

# Creating Design Systems For Enterprises

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## Hi There, I'm Tiffany! Your UX and Tech Mentor.



**As a UX & Technology leader specializing in website and app development within large organizations, I've created this resource from the valuable lessons I've learned. Dive in and make the most of it!**

In the dynamic landscape of enterprise-level product design, the need for a cohesive design language is paramount. As enterprises expand and diversify their product lines, the complexity increases, often leading to disjointed design efforts and ad-hoc solutions. This fragmentation becomes even more challenging with the onboarding of new designers who face an absence of practical guides for building wireframes or comprehensive design systems. Without a unified approach, multiple products may suffer from inconsistent user experiences, thereby diluting quality and operational efficiency.

"Creating Design Systems for Enterprises" addresses these pressing challenges by offering a structured guide to developing robust design systems that ensure consistency across an organization's digital products. This resource is tailored not only for seasoned designers but also for every professional involved in the digital product lifecycle. Through a shared design system, enterprises can mitigate the risks associated with scattered design practices and enhance their capability to deliver seamless, user-centric products at scale.

The guide details essential strategies for assembling and enforcing a design system, providing actionable insights, effective methodologies, and real-world applications to empower teams. It aims to standardize design practices, regardless of the size or complexity of the product portfolio, fostering more efficient, cohesive, and sustainable operations.

Embark on transforming your enterprise's approach to digital product development with "Creating Design Systems for Enterprises." Equip your teams with the tools to foster a harmonious design environment that accelerates innovation and maintains a high standard of user experience.

Warm regards,

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# What's Inside?

## **Part 1: Creating & Implementing Design Systems**

Discover why design systems are crucial for maintaining consistency and efficiency in product development. This section explains how design systems address challenges like technical debt and user confusion by standardizing design elements across a company's digital products.

## **Part 2: A Guide to Wireframing & Prototyping**

This section serves as an introduction to the fundamental concepts of wireframing, emphasizing its role as a blueprint for digital product design. It explains how wireframing lays the groundwork for all subsequent design and development work.

# Part 1: Building Design Systems

# An Introduction to Design Systems

## What Is a Design System and Why Is It Important?

A design system is a standardized toolkit for designing and developing digital products and marketing materials. It offers several benefits, including:

- **Faster Workflow:** Pre-made, reusable design components streamline the design and prototyping process for designers and simplify complex ideas for developers.
- **Consistent Visuals:** Each element within a design system is informed by its visual language, ensuring that they work together harmoniously, regardless of where they are used.
- **Improved Collaboration:** Design systems enable stakeholders and designers to quickly visualize and articulate complex ideas, leading to greater understanding and a more cohesive team.
- **Better Code Quality:** Modular, reusable elements result in cleaner, more efficient, and scalable code, reducing complexity and minimizing UX and technical debt.

## What Can Be Included in a Design System?

Design systems can vary in scope.

Sometimes, a design system is focused exclusively on digital products or websites, including a library of elements, components, design patterns, and templates that can be reused and remixed to quickly conceptualize experiences.

Other times, a design system expands beyond digital products to include any marketing materials, such as digital banner ads, email templates, social posts, traditional business cards, flyers, and direct mail pieces.

This document focuses on building design systems for digital products or websites.

# Examples of Digital Design Systems

Learning from others is a great way to get familiar with design systems. Here are some examples worth exploring:

- [Material Design](#)
- [iOS Human Interface Guidelines](#)
- [Microsoft Design](#)
- [IBM Design](#)
- [Airbnb design](#)
- [Clarity Design System](#)
- [Harmony Design System](#)
- [BBC GEL](#)
- [Lightning Design System](#)
- [MailChimp](#)
- [PEGA](#)
- [LonelyPlanet](#)
- [GE Predix Design System](#)
- [Oracle Alta](#)
- [US Web Design Standards](#)

# What Is Inside of a Digital Design System?

## File Types

Design systems for digital products generally consist of two types of files: design files and live code. Design files are created using design software such as Sketch, Figma, or InVision. Live code files are built with HTML, CSS, and JavaScript, replicating wireframe elements. These files should be synchronized as much as possible. When enhancements are made to the design files, the live code should be updated accordingly, and vice versa.

## Contents

A digital design system typically includes the following elements:

- **Visual Style Guide:** Establishes a visual language for your design system with attributes such as colors and typography. [Required]
- **Utility Library:** Influences all other aspects of the design system, including grid, page structure, templates, and CSS utilities. [Required]
- **Elements:** Basic web elements like buttons, headers, and form fields that are reused throughout the system. [Required]
- **Components:** Combine different elements to create components and patterns for specific use cases. [Optional]
- **Templates:** Frameworks for common pages within a site, defining page layout and structure by remixing components and elements. [Optional]
- **Capabilities:** Designs for special features or complex tools that do not fit into standard page templates, such as live chat or shopping carts. [Optional]

Note: Not all items are necessary to have a functional design system. Start with the required elements as a baseline, then expand over time. To determine which items to include, consider who will use the design system, what they will be doing, and which elements are most important to them.

## Documentation

To increase adoption and impact, include documentation that provides overarching principles and guidance on using the design system. This documentation might include:

- **Overview:** Describes the purpose, intended audiences, and use of the design system.
- **Get Started Guide:** Explains the system's organization and usage instructions, including any icons or graphics used.
- **Principles:** Captures the team's design philosophies and approaches to solving customer issues.
- **Standards:** Describes guidelines, rules, and best practices in key areas such as SEO, design, usability, performance, code, and accessibility.

- **Considerations:** Outlines additional considerations for all audiences using the system.
- **Case Studies:** Showcases examples of the design system in use, providing ideas for implementation.
- **Asset Library:** Includes downloadable live assets and code snippets for quick access.
- **Inspiration:** Collects screenshots and ideas from related companies or competitors.
- **Resources:** Highlights key contacts and provides links to additional information.

## Checklist

When planning your design system, consider the following elements as a starting point:

### Visual Style Guide:

- Color
- Typography
- Grid & Layout
- Images
- Media
- Visual Form
- Motion & Sound
- Design Tokens

### Elements:

- General Elements: Lists, Buttons, Tables, Forms, Boxes, Separators, etc.
- Specialty Elements: Labels, Tags, Pills, Badges, Charts, Spinners/Loaders, etc.

### Components:

- Text Boxes, Notification/Message Boxes, Alert Boxes, Content Panels, Tool Tips, etc.
- Content Organization: Accordion, Show/Hide content, Toggle/Collapse, Tabs, Carousel, etc.
- Media: Cards, Gallery, Maps, Media Player, etc.
- Content Blocks: Listings, Features, Promos/CTAs, Text/Image, Testimonials, Price Tables, etc.

### Page Templates:

- UVP (Unique Value Proposition) Pages: Homepage, Services, Products, Tour/Features, FAQ, Pricing, Portfolio, About, etc.
- Engagement Pages: Events, Resources, Blog, etc.
- Conversion Pages: Find Rep/Location, Contact, eCommerce Listings, Landing Page, Lead Generation, etc.
- Specialty Pages: Search, 404, Sitemap, Login/Register, Legal pages, etc.

### Special Capabilities:

- Application Views, Comments, Live Chat, Ratings, Shopping Cart, Contact/Location Finder, Interactive Maps, etc.

### Utility Library:



- Textures, Scene Creators, Backgrounds, Patterns, Stock Photos/Videos, Design Tools, CSS Utility Library, Frameworks/3rd Party Vendors, Snippets, etc.

## **Beyond the Digital System**

Consider expanding your design system to include broader digital marketing efforts such as social marketing (Instagram, Facebook, Twitter, Pinterest), email marketing, video marketing (cover, thirds, end slate, contact, call-to-action, intro), and digital advertising.

By incorporating these elements into your design system, you can create a comprehensive toolkit that enhances consistency, collaboration, and efficiency across all your digital products and marketing materials.

# Process for Implementing a Design System

## Conduct a Visual Inventory

Begin by documenting your digital ecosystem in its current state to understand the extent of any existing challenges. This helps bridge the gap between the current state and the desired state when building your design system.

Steps involved in creating a visual inventory include:

1. Determine which sites and channels you will target.
2. Build an inventory of all visual styles and website elements for each targeted site.
3. Use a comprehensive design system checklist if unsure what to audit.
4. Capture information by taking screenshots of representative pages and compiling them in a design tool like Figma.
5. Identify inconsistencies and understand the challenges they create, such as operational inefficiencies and user experience issues.

## Get Organizational Buy-In for the Design System

Once you have defined the problems and demonstrated the value of a design system, it's crucial to get buy-in from leadership and team members.

Key points for the conversation:

1. Provide an overview of your study and findings.
2. Analyze the impact, describing how issues are affecting team efficiency and user experience, and quantify costs if possible.
3. Present the design system as the solution, highlighting the benefits and quantifying them where possible.
4. Secure agreement and alignment from the team, as well as funding and resource commitments.

## Setup Your Process, Team, and Principles

With funding and resource commitments in place, shift into action by setting up your process, team, and principles.

Steps to set up your process, team, and principles:

1. Determine your approach – decide whether to build from scratch or use an existing product as a foundation.
2. Define your distribution model – decide whether to distribute the design system to all teams at once or one team at a time.
3. Determine the type of system – will it be graphic-only or live code?
4. Build a project plan – follow your existing design process, including stages and rituals.
5. Communicate progress regularly to sponsors and stakeholders.
6. Assemble your project team – identify necessary skills, determine capacity, and assign roles, ensuring team members have sufficient availability.
7. Establish rules and principles for consistency and efficient maintenance of the system.

## **Build the Design System**

### **Build the Visual Style Guide:**

1. Create the ideal style and attributes, paying special attention to accessibility.
2. Test the new style against the existing system.
3. Get feedback and acceptance from designers and developers.
4. Document best practices and standards for each style property.

### **Create Your Pattern Library:**

1. Adjust patterns based on the current system, balancing between the current and desired state.
2. Document each part of the library as you build it.

### **Test the System:**

1. Review the system with others to identify gaps and update it accordingly.
2. Ensure it meets the needs of everyone involved in the design process.

## **Implement and Socialize Your Design System**

Educate everyone on how to use the system, its purpose, and benefits. Ensure designers, developers, outside agencies, and leadership are familiar with the system.

## **Conduct Ongoing Updates and Maintenance**

Regularly update and maintain the design system to keep it relevant and effective. Add new items as needed, update existing items with changes, and keep up with best practices and trends.

# Additional Reading

## GENERAL ARTICLES

- [Atomic Design](#)
- [Pattern Lab \(Based on Atomic Design\)](#)
- [How Creating A Design Language Can Streamline Your UX Design Process](#)
- [Creating a Design System Language](#)
- [Promoting a Design System Across Your Products](#)
- [Researching Design Systems](#)
- [Styleguides + Design Languages](#)
- [All about creating design style guides](#)
- [Block/Element/Modifier](#)
- <https://www.uxpin.com/create-design-system-guide/establish-rules-and-principles-for-design-system>
- <https://www.invisionapp.com/inside-design/guide-to-design-systems/>

## PRACTICAL TIPS

- [How to create a FRONT END FRAMEWORK with Sketch](#)
- [How To Be More Organized While Designing UI](#)
- [Intro to the 8-Point Grid System](#)
- [5 Things to Do Before You Start Your Next Design File in Sketch](#)
- [Super easy Atomic Design documentation with Sketch app](#)

# Part 2:

# Building Wireframes and Prototypes

Wireframing is a key step in designing digital products, like websites and mobile apps. Think of it as a blueprint that helps you plan the layout, structure, functionality, and content without getting distracted by small design details.

For beginners, the sheer amount of information can be overwhelming. This guide is here to help. It covers the basics of wireframing, its benefits, and different types. You'll find step-by-step instructions for creating wireframes from scratch and practical tips for all experience levels. By following these steps, you can streamline your workflow, enhance your skills, and create top-quality wireframes that meet both user needs and business goals.

# General Benefits of Wireframing

1. **Create a shared understanding, allowing teams to agree on design solutions quickly.** Wireframes facilitate communication among team members and stakeholders by providing a clear visual representation of the proposed design. This shared understanding helps to align expectations, minimize misunderstandings, and accelerate decision-making processes. As a result, teams can reach consensus more rapidly, ensuring that the project progresses smoothly and efficiently.
2. **Validate design ideas with users before investing in development.** Wireframing allows designers to test and refine their concepts early in the development process, reducing the risk of costly changes later on. By validating design ideas with actual users through wireframes, teams can gather valuable feedback and make necessary adjustments before significant resources are invested. This proactive approach helps to avoid expensive rework and ensures that the final product is well-received by its intended audience.
3. **Provide critical information to team members, streamlining the development process.** Wireframes act as a blueprint for the development team, offering clear guidance on the layout, functionality, and content of the product. This detailed information helps developers to understand the designer's vision and execute it accurately and efficiently. By reducing ambiguity and providing a solid framework, wireframes enable faster development cycles and quicker time-to-market.
4. **Serve as a communication tool for stakeholders, designers, usability experts, developers, content writers, analytics experts, and strategists.** Wireframes bridge the gap between various team members, facilitating collaboration and ensuring that everyone is on the same page. By providing a visual representation of the product, wireframes help stakeholders to visualize the end result, usability experts to identify potential issues, developers to plan their tasks, content writers to structure their content, analytics experts to set up tracking, and strategists to align the design with business goals. This comprehensive communication tool ensures a cohesive and well-coordinated project.

# Wireframe Contents

Every wireframe should communicate four key elements:

1. **Content:** What will be displayed to achieve user and business goals?The content element of a wireframe outlines the information and media that will be presented on each page. This includes text, images, videos, and other interactive elements. By defining the content early on, designers can ensure that it aligns with the overall objectives of the project and meets the needs of the target audience. Clear content planning helps to maintain consistency and focus throughout the design process.
2. **Structure & Layout:** How elements are represented and organized.The structure and layout define the arrangement of content and functional elements on the page. This involves deciding the placement of headers, footers, navigation menus, buttons, and other components. A well-structured layout enhances usability by guiding users through the page intuitively and ensuring that important information is easily accessible. Wireframes help designers to experiment with different layouts and find the most effective configuration.
3. **Informational Architecture:** Organization and display of information (navigation and page hierarchy).Informational architecture refers to the way information is organized and presented within the product. This includes the overall navigation structure, page hierarchy, and relationships between different sections. Effective informational architecture ensures that users can find what they are looking for quickly and easily, enhancing their overall experience. Wireframes help to map out this structure, making it easier to identify and address any potential issues.
4. **Functionality:** How the interface works and responds to user interactions.The functionality aspect of a wireframe describes the interactive elements and how they behave. This includes buttons, links, forms, and any other features that require user interaction. By detailing the functionality in wireframes, designers can ensure that the product is both intuitive and efficient. This stage also provides an opportunity to identify and resolve any technical challenges before development begins.

# Wireframe Variances

Wireframes vary based on the intended audience, purpose, project stage, and product type:

- **Audience and Purpose:** Tailor wireframes to the needs of business stakeholders, content writers, and execution team members. Different stakeholders have varying requirements and expectations from a wireframe. Business stakeholders may focus on how the design supports business goals, content writers need to understand where and how content will be placed, and developers require detailed specifications for implementation. Creating wireframes that address these diverse needs ensures that all team members can effectively contribute to the project's success.
- **Product Type:** Considerations for mobile-focused sites, virtual reality products, and evergreen vs. established products. The type of digital product significantly influences the wireframing process. Mobile-focused designs need to account for smaller screens and touch interactions, while virtual reality products require three-dimensional considerations. Established products with existing design systems may not need as detailed wireframes as new, evergreen products. Tailoring wireframes to the specific product type helps to address unique challenges and opportunities.
- **Project Stage:** Start with simple sketches and increase fidelity over time. At the initial stages of a project, low-fidelity wireframes such as hand-drawn sketches can help quickly convey ideas and gather feedback. As the project progresses, these wireframes can be refined into higher-fidelity digital versions that provide more detail and precision. This iterative approach allows for continuous improvement and ensures that the final design is well-thought-out and user-friendly.



# Types of Wireframes

1. **Sketching:** Versatile and ideal for brainstorming and collaboration. Sketching wireframes by hand is a quick and flexible way to explore ideas and concepts. This method encourages creativity and can be done anywhere with minimal materials. Sketching is particularly useful during the brainstorming phase, allowing designers to rapidly iterate on different layouts and functionalities. It's also a great way to involve team members in the design process, fostering collaboration and shared ownership of the project.
2. **Paper Cut-Outs:** Tactile and collaborative, but not suitable for stakeholders. Using paper cut-outs to create wireframes offers a hands-on, interactive approach to design. This method allows designers to physically move elements around, facilitating experimentation with different layouts. It's especially beneficial in team settings, where collaborative efforts can lead to innovative solutions. However, paper cut-outs may lack the precision required for formal presentations to stakeholders and clients.
3. **Stencils:** Quick and consistent, useful for large projects. Stencils involve pre-made templates that can be used to create wireframes quickly and consistently. This method is ideal for large projects with many wireframes, as it ensures uniformity across designs. Stencils can save time and reduce errors, making them a practical choice for teams working on complex projects. However, the initial creation of stencils can be time-consuming, and they may not offer the same flexibility as other methods.
4. **Digital Wireframes:** Precise and flexible, suitable for detailed presentations. Digital wireframes are created using software tools, offering high precision and flexibility. These wireframes can be easily modified and shared with stakeholders or clients for feedback. Digital tools often include features for collaboration, making it easier for team members to work together in real time. While digital wireframing tools can have a steep learning curve, the investment in time and money is often justified by the quality and efficiency of the final product.

# How to Create Wireframes

1. **Review UX Artifacts:** Gather and organize relevant research. Before starting the wireframing process, it's essential to collect all relevant UX artifacts, such as customer profiles, personas, user scenarios, experience maps, competitive research, and current web metrics. Organizing this information helps to ensure that the wireframe is grounded in user research and aligned with business objectives. This foundational step sets the stage for creating wireframes that are both user-centered and effective.
2. **Determine Scope:** Define the level of detail and how the output will be packaged and shared. Establishing the scope of the wireframing effort is crucial to prevent the project from becoming unwieldy. Consider the required level of detail, the intended audience, and the project stage. Decide how the wireframes will be shared—whether as formal presentations, wireflows, or clickable prototypes. This clarity helps to manage expectations and ensures that the wireframes serve their intended purpose effectively.
3. **Develop a User Flow:** Visualize the user's journey, identify pain points, and refine the flow. User flows map out the steps a user takes to complete a task, helping to identify potential pain points and areas for improvement. By defining user tasks and visualizing the flow, designers can create intuitive and seamless experiences. This process involves iterating on the user flow based on feedback and testing, ensuring that the final design meets user needs and expectations.
4. **Identify Elements:** List screens, global elements, and specific components to be wireframed. Once the user flow is established, it's time to determine the specific elements that need to be wireframed. This includes identifying the screens or pages required, global elements like headers and footers, and any unique components such as forms or carousels. Creating a comprehensive list ensures that all necessary elements are included, providing a clear roadmap for the wireframing process.
5. **Begin Wireframing:** Develop global elements and components, then wireframe each screen. Start by designing the global elements that will appear across multiple pages, ensuring consistency throughout the product. Next, create specific components needed for various screens. Finally, wireframe each individual screen, beginning with key pages like the home page or main landing page. This structured approach helps to build a cohesive and well-organized product.
6. **Add Annotations:** Indicate functionality, content, behavior, and key constraints. Annotations provide detailed explanations of the wireframe elements, including functionality, content, behavior, and constraints. These notes help to communicate the designer's intentions clearly, making it easier for developers and other team members to implement the design accurately. Annotations can cover aspects like interactive elements, content placement, animation styles, and technical limitations.
7. **Package and Share Wireframes:** Use unpackaged wireframes, presentations, wireflows, or clickable prototypes. Sharing wireframes effectively is key to ensuring that all stakeholders understand and can provide feedback on the design. Depending on the project's needs, wireframes can be shared as individual images, included in presentations, organized into wireflows, or turned into clickable prototypes. Each method has its advantages and can be chosen based on the audience and the level of interaction required.