage browser caching for static assets.(Refer: 7.17.1)
- ☐ A CDN is used to distribute static content across multiple servers, reducing latency and improving load times.(Refer: 7.17.1)

Code Optimization

- ☐ CSS, JavaScript, and HTML files are minified to reduce file sizes and improve load times.(Refer: 7.17.1)
- ☐ Unused CSS and JavaScript are removed using tools like PurifyCSS to decrease file sizes.(Refer: 7.17.1)
- ☐ Critical CSS is inlined to render content above the fold faster, and non-critical CSS is deferred.(Refer: 7.17.1)

Database Optimization

- ☐ Database queries are optimized to reduce load times and improve performance.(Refer: 7.17.1)
- ☐ Appropriate indexing is used to speed up query performance.(Refer: 7.17.1)
- ☐ Query caching is implemented to reduce the load on the database server.(Refer: 7.17.1)

Server-Side Optimization

- ☐ HTTP/2 is enabled to improve performance through multiplexing, header compression, and server push.(Refer: 7.17.1)
- ☐ Gzip or Brotli compression is used to reduce the size of transmitted files.(Refer: 7.17.1)
- ☐ Load balancing is implemented to distribute traffic across multiple servers, ensuring reliability and faster load times.(Refer: 7.17.1)

Mobile Optimization

- ☐ The website or app is fully responsive and provides a seamless experience across different devices and screen sizes.(Refer: 7.17.1)
- ☐ Touch interactions are optimized for mobile users by using appropriate touch targets and gestures.(Refer: 7.17.1)

Progressive Web Apps (PWAs)

- ☐ The system implements Service Workers to enable offline access and improve load times for repeat visits.(Refer: 7.17.1)
- ☐ The App Shell model is used to load critical resources quickly and provide a native-like experience.(Refer: 7.17.1)

Performance Monitoring

- ☐ Real-time monitoring tools like Google Analytics, Firebase, or Microsoft Clarity are used to monitor real-time performance and identify bottlenecks.(Refer: 7.17.2)
- ☐ User feedback on performance issues is collected and used to guide optimization efforts.(Refer: 7.17.2)

Error Monitoring

- ☐ Error logging tools like Sentry or LogRocket are implemented to track and resolve errors in real-time.(Refer: 7.17.2)
- ☐ Crash reporting tools are used to identify and fix issues that cause crashes or instability in apps.(Refer: 7.17.2)

Content Delivery

- ☐ The system uses the `<link rel="preload">` tag to preload key resources and improve page load times.(Refer: 7.17.2)
- ☐ Critical content is prioritized and loaded first, while secondary content can be loaded asynchronously.(Refer: 7.17.2)

User Experience

- ☐ Animations are smooth and do not cause jank or performance issues.(Refer: 7.17.2)
- ☐ Feedback mechanisms are provided to let users know when actions are being processed, reducing perceived wait times.(Refer: 7.17.2)

Analytics

Define Analytics Objectives

- ☐ The system has clear goals established for analytics (e.g., user behavior tracking, feature usage, user engagement, app performance).(Refer: 7.18.1)
- ☐ The system has identified key performance indicators (KPIs) relevant to the app's objectives (e.g., active users, session duration, retention rates).(Refer: 7.18.1)

Select Appropriate Analytics Tools

- ☐ You have added a tool for comprehensive app analytics, providing insights into user behavior, demographics, and engagement.(Refer: 7.18.2)
- ☐ You have implemented any Analytics tool for deep integration for tracking user interactions and app performance.(Refer: 7.18.2)
- ☐ You have added a tool to visualize user interactions through heatmaps and session recordings, helping identify UX issues.(Refer: 7.18.2)

Data Collection Strategy

- ☐ The system has pre-defined and implemented tracking for key events that represent significant user actions (e.g., button clicks, form submissions).(Refer: 7.18.3)
- ☐ The system segments users based on demographics, behavior, and usage patterns to gain deeper insights.(Refer: 7.18.3)

Privacy and Compliance

- ☐ The system ensures compliance with data privacy regulations (e.g., GDPR, CCPA) by obtaining user consent for data collection..(Refer: 7.18.4)
- ☐ The system anonymizes user data to protect privacy and maintain trust while still gathering useful insights..(Refer: 7.18.4)
- ☐ You have clearly communicated your data collection practices and privacy policy to users within the app..(Refer: 7.18.4)

Real-Time Processing

- ☐ The system utilizes real-time analytics to monitor immediate user interactions and app performance, allowing for quick response to issues..(Refer: 7.18.5)

Performance and Error Monitoring

- ☐ You have integrated crash reporting tools (e.g., Firebase Crashlytics) to track and analyze app crashes and performance issues..(Refer: 7.18.6)
- ☐ The system analyzes user flows to identify drop-offs and optimize the user journey, enhancing overall app performance..(Refer: 7.18.6)

Dashboard and Reporting

- ☐ You have created custom dashboards to visualize key metrics and KPIs, making it easier to monitor and analyze data..(Refer: 7.18.7)
- ☐ You generate regular reports (e.g., weekly, monthly) to review performance trends and make informed decisions..(Refer: 7.18.7)

Actionable Insights

- ☐ The system focuses on interpreting data to derive actionable insights that can drive improvements in app design, features, and user experience.(Refer: 7.18.8)
- ☐ You conduct A/B testing to experiment with different features or designs and measure their impact on user behavior and engagement.(Refer: 7.18.8)

Training and Expertise

- ☐ You ensure that your team is well-trained in using analytics tools and interpreting data to derive meaningful insights.(Refer: 7.18.9)

- ☐ You have considered consulting with analytics experts to optimize your data collection and analysis strategies.(Refer: 7.18.9)

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Website Compliances

Trust & Credibility

- ☐ Has SSL encryption been implemented (indicated by https:// protocol in the URL)?
(Refer: 6.1.1)
- ☐ Is ownership information displayed on the webpage? (Refer: 6.1.2)
- ☐ Has the webpage clearly provided contact details? (example: email address or phone number) (Refer: 6.1.2)
- ☐ Has consent been obtained before collecting or storing user data? (example: storing cookies consent) (Refer: 6.1.6)
- ☐ Have been informed about what data is being collected and how it will be used? (Refer: 6.1.6)
- ☐ Is the National Emblem displayed prominently on the webpage? (exact placement: header section) (Refer: 6.1.4)
- ☐ Are trusted login systems (e.g., Meri Pehchan) implemented on the webpage? (Refer: 6.1.5)
- ☐ Is there a mechanism for grievance redressal? (Refer: 6.1.8)
- ☐ Does the webpage allow to track the status of their complaints? (Refer: 6.1.8)
- ☐ Does the webpage communicate resolutions to users? (Refer: 6.1.8)
- ☐ Is there a system in place for leaving feedback, reviews and ratings? (Refer: 6.1.9)
- ☐ Is there a notification informing about redirection when using external links? (Refer: 6.1.12)
- ☐ Are both the Privacy Policy and Terms and Conditions available on the webpage? (Refer: 6.1.3)
- ☐ Does the webpage include a clearly visible "Contact Us" ? (Refer: 6.3.16)

Mobile First Approach

- ☐ Is the core content or primary functionality accessible on the mobile screen? (Refer: 6.2.1)
- ☐ Are flexible grids, fluid images, and media queries implemented for dynamic layouts? (Refer: 6.2.1)
- ☐ Are touch interactions & targets with appropriately sized buttons designed? (example: 42x42px icon button) (Refer: 6.2.1)

- ☐ Is sufficient spacing provided between interactive elements to prevent accidental taps? (Refer: 6.2.1)
- ☐ Are mobile-friendly navigation patterns used (e.g., hamburger menus, bottom navigation bars)? (Refer: 6.2.1)
- ☐ Has loading time been minimised by using efficient coding practices? (example: ideal load time is under 2 seconds) (Refer: 6.2.1)
- ☐ Has lazy loading been implemented for images and other resources? (Refer: 6.2.1)
- ☐ Can users expand sections for additional details? (Refer: 6.2.2)
- ☐ Is language selection list easily accessible on mobile devices? (Refer: 6.2.2)
- ☐ Are validation and error handling implemented to guide users through form completion? (Refer: 6.2.4)

Homepage

- ☐ Does the homepage design stand out from other pages, capturing user attention immediately? (Refer: 6.3.1)
- ☐ Is the webpage design professional, leaving a positive first impression? (example: clean - improved whitespacing, minimal visual elements) (Refer: 6.2.1)
- ☐ Does the webpage establish a clear visual hierarchy ? (example: arranging elements based on their importance) (Refer: 6.3.21)
- ☐ Is valuable content presented on the webpage or within one click to keep users engaged? (Refer: 6.3.5)
- ☐ Does the webpage reveal information progressively to avoid overwhelming users with too much content at once? (Refer: 6.2.2)
- ☐ Are the most primary task clearly highlighted on the webpage for easy identification and access? (example: CTA on the hero section or in the header) (Refer: 7.5.7)
- ☐ Does the webpage includes overview of internal pages to engage users effectively? For example: Entry points to the About Us, Dashboard, etc.
- ☐ Does the webpage include a list of recently featured items and a link to archival content to keep content dynamic and accessible? (Example: Latest Updates) (Refer: 6.3.9)
- ☐ Are content such as text, image, illustrations, icons etc used to convey meaningful context rather than for decoration? (Refer: 6.3.19)
- ☐ Does the webpage design motivate users to browse and explore further? (Refer: 6.3.18)

- ☐ Does the webpage clearly communicate the site's value proposition ? (example: tagline or welcome message) (Refer: 6.3.10)
- ☐ The webpage uses a relevant and descriptive title (including ARIA labels and alt text where applicable) and places relevant keywords at the beginning of webpage links to enhance search engine visibility and improve clarity. (Refer: 7.16.1)
- ☐ Is organisational or departmental information grouped into a dedicated section ? (example: About us overview section on webpage)
- ☐ Does the webpage URL clearly reflect the website's purpose ? (Refer: 6.3.10)
- ☐ Is content sharing enabled through social media handles ? (Refer: 7.1.6)
- ☐ Are branding elements consistently maintained on the webpage across all device types and screen sizes? (example: logos, colours, and fonts) (Refer: 6.2.3)

About Us

- ☐ Is the purpose of the webpage, such as its mission, vision, and values, clearly defined? (Refer: 6.4.1)
- ☐ Does the webpage provide a detailed overview of the organisation or entity behind the webpage? (Refer: 6.4.2)
- ☐ Are the core values of the organisation clearly outlined to convey the guiding principles behind its actions and decisions? (Refer: 6.4.9)
- ☐ Does the webpage introduce key leaders and team members, providing their roles and brief bios (such as in a 'Who's Who' section)? (Refer: 6.4.3)
- ☐ Are significant achievements and milestones highlighted?
- ☐ Is a brief history of the organisation included? (Refer: 6.4.8)
- ☐ Are relevant images or videos of the team or office used to add a personal touch and help users connect with the organisation visually? (Refer: 6.4.7)
- ☐ Are links to related sections, such as careers or press releases, provided to encourage users to explore other relevant areas of the website? (Refer: 6.4.12)

Page Layout and Visual Design

- ☐ Does the webpage layout follow recognized scanning patterns ? (example: F-shaped or Z-shaped pattern) (Refer: 6.3.24)
- ☐ Is the webpage content easy to scan without any cognitive overload ? (Refer: 7.11.4)

- ☐ Is the screen density suitable for the target users and the activities they will be performing to enhance readability and usability? (Refer: 6.5.1)
- ☐ Are the fonts and their sizes legible and easy to read to ensure accessibility? (Refer: 6.5.18)
- ☐ Does the layout guide the visitor focus on the next action or step to ensure a smooth and intuitive user journey? (Refer: 6.5.3)
- ☐ Does every page have a clear visual starting point to guide the visitor navigation? (Refer: 6.5.12)
- ☐ Is the layout consistent on all pages of the website and mobile application to provide a cohesive experience? (Refer: 6.5.13)
- ☐ Does important information, such as commonly used features, appear on the first screen of all pages (above the first section) to improve efficiency? (Refer: 6.5.3)
- ☐ Are clickable elements clearly recognizable as interactive? (example: buttons) (Refer: 6.5.4)
- ☐ Do non-clickable items avoid visual attributes that may falsely suggest interactivity? (Refer: 6.5.5)
- ☐ Are interactive components (like radio buttons and checkboxes) used appropriately, and do non-clickable items avoid visual styles that may falsely suggest interactivity? (Refer: 6.5.6)
- ☐ Are hyperlinked texts readily identifiable? (example: underlining or color) (Refer: 6.5.7)
- ☐ Are icons and graphics standard and intuitive? (i.e., recognizable and commonly understood) (Refer: 6.5.11)
- ☐ Is the same font style used throughout the webpage? (Refer: 6.5.8)
- ☐ Are colors used to organize and group items on the page to enhance visual hierarchy? (Refer: 6.5.19)
- ☐ Is the color scheme visually harmonious, with an emphasis on avoiding complicated or distracting backgrounds, and does it comply with the color ratios of WCAG guidelines to ensure accessibility? (Refer: 6.5.24)
- ☐ Are the webpage print-friendly or do they have a separate printable version available for convenience? (Refer: 6.5.14)
- ☐ Is italicized text avoided, and is underlining reserved solely for hyperlinked texts? (Refer: 6.5.15)

- ☐ Are the pages designed using an underlying grid system to ensure proper alignment of items and widgets both horizontally and vertically for a structured layout? (Refer: 6.5.22)
- ☐ Are related information and functions grouped together so that each group can be scanned in a single go to enhance efficiency? (Refer: 6.5.29)
- ☐ Is the webpage well-structured such as section by section to assist in locating each element? (Refer: 6.5.30)
- ☐ Is consistency in the placement of the organization's logo on every page maintained ? (Refer: 6.5.26)
- ☐ Does clicking on the logo lead to the homepage? (Refer: 6.5.26)
- ☐ Are attention-grabbing elements (such as animation, bright colors, and size differences) used only when necessary to avoid overwhelming? (Refer: 6.5.27)
- ☐ Does the UI components align with the overall theme and branding of the webpage? (Refer: 7.3.9)
- ☐ Are graphs presented with access to the underlying data, such as numeric values or annotations on bar charts?

Responsiveness

- ☐ Are branding elements such as logos, colours, and fonts consistently applied across all screen sizes of the webpage? (Refer: 6.2.3)
- ☐ Are touch-friendly elements designed with appropriate spacing to ensure buttons and links are easy to tap on touchscreens? (Refer: 6.2.1)
- ☐ Are images and media elements optimized for different platforms and screens, remaining flexible and resizing within their containers to maintain visual integrity and prevent layout issues (Refer: 6.6.2)
- ☐ Is performance optimized for mobile devices by minimizing file sizes and using efficient coding practices? (Refer: 6.6.14)
- ☐ Are responsive containers used to manage layout and maintain a consistent structure? (Refer: 6.6.5)
- ☐ Is a flexible, adaptive grid layout implemented to provide a structured design that adjusts based on screen size and device capabilities? (Refer: 6.6.6)
- ☐ Is text size & line height adjusted for readability on different devices to ensure content is easy to read? (Refer: 6.6.8)
- ☐ Are CSS media queries used to apply different styles for different screen sizes? (Refer: 6.6.12)

- ☐ Are fluid layouts created using relative units like percentages to adjust smoothly to different screen sizes? (Refer: 6.6.13)
- ☐ Is the viewport meta tag included in the HTML to control the layout on mobile browsers? (Refer: 6.6.7)

Exploration Without Login

- ☐ Is a significant portion of the webpage content accessible? (example: explore content without login) (Refer: 7.1.1)
- ☐ Is teaser content or a preview of premium features provided on the webpage? (example: explore content without login) (Refer: 7.1.1)
- ☐ Are interactive features (e.g., applying, commenting) limited for non-logged-in users to maintain simplicity and security? (Refer: 7.1.6)
- ☐ Is the single sign-on (SSO) integrated into the product to enable seamless single sign-on (SSO) capabilities? (Refer: 7.2.1)
- ☐ Is offline access to previously viewed content or cached information provided where feasible? (Refer: 7.1.8)
- ☐ Are users prompted to create an account or log in when they attempt to access restricted features or content? (Refer: 7.1.9)

Login and Signup Guidelines

- ☐ Is the single sign-on (SSO) API integrated into the product to enable seamless capabilities? (Refer: 7.14.2)
- ☐ Is the SSO integration documentation followed to ensure proper implementation and compliance with security standards? (Refer: 7.2.1)
- ☐ Are the login/sign-in button placed prominently on every webpage of the website (ideally placed at navbar) to ensure easy access to login page? (Refer: 7.2.2)
- ☐ Is official SSO branding, including logos, used consistently everywhere ? (Refer: 7.10.2)
- ☐ Does the authentication process adhere to the highest security standards to protect user data? (such as encryption and hashing for stored credentials, CAPTCHA for login page and multi-factor authentication) (Refer: 7.2.3)
- ☐ Are data privacy policies and terms of service clearly communicated, detailing how data will be used and protected? (Refer: 7.2.3)
- ☐ Is explicit consent obtained before initiating the SSO process, with clear explanations of data access and usage? (Refer: 6.1.6)

- ☐ Are existing website accounts seamlessly linkable with Single Sign-On (SSO) credentials (e.g., Meri Pehchan), ensuring a smooth transition that preserves user data, preferences, and continuity in the login process? (Refer: 7.6.1)
- ☐ Is the user interface (UI) designed intuitively to simplify the login and signup process by minimizing steps or information required to login/signup? (Refer: 7.2.7)
- ☐ Is thorough testing of the Login/Signup methods and SSO (e.g., Meri Pehchan) integration conducted to ensure proper functionality under various conditions? For example., OTP Validation, Server Issues.
- ☐ Is the integration kept up-to-date with the latest SSO (e.g., Meri Pehchan) API updates and security patches?
- ☐ Are trust indicators, such as security badges and endorsements, used to reassure users about the safety and legitimacy of the login process? (Refer: 7.2.9)

Search

- ☐ Is the search bar persistently visible and prominently placed (typically in the header) to ensure easy and consistent access to search functionality across the website? (Refer: 7.3.1)
- ☐ Does the system provide search auto-suggestions as users type to improve search efficiency? (Refer: 6.3.23)
- ☐ Is it indicated if the search is global (e.g., search throughout pages) or local (e.g., section or page specific)? (Refer: 7.3.3)
- ☐ Can users filter search results or sorting in search result to refine their search? (Refer: 7.3.4)
- ☐ Are auto complete search suggestions provided as users type to help them find content faster? (e.g., auto-fill suggestion) (Refer: 7.3.5)
- ☐ Are search results relevant and sorted by importance using algorithms? (Refer: 7.3.6)
- ☐ Is voice search functionality integrated for hands-free searching? (Refer: 7.3.7)
- ☐ Do search results load quickly, with loading indicators to show processing? (Refer: 7.3.8)
- ☐ Is lazy loading implemented for results not immediately visible to improve load times? (Refer: 7.3.8)

Personalisation

- ☐ Is user data used with consent to personalise content recommendations, notifications, and features tailored to individual preferences and behaviour? (Refer: 7.4.1)
- ☐ Does the collection of personal information adhere to government Data Protection and other relevant regulations? (Refer: 7.4.1)
- ☐ Are various theme options, such as light mode and dark mode, provided to accommodate user preferences and enhance visual comfort? (Refer: 7.4.2)
- ☐ Can users adjust font sizes, styles, and layout settings to optimise readability and usability according to individual needs? (Refer: 7.4.2)
- ☐ Are algorithms or user input used to suggest relevant content, products, or services based on user interests and past interactions? (Refer: 7.4.3)
- ☐ Are location-based services offered to provide relevant information based on geographic location? (Refer: 7.4.3)
- ☐ Can users customise notification preferences, such as frequency and type, to receive relevant updates without overwhelming notifications? (e.g., mediums like SMS or Email) (Refer: 7.4.5)
- ☐ Do intelligent notification systems prioritise important messages and adapt based on user interactions and preferences? (e.g., real-time alerts) (Refer: 7.4.5)
- ☐ Is personalised content and features updated in real-time to reflect changes in user preferences or behaviours? (Refer: 7.4.70)

Task Orientation

- ☐ Is irrelevant and unnecessary information avoided to keep the user focused? (e.g., context specific information and fulfill primary goal of website) (Refer: 7.5.1)
- ☐ Only relevant scripts, videos, audio files, graphics, and images are used but not overused? (Refer: 7.5.1)
- ☐ Are unnecessary registrations avoided, and are primary tasks like availing services or applying for service made clear and distraction-free? (Refer: 7.5.1)
- ☐ Are user tasks optimized by minimizing the number of screens and interaction steps (clicks/taps) required, thereby streamlining the journey, reducing cognitive load, and enhancing efficiency? (Refer: 7.5.2)
- ☐ Does the system let people do things in the same order they would normally do them in real life ?

- ☐ Are automated actions (e.g., autofill state and district inputfields using pincode) implemented to reduce manual effort? (Refer: 7.5.3)
- ☐ Are users allowed to compare items easily when necessary to aid decision-making? (Refer: 7.5.3)
- ☐ Are important & frequently used features positioned at easy accessibly area of the webpage? (e.g., sticky accessibility widget at the bottom-right of the viewport) Link for Accessibility Widget. (Refer: 7.5.4)
- ☐ Are users not required to enter the same information repeatedly, saving time and effort? (Refer: 7.5.4)
- ☐ Are all necessary steps for multi-step tasks displayed, with progress feedback provided to keep informed? (Refer: 7.5.4)
- ☐ Are users not required to remember information as they move between sections, supporting recognition over recall? (Refer: 7.5.5)
- ☐ Are easily understood metaphors and relevant cultural conventions for data formats used to improve comprehension? (Refer: 7.5.5)
- ☐ Are the internal workings of the software hidden to avoid confusion? (example: technical jargons avoided to showcase to the users) (Refer: 7.5.6)
- ☐ Is there a mechanism for users to come back from critical errors? (e.g. confirming form submission before submitting)
- ☐ Are common tasks made easy for without requiring external assistance? (e.g., tooltips) (Refer: 7.5.7)
- ☐ Can users resume actions from where they left off if they quit and return later, improving continuity? (Refer: 7.5.7)
- ☐ Are sorting and filtering options provided for content-heavy webpage? (Refer: 7.5.8)
- ☐ Are text & images on buttons or icons relevant to the task, ensuring clarity of action? (Refer: 7.5.8)
- ☐ Is there a message with timer before automatically logging off to avoid unintended interruptions? (Refer: 7.5.9)
- ☐ Are the needs of both novice and expert users catered to by offering detailed explanations and tours for beginners and shortcuts for advanced users? (Refer: 7.5.10)
- ☐ Are users allowed to edit any information they provide, such as delivery addresses or account details, ensuring flexibility? (Refer: 7.5.10)
- ☐ Are step-by-step onboarding guides provided for new users to familiarise them with the website? (Refer: 7.5.10)

- ☐ Are buttons used for commands and actions instead of hyperlinked text? (Refer: 7.5.5)
- ☐ Is real-time validation provided for incorrect entries? (Refer: 7.9.4)

Navigation and Information Architecture

- ☐ Are webpage titles easily accessible and recognizable to support consistent navigation? (Refer: 7.6.1)
- ☐ Does the navigation have a clear and logical hierarchy that allows users to easily understand the structure and find what they need? (Refer: 7.6.1)
- ☐ Are primary navigation elements easily accessible and clearly labeled with descriptive text (alongside icons where applicable), ensuring that categories and sections are intuitive and support clear wayfinding across the webpage? (Refer: 7.6.1)
- ☐ Are consistent navigation patterns maintained throughout the website to help users predict how to move between screens? (e.g., breadcrumbs) (Refer: 7.6.1)
- ☐ Are key navigation elements (e.g., navigation bar in the header) persistent across the main screens to provide a stable user experience? (Refer: 7.6.1)
- ☐ Are navigation elements placed in prominent location of the webpage? (example: such as at the bottom or top of the webpage) (Refer: 7.6.1)
- ☐ Are navigation elements large enough on the webpage to be clicked easily? (e.g., icon buttons should be 44x44 px) (Refer: 7.6.1)
- ☐ Is visual feedback (e.g., highlighting, colour changes) provided when navigation elements are clicked to confirm user actions? (Refer: 7.6.1)
- ☐ Are smooth transitions between screens implemented to enhance the user experience and provide a sense of continuity? (Refer: 7.6.1)
- ☐ Can users easily navigate back to the previous screen using standard gestures or a back button? (Refer: 7.6.1)
- ☐ Are breadcrumbs or similar indicators used to show the user's path and make navigation back to previous screens easier when the navigation has more than three steps? (Refer: 7.6.1)
- ☐ Is the website's information architecture structured based on user needs and behaviours, ensuring the most important content is easy to find? (Refer: 7.6.2)
- ☐ Are related content grouped logically on the webpage? (Refer: 7.6.2)
- ☐ Is the information architecture kept as shallow as possible, avoiding deep hierarchies that can confuse users? (Refer: 7.6.2)

- ☐ Is a consistent structure applied to similar sections of the webpage? (Refer: 7.6.2)
- ☐ Are multiple pathways to important content (e.g., navigation menu, search, shortcuts) provided to accommodate different user preferences? (Refer: 7.6.2)
- ☐ Is the information architecture regularly updated and refined based on user feedback and changing needs? (Refer: 7.6.2)

Lists, Filters, and Sorting

- ☐ Are list items structured logically, with concise and relevant information that avoids clutter and supports quick scanning and readability? (Refer: 7.8.1)
- ☐ Do all list items of the webpage use consistent styling ? (example: fonts, colors, and spacing) (Refer: 7.8.1)
- ☐ Are visual separators or dividers used between list items on the webpage ? (Refer: 7.8.1)
- ☐ Are list items on webpage easily clickable with sufficient spacing ? (Refer: 7.8.1)
- ☐ Is visual feedback (e.g., highlighting or colour changes) provided when a list item is clicked or selected, enhancing interactivity? (Refer: 7.8.1)
- ☐ Are efficient loading techniques, like lazy loading or infinite scroll, implemented to handle large lists without performance issues? (Refer: 7.8.1)
- ☐ Are loading indicators (e.g., spinners or progress bars) used to inform users when additional content is being loaded? (Refer: 7.8.1)
- ☐ If applicable, Are filters positioned in a prominent and easily accessible location ? (example, ribbon of chips at the top) (Refer: 7.8.1)
- ☐ Are collapsible sections for filters used to save screen space and keep the interface clean, depending on the amount of information present? (Refer: 7.8.2)
- ☐ Do filters have clear and descriptive labels, avoiding jargon to ensure users understand their choices? (Refer: 7.8.2)
- ☐ Can users select multiple filter options, providing flexibility and better control over the results? (Refer: 7.8.2)
- ☐ Are filters applied in real-time updating the list while not re-loading the whole page or with a clear action button (e.g., “Apply Filters”) to minimise waiting time? (Refer: 7.8.2)
- ☐ Is visual confirmation of active filters provided, such as highlighting selected filters or displaying a count of active filters? (Refer: 7.8.2)
- ☐ Is a clear option to reset or clear all filters included, allowing users to start fresh easily? (Refer: 7.8.2)

- ☐ If applicable, make users save their filter preferences for future use, offering convenience and a personalised experience? (Refer: 7.8.2)
- ☐ Can users create and save custom filters based on their specific needs and preferences? (Refer: 7.8.2)
- ☐ Are sorting options provided based on relevant criteria, such as date, popularity, price, or alphabetical order? (Refer: 7.8.3)
- ☐ Is a logical default sorting order set that makes sense for the majority of users? (Refer: 7.8.3)
- ☐ Can users toggle between ascending and descending order for each sorting criterion? (Refer: 7.8.3)
- ☐ Is combination sorting (e.g., sort by price and then by rating) enabled if applicable? (Refer: 7.8.3)
- ☐ Are clear icons or indicators (e.g., arrows) used to show the current sorting order? (Refer: 7.8.3)
- ☐ Is the active sorting option highlighted to provide visual feedback to the user? (Refer: 7.8.3)

Forms and Data Entry Checklist

- ☐ Are only essential fields relevant to the task or data entry process included in the webpage? (Refer: 7.9.1)
- ☐ Are steppers or multi-step navigation used to break down longer forms into manageable sections, revealing additional fields progressively? (Refer: 7.9.1)
- ☐ Are visual indicators (e.g., numbered steps, progress bars) provided to communicate the user's current position and overall progress within the form? (Refer: 7.9.3)
- ☐ Are labels positioned prominently above, beside or inside input fields in the webpage ? (Refer: 7.9.2)
- ☐ Are appropriate input types (e.g., text, number, date picker) optimised for mobile devices to streamline data entry and minimise user effort? (Refer: 7.9.2)
- ☐ Is real-time validation implemented to provide immediate feedback (e.g., error message with relevant solution) on input errors, allowing users to correct mistakes promptly? (Refer: 7.9.4)
- ☐ Are input fields and interactive elements (e.g., buttons, checkboxes) optimised for touch interactions, ensuring they are adequately sized and spaced? (Refer: 7.9.5)

- ☐ Are autofill features enabled where applicable to expedite data entry and enhance user convenience, especially for repetitive or predictable information (e.g., SIM Selection, OTP Autofill)? (Refer: 7.9.6)
- ☐ Are intelligent suggestions or predictive text provided based on user input to accelerate form completion and reduce manual effort? (Refer: 7.9.6)
- ☐ Is placeholder text used to guide for the expected input? (Refer: 7.12.1)

Banners & Graphics Checklist

- ☐ Does each banner or graphic serve a clear purpose, such as promoting a product, providing information, or guiding user actions? (Refer: 7.10.1)
- ☐ Are banners and graphics relevant to the content or context of the website section they appear in? (Refer: 7.10.1)
- ☐ Do banners and graphics maintain consistency with the website's branding, using colours, fonts, and overall style? (Refer: 7.10.2)
- ☐ Are high-resolution images and graphics used to ensure clarity and professionalism? (Refer: 7.10.2)
- ☐ Are designs visually appealing, attracting attention without being overwhelming? (Refer: 7.10.2)
- ☐ Are banners and graphics positioned in appropriate locations and do not obstruct core functionalities? (Refer: 7.10.3)
- ☐ Are banners and graphics appropriately sized for different screen sizes and resolutions, maintaining readability and usability? (Refer: 7.10.3)
- ☐ If applicable, Do banners include clear and compelling calls to action, guiding users on what to do next with CTA button placed prominently in the banner (e.g., "Apply," "Learn More")? (Refer: 7.10.4)
- ☐ Are banners and graphics interactive where applicable, allowing users to tap for more information or to perform an action? (Refer: 7.10.5)
- ☐ Are animations and transitions used subtly to draw attention without being distracting? (Refer: 7.10.6)
- ☐ Is the animation designed in a way that it does not negatively impact the website's performance or battery life? (Refer: 7.10.6)
- ☐ Is the text on banners concise, to the point, and supported by compelling visuals to effectively convey the message? (Refer: 7.10.7)
- ☐ Is text large enough to read comfortably on all screen sizes and does it contrast well with the background? (Refer: 7.10.7)

- ☐ Is alternative text provided for images and graphics to support screen readers and improve accessibility? (Refer: 7.10.8)
- ☐ Are users prevented from being overwhelmed by too many banners or graphics at once, with a rotating carousel used when multiple banners are needed? (Refer: 7.10.9)
- ☐ Are banners and graphics updated regularly to maintain fresh and relevant content? (Refer: 7.10.9)
- ☐ Are banners and graphics localised appropriately for different regions, considering language and cultural differences? (Refer: 7.10.10)
- ☐ Is the content tailored to be contextually relevant to the user's location or preferences? (Refer: 7.10.10)
- ☐ Are images and graphics optimised for fast loading times without compromising quality? (Refer: 7.10.11)
- ☐ Is lazy loading implemented for images that are not immediately visible to improve initial load times? (Refer: 7.10.11)
- ☐ Are banner notifications clear, concise, non-intrusive, and easily dismissible while effectively conveying important information? (Refer: 7.10.12)

Writing and Content Quality Checklist

- ☐ Is the content of the webpage organised into categories to explore content easily? (example: section wise content) (Refer: 7.11.4)
- ☐ Is personalized content recommended? (e.g., personalized push notification) (Refer: 7.11.2)
- ☐ Is the content of the webpage easy to understand or in case of complex information a simplified version is provided? (for example, information icons) (Refer: 7.11.1)
- ☐ Is content tailored based on target audience demographics ? (example: considering their language proficiency, cultural background, and preferences) (Refer: 7.11.2)
- ☐ Is a consistent brand voice maintained across all content of the webpage ? (Refer: 7.11.3)
- ☐ Is the tone of voice adjusted based on the context and purpose of the content on the webpage? (Refer: 7.11.3)
- ☐ Is content organized hierarchically with clear headings, subheadings, and bullet points on the webpage ? (Refer: 7.11.4)
- ☐ Is important information highlighted prominently on the webpage ? (Refer: 7.11.4)

- ☐ Is grammatical correctness ensured in all written content on the webpage? (Refer: 7.11.5)
- ☐ Is all webpage content free from spelling, grammar, punctuation, and typographical errors, ensuring language quality, consistency, and clarity (Refer: 7.11.5)
- ☐ Is the content on the webpage broken into smaller paragraphs with whitespace ? (example: utilized for readability, avoiding dense blocks of text) (Refer: 7.11.6)
- ☐ Are clear instructions and guidance provided within the website to help users navigate features and functionalities effectively? (Refer: 7.11.7)
- ☐ Are accessibility guidelines (e.g., WCAG) adhered to, ensuring content is accessible to individuals with disabilities, including screen reader compatibility and text resizing capabilities? (Refer: 7.11.8)
- ☐ Is descriptive alternative text provided for images and non-text content to accommodate those who rely on assistive technologies? (Refer: 7.11.8)
- ☐ Is the content kept up to date with accurate information, reflecting changes in website features, policies, or external factors? (Refer: 7.11.9)
- ☐ Is user feedback and analytics tools incorporated to refine content quality and relevance over time, addressing user needs and preferences? (Refer: 7.11.9)
- ☐ Does the placeholder text in the input fields provide clear and concise guidance on what can be put in (e.g., products, categories, numeric values), while avoiding jargon and ensuring accessibility? (Refer: 7.3.2)
- ☐ Is tooltip text kept concise and relevant to the task at hand? (Refer: 7.12.1)

Macro and Micro Interactions and Animations

- ☐ Are loading indicators, success messages, and error alerts used to keep users informed? (Ref: 7.12.1)
- ☐ Do buttons provide visual feedback (such as hover, active, disabled and pressed state) to indicate their status and improve user interaction? (Ref: 7.12.1)
- ☐ Are form fields highlighted when in focus? (Ref: 7.12.1)
- ☐ Do tooltips appear on hover to provide additional information without cluttering the interface? (Ref: 7.12.1)
- ☐ Are skeleton loading screens implemented for content-heavy pages to give a visual cue that content is being loaded and to improve perceived performance? (Ref: 7.12.1)
- ☐ If a process takes longer, are textual updates provided to keep users informed? (example, processing, please wait, etc.) (Ref: 7.12.1)

- ☐ Are notifications displayed in a consistent, noticeable but non-intrusive location (e.g., top-right) and do they include clear, relevant actions to enable quick user response? (Ref: 7.12.1)
- ☐ Are confirmation messages provided for actions like form submissions or setting changes? (Ref: 7.12.1)
- ☐ Are users allowed to undo recent actions to improve error tolerance? (Ref: 7.12.1)
- ☐ Are consistent animations used to create a cohesive user experience? (e.g., same hover interaction on all cards in a section) (Ref: 7.12.2)
- ☐ Are expandable sections or accordions used for secondary information, keeping the primary content focused? (e.g., ideal transition time is 200ms to 350ms) (Ref: 7.12.2)
- ☐ Are interactive maps incorporated for location-based services or information? (Ref: 7.12.2)
- ☐ Are all interactive elements accessible via keyboard navigation? (Ref: 7.12.2)

Help, Feedback, and Error Tolerance Checklist

- ☐ Is a dedicated help centre included within the website, offering FAQs, tutorials, and a knowledge base? (Ref: 7.13.1)
- ☐ Is context-sensitive help provided, offering relevant information based on the user's current activity or screen? (Ref: 7.13.1)
- ☐ Is a searchable database implemented where users can quickly find answers to their queries? (Ref: 7.13.1)
- ☐ Are easy-to-access feedback forms included, allowing users to report issues (e.g., bugs), suggest features, or provide general comments? (Ref: 7.13.2)
- ☐ Are short surveys or polls used to gather user opinions on specific aspects of the website? (Ref: 7.13.2)
- ☐ Does the webpage provide options to contact customer support ? (example: email, chat, or phone) (Ref: 7.13.2)
- ☐ Are clear and concise error messages displayed, explaining what went wrong and how the user can fix it?
- ☐ Are users allowed to undo actions or revert to a previous state to correct mistakes without severe consequences?
- ☐ Are interactive tutorials or guided walkthroughs provided for new users to help them understand key features and functionalities?
- ☐ Are tooltips and hints used to guide users through complex processes or unfamiliar features?

- ☐ Is the receipt of user feedback acknowledged immediately, reassuring users that their input is valued?
- ☐ Are users kept informed about the status of their feedback or reported issues, especially if it involves bug fixes or feature requests?
- ☐ Is follow-up communication provided to users when their feedback has led to changes or improvements in the website?
- ☐ Are auto-save features implemented to prevent data loss in case of website crashes or unexpected shutdowns?
- ☐ Are easy recovery options provided for users to restore lost data or continue interrupted tasks?
- ☐ Does the website continue to function at a basic level even if certain features fail or encounter errors?
- ☐ Are self-service tools like a knowledge base provided to empower users to resolve common issues independently?
- ☐ Are users educated on best practices for using the website through tips, articles, and video tutorials?
- ☐ Are all help and feedback features accessible to individuals with disabilities, adhering to accessibility standards (e.g., WCAG)?
- ☐ Are help and feedback resources offered in multiple languages to cater to a diverse user base?
- ☐ Are error reporting tools integrated to automatically capture and report website crashes or errors?

Government Service Integration Checklist

- ☐ Are relevant government services (e.g., DigiLocker, myScheme, Bhashini, and Service APIs) identified based on the product's objectives and user needs? (Ref: 7.14.1)
- ☐ Are clear use cases defined for each integrated service, ensuring they add value to the website and enhance user experience? (Ref: 7.14.1)
- ☐ Is official API documentation for each government service followed meticulously, adhering to integration guidelines and best practices? (Ref: 7.14.2)
- ☐ Is all data exchanged with government services encrypted and compliant with relevant data protection regulations? (Ref: 7.14.3)

- ☐ Is explicit user consent obtained before accessing or sharing their data with integrated services, with a clear explanation of the purpose and benefits? (Ref: 7.14.3)
- ☐ Is the role and are the benefits of each integrated service clearly communicated to users, including how their data will be used and protected? (Ref: 7.14.3)
- ☐ Is the user interface designed to seamlessly incorporate features from integrated services, maintaining a consistent look and feel? (Ref: 7.14.4)
- ☐ Are navigation elements for accessing integrated services intuitive and consistent with the overall product design? (Ref: 7.14.4)
- ☐ Are onboarding materials, including step-by-step guides or tutorials, provided to educate users on the benefits and usage of integrated services? (Ref: 7.14.4)
- ☐ Is Bhashini leveraged to offer multilingual support, making the website accessible to users in different languages? (Ref: 7.14.5)
- ☐ Do integrated services comply with accessibility standards (e.g., WCAG) ? (Ref: 7.14.5)
- ☐ Are users informed about updates or changes to integrated services, including new features, security updates, and maintenance schedules? (Ref: 7.14.6)
- ☐ Are comprehensive help resources and documentation provided for integrated services, assisting users with common issues and questions? (Ref: 7.14.7)
- ☐ Is the product architecture designed to support the addition of new services and scalability as user demand grows? (Ref: 7.14.8)
- ☐ Are plans in place for future integrations, staying updated with emerging government services and APIs to expand the product's functionality over time? (Ref: 7.14.8)

Offline Functionality Checklist

- ☐ Are needs and scenarios where offline access is critical, particularly for those in areas with poor internet connectivity, understood and addressed for critical features and functionalities (such as filling out forms, and saving drafts)? (Ref: 7.15.1)
- ☐ Is automatic synchronization implemented to ensure that data is synced seamlessly when the device regains internet connectivity, maintaining data integrity and preventing duplication? (Ref: 7.15.2)
- ☐ Is a manual sync option provided, allowing for on-demand data refresh when internet access is available? (Ref: 7.15.2)
- ☐ Do users receive notifications when data synchronisation is complete or if there are any issues with syncing data? (Ref: 7.15.3)

- ☐ Does the interface remain consistent whether the product is online or offline, minimizing disruptions to the experience? (Ref: 7.15.4)
- ☐ Is meaningful fallback content, such as cached data or placeholders, provided when the product is offline, ensuring navigation and use are still possible? (Ref: 7.15.4)
- ☐ Are clear and helpful error messages displayed when actions requiring internet connectivity are attempted while offline? (Ref: 7.15.5)
- ☐ Is a retry mechanism implemented for failed operations once the connection is restored, requiring minimal intervention? (Ref: 7.15.5)
- ☐ Is the product thoroughly tested in both online and offline modes to identify and resolve any issues related to offline functionality? (Ref: 7.15.6)
- ☐ Is clear documentation provided within the product explaining how to use offline features (if), including steps to manually sync data and troubleshoot common issues?(Ref: 7.15.7)

Data Visualizations and Infographics Checklist

- ☐ Are simple and straightforward design elements used in data visualisations to prevent overwhelming users? (Ref: 7.16.1)
- ☐ Are text alternatives for charts and graphs provided to ensure accessibility for those with visual impairments? (Ref: 7.16.1)
- ☐ Are high-contrast colors used to make data points and labels easy to distinguish? (Ref: 7.16.1)
- ☐ Are data visualizations made compatible with screen readers by using appropriate ARIA labels and descriptions? (Ref: 7.16.1)
- ☐ Is a consistent color scheme and font style applied across all visualizations to maintain a uniform look and feel? (Ref: 7.16.1)
- ☐ Are consistent scales, legends, and labels applied across similar types of visualizations to facilitate easy data comparison? (Ref: 7.16.1)
- ☐ Are interactive elements, such as tooltips, hover effects, and clickable areas and explanatory text or captions included to allow for more detailed data exploration? (Ref: 7.16.1)
- ☐ Are visualizations responsive and do they adapt well to different screen sizes and devices? (Ref: 7.16.1)
- ☐ Are descriptive titles and labels used to provide context for the data being presented? (Ref: 7.16.1)

Performance Optimization

- ☐ Are HTTP requests minimized by combining files using tools (such as webpack or Gulp) to bundle CSS and JavaScript files? (Ref: 7.17.1)
- ☐ Does the system implement lazy loading for media content (such as images, videos, and other large assets) to improve initial load times? (Ref: 7.17.1)
- ☐ Are JavaScript files loaded asynchronously to prevent blocking the rendering of page content? (Ref: 7.17.1)
- ☐ Are responsive image techniques (such as src set) used to serve different image sizes based on the device? (Ref: 7.17.1)
- ☐ Are images compressed using tools (like TinyPNG or ImageOptim) to reduce file sizes without compromising quality? (Ref: 7.17.1)
- ☐ Are next-gen image formats (like WebP) used for better compression and quality? (Ref: 7.17.1)
- ☐ Does the system set appropriate caching headers to leverage browser caching for static assets? (Ref: 7.17.1)
- ☐ Is a CDN used to distribute static content across multiple servers, reducing latency & improving load times? (Ref: 7.17.1)
- ☐ Are CSS, JavaScript, and HTML files minified to reduce file sizes & improve load times? (Ref: 7.17.1)
- ☐ Is unused CSS and JavaScript removed (using tools like PurifyCSS) to decrease file sizes? (Ref: 7.17.1)
- ☐ Is critical CSS inlined to render content above the fold faster, and is non-critical CSS deferred? (Ref: 7.17.1)
- ☐ Are database queries optimised to reduce load times to improve performance? (Ref: 7.17.1)
- ☐ Is appropriate indexing used to speed up query performance? (Ref: 7.17.1)
- ☐ Is query caching implemented to reduce the load on the database server? (Ref: 7.17.1)
- ☐ Is HTTP/2 enabled to improve performance ? (through multiplexing, header compression, and server push) (Ref: 7.17.1)
- ☐ Is compression tools (like Gzip or Brotli) used to reduce the size of transmitted files? (Ref: 7.17.1)
- ☐ Is load balancing implemented to distribute traffic across multiple servers, ensuring reliability and faster load times? (Ref: 7.17.1)

- ☐ Is the product fully responsive and does it provide a seamless experience across different devices & screen sizes? (Ref: 7.17.1)
- ☐ Are touch interactions optimized for mobile by using appropriate touch targets and gestures? (Ref: 7.17.1)
- ☐ Are real-time monitoring tools (e.g., Google Analytics, Firebase, or Microsoft Clarity) used to monitor real-time performance and identify bottlenecks? (Ref: 7.17.2)
- ☐ Does feedback on performance issues collected and used to guide optimisation efforts? (Ref: 7.17.2)
- ☐ Are error logging tools (e.g., Sentry or LogRocket) implemented to track and resolve errors in real time? (Ref: 7.17.2)
- ☐ Are crash reporting tools used to identify and fix issues that cause crashes or instability in websites? (Ref: 7.17.2)
- ☐ Is the <link rel="preload"> tag used to preload key resources to improve page load times? (Ref: 7.17.3)
- ☐ Is critical content loaded first, while secondary content can be loaded asynchronously? (Ref: 7.17.3)
- ☐ Are animations free from jank or performance issues? (Ref: 7.17.3)
- ☐ Are feedback mechanisms provided to let users know actions are being processed, reducing perceived wait times? (Ref: 7.17.3)
- ☐ Is there a process monitored for performance and reliability, addressing any issues promptly?
- ☐ Is the website reliable, with all essential features functioning correctly and no broken links or errors? (Ref: 7.5.10)
- ☐ Is content delivery optimised to minimise loading times and improve overall website performance, particularly for users with slower network connections? (e.g., image optimization) (Ref: 5.6.10)
- ☐ Is essential content preloaded to ensure quick access? (Ref: 7.12.2)

Analytics

- ☐ Are the analytics which are relevant to your website integrated? (e.g., user behaviour tracking, feature usage, user engagement, website performance) (Ref: 7.18.1)
- ☐ Have key performance indicators (KPIs) relevant to the website's or webpage's objectives have been identified ? (e.g., active users, session duration, retention rates) (Ref: 7.18.1)

- ☐ Is a tool added to visualise user interactions through heatmaps and session recordings to help identify UX issues? (Ref: 7.18.2)
- ☐ Is tracking for key events that represent significant user actions (e.g., button clicks, form submissions) pre-defined and implemented? (Ref: 7.18.3)
- ☐ Does the system categorizes users based on demographics, behaviour, and usage patterns to gain deeper insights? (Ref: 7.18.3)
- ☐ Does the system ensure compliance with data privacy regulations (e.g., GDPR, CCPA) by obtaining user consent for data collection? (Ref: 7.18.4)
- ☐ Is user data anonymised to protect privacy and maintain trust while still gathering useful insights? (Ref: 7.18.4)
- ☐ Are data collection practices and the privacy policy clearly communicated to users within the website? (Ref: 7.18.4)
- ☐ Is real-time analytics used to monitor immediate user interactions and website performance, allowing for quick response to issues? (Ref: 7.18.5)
- ☐ Are crash reporting tools integrated to track and analyse website crashes and performance issues? (Ref: 7.18.6)
- ☐ Are user flows analysed to identify drop-offs and analyze the user journey? (Ref: 7.18.6)
- ☐ Are custom dashboards created to visualise key metrics and KPIs, making it easier to monitor and analyse data? (Ref: 7.18.7)
- ☐ Are regular reports (e.g., weekly, monthly) generated to review performance trends and make informed decisions? (Ref: 7.18.7)
- ☐ Is A/B testing conducted to experiment with different features or designs and measure their impact on user behaviour and engagement? (Ref: 7.18.8)
- ☐ Is analytics used to monitor user interactions with help and feedback features, identifying areas for improvement? (Ref: 7.18.5)

Accessibility

- ☐ Does your website support multi-lingual support?
- ☐ Is there sufficient contrast between text and background for readability? (Ref: 6.2.3)
- ☐ Does the webpage adhere to WCAG accessibility standards ? (example: readability of text, visual content) (Ref: 6.2.3)
- ☐ Does the system adhere to accessibility standards (WCAG) to ensure content is readable for all, including those with visual impairments? (Ref: 6.2.3)

- ☐ Does the webpage interface accessible to those with disabilities, supporting screen readers and other assistive technologies? (Ref:7.2.8)
- ☐ Is keyboard navigation supported for all interactive elements in the webpage? (Ref: 7.12.2)
- ☐ Is the webpage designed to be easy to use for people with limited web and mobile experience? (Ref: 7.5.6)
- ☐ Are list items accessible to screen readers with appropriate labeling and focus management? (Ref: 7.8.1)
- ☐ Is keyboard navigation enabled for list items, accommodating users who rely on external keyboards or accessibility tools? (Ref: 7.8.1)
- ☐ Are sorting options properly labelled for screen readers, providing a seamless experience for visually impaired users? (Ref: 7.8.1)
- ☐ Are forms designed with accessibility in mind, including descriptive field labels and sufficient color contrast to support those with visual impairments? (Ref: 7.9.7)
- ☐ Are all form elements accessible via keyboard navigation for those who rely on assistive technologies? (Ref: 7.9.7)
- ☐ Are ARIA landmark roles implemented to enhance compatibility with screen readers? (Ref: 7.12.2)

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Annexure

This annexure provides a detailed list of references, tools, and standards that are essential for creating and maintaining effective User Experience (UX) points. The focus is on incorporating both global best practices and Indian government standards to ensure the compliance and effectiveness of UX designs across digital platforms.

1. Tools for UX Design

UX design tools facilitate the creation, prototyping, and testing of user interfaces to enhance user experience. Below are some essential tools:

- **Figma:** A cloud-based design tool for creating interactive prototypes and high-fidelity designs. It is widely used for wireframing, prototyping, and design system management.
 - Features: Collaborative design, interactive prototypes, developer handoff, and integrations with plugins for usability testing.
 - Use Case: Ideal for government websites needing rapid iterations and collaborative design environments.
- **Sketch:** A vector-based design tool used for UI design, wireframes, and prototyping.
 - Features: Extensive plugin ecosystem, shared symbols, and reusable styles.
 - Use Case: Best for projects requiring consistent visual language across multiple touchpoints.
- **Miro:** An online whiteboard tool for UX brainstorming and wireframe sketches.
 - Features: Collaborative interface, templates for wireframes, and UX flows.
 - Use Case: Useful for early-stage ideation and collaborative workshops during the UX process.

2. Tools for UX Audits

UX audits help identify usability issues and improve user journeys on websites and apps. The following tools are commonly used for UX audits:

- **Hotjar:** A behavior analytics tool for heatmaps, session recordings, and user feedback.
 - Features: Heatmaps, session recordings, and on-page surveys.
 - Use Case: Analyze user behavior on existing government websites to uncover usability issues.
- **Google Analytics:** Offers insights into user behavior, navigation patterns, and engagement metrics.
 - Features: Traffic analysis, user journey tracking, and conversion reporting.
 - Use Case: Understand how users interact with government platforms and identify UX bottlenecks.
- **Crazy Egg:** Provides visual data on where users click, scroll, and engage the most on a page.
 - Features: Click maps, scroll maps, and A/B testing.

- Use Case: Ideal for testing homepage usability and CTAs on government service portals.
 - **UsabilityHub:** A platform for conducting UX tests like first-click, five-second tests, and preference tests.
 - Features: Remote testing, user feedback, and decision support.
 - Use Case: Conduct tests to validate design decisions for government web and mobile applications.
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3. SEO Optimization Tools

Search Engine Optimization (SEO) tools are vital for ensuring that government websites are easily discoverable by users. These tools focus on both technical SEO and on-page optimization.

- **Google Lighthouse:** A tool integrated into Chrome DevTools to audit websites for performance, accessibility, SEO, and best practices.
 - Features: Reports on SEO, accessibility, and site performance.
 - Use Case: Essential for government websites to ensure compliance with web standards and performance optimization.
 - **Yoast SEO (WordPress Plugin):** An SEO plugin that provides suggestions for improving SEO on-page and readability.
 - Features: Keyword analysis, readability checks, and structured data support.
 - Use Case: Particularly useful for content-heavy government sites running on WordPress.
 - **Moz:** A comprehensive SEO tool offering keyword research, SEO audits, and link-building tools.
 - Features: Keyword tracking, on-page SEO suggestions, and SEO score.
 - Use Case: Track SEO rankings and optimize content for discoverability on government portals.
 - **Screaming Frog SEO Spider:** A desktop application for crawling websites to find SEO issues like broken links, missing metadata, and duplicate content.
 - Features: On-page SEO analysis, crawl reports, and data export.
 - Use Case: Useful for auditing large-scale government websites and ensuring SEO best practices are followed.
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4. Global UX Standards and Audits

Adherence to international standards ensures that websites are universally accessible, user-friendly, and maintain high levels of usability.

- **WCAG (Web Content Accessibility points):** Published by the World Wide Web Consortium (W3C), WCAG provides recommendations for making web content accessible to people with disabilities.
 - Key Aspects: Perceivable, Operable, Understandable, and Robust (POUR) principles.

- Use Case: Government websites and apps must comply with WCAG 2.1 Level AA for accessibility.
 - **ISO 9241:** An international standard for ergonomics of human-computer interaction, including points for usability and user-centered design.
 - Key Aspects: Covers user interface design and usability testing.
 - Use Case: A reference for creating user-centric design processes for government portals.
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5. Indian Government Website References

For designing websites and applications in the Indian context, there are specific points mandated by the Government of India to ensure usability, accessibility, and inclusivity.

- **GIGW (points for Indian Government Websites):** Issued by the Ministry of Electronics and Information Technology (MeitY), GIGW outlines best practices for designing accessible, navigable, and responsive websites for government departments.
 - Key Aspects: Accessibility, usability, and mobile-friendly designs.
 - Use Case: All Indian government websites and apps must comply with GIGW to ensure standardization.
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6. Performance and Accessibility Audits

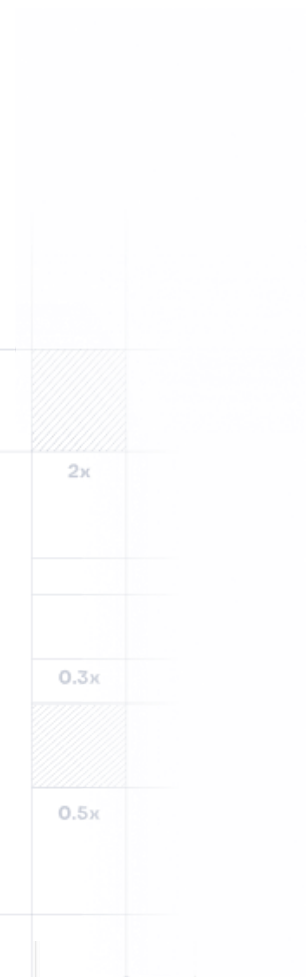
In addition to SEO and UX audits, performance and accessibility audits ensure that government websites are compliant with best practices and perform well under varied conditions.

- **Google PageSpeed Insights:** Provides metrics on website loading speed, mobile responsiveness, and suggestions for improving performance.
 - Use Case: Identify performance issues in government websites, ensuring that they load quickly for users across different regions.
- **WAVE (Web Accessibility Evaluation Tool):** A free tool to evaluate website accessibility and flag issues related to WCAG compliance.
 - Use Case: Use WAVE to ensure that government websites are accessible to users with disabilities, particularly for meeting GIGW and WCAG standards.

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