

## UNIT - 1

Explore the fundamentals of UI and UX

UI is about how a product looks and interacts. It includes all the visual elements that users interact with in a digital product.

UI fundamentals:

### 1. Visual Design

- colors, typography, icons, images, layout
- Goal : Create a visually appealing interface.

### 2. Consistency :

- Uniform elements like buttons, fonts, and Spacing.
- use of design system (e.g., Material Design)

### 3. Responsiveness:

- Adapts to various screen sizes (mobile, tablet, desktop)

### 4. Interactivity

- Visual feedback when users interact with elements (e.g., hover effects, loading animations)

## 5. Accessibility:

- Inclusive design for users with disabilities (e.g. readable fonts, proper contrast, keyboard navigation)

UX is about how a product feels and functions. It focuses on the user's journey through a product to ensure its intuitive, efficient and satisfying.

## UX fundamentals:

### 1. User Research

- understanding user needs, behaviors and pain points through surveys, interviews and data

### 2. User Personas:

- fictional characters that represent different user types

### 3. User Flows:

- Mapping the steps users take to complete tasks

### 4. Wireframes and Prototypes:

- Low and high-fidelity representations of the product before development.

## 5. Usability Testing:

- Testing with real users to identify

issues and improve the experience.

### EXAMPLE:

Imagine a mobile banking app:

- UI handles the color scheme, icon styles,

button shapes, and font choices.

- UX ensures users can easily check their

balance, transfer money, or pay bills without confusion

or errors.

Differentiate between UI and UX using real world case studies

UX	UI
<p>Case Study 1: Instagram</p> <p>Goal: Make sharing and consuming visual content quick and addictive</p> <p>Successes:</p> <ul style="list-style-type: none"><li>• Easy onboarding process</li><li>• Infinite scroll for content discovery minimizing user effort</li><li>• Intuitive features like swipeable stories and reels</li></ul>	<p>Goal: Make the app visually engaging and intuitive to use.</p> <p>Successes:</p> <ul style="list-style-type: none"><li>• Clean, minimalist design with focus on images and videos</li><li>• Use of familiar icons</li><li>• High contrast and consistent use of color for branding</li><li>• UI elements are spaced well for both thumb reach and visual clarity.</li></ul>

## Case Study 2: Apple's iPhone Settings App

Goal: Allow users to manage all phone functions efficiently.

Successes:

- Categorized menu with a logical structure
- Search bar at the top to quickly find specific settings

• Grouping related settings together

Goal: Present technical controls in a friendly, digestible way.

Successes:

- Simple iconography and color-coded toggles
- Consistent text size, spacing, and padding.
- Clear hierarchy using indentation and dividers.

## Case Study 3: Google Search

Goal: Help users find information as fast as possible.

Successes:

- Categorized menu with a logical structure.
- Search result appear instantly and are ranked by relevance.
- Voice search for accessibility and speed

Goal: Keep the interface simple and focused.

Successes:

- Minimal interface with just a logo, a search bar and buttons.
- Clean layout with ample white space.
- Subtle visual cues like bolding keywords in results

Illustrate the relationship between UI and UX in design

UI is a part of UX. You can think of UI as a tool that helps deliver a great UX.

The Process: How UI fits Inside UX

Step by step design process:

#### 1. User Research (UX)

- understand user needs, pain points, goals

#### 2. Information Architecture & User flows

- Design the structure and logic of how users navigate

#### 3. Wireframing & prototyping

- Build blueprints for screens and flow without focusing on visuals yet.

#### 4. Visual Design

- Apply colors, typography, spacing, and interactive elements to the wireframes.

#### 5. Usability Testing:

- Test how users interact with the interface and improve both functionality and appearance.

Demonstrate various UI and UX design tools in detail.

## UI and UX design tools:

### 1. User research & testing tools

Purpose: understand your users and validate design decision through data and feedback.

Tool: UserTesting

Use case: Remote usability testing

Key features: Video recordings of real users, task completion analysis

Tool: Hotjar

Use case: Behaviour analytics

Key features: Heatmaps, session recordings, feedback polls.

### 2. Wireframing Tools

Purpose: create low-fidelity layout to map content structure and basic interactions.

Tool: Balsamiq

Use case: Quick wireframe sketches

Key features: Drag-and-drop components, sketch-style interface

Tool: Whimsical

Use case: collaborative wireframes

Key features: flowcharts, sticky notes, wireframes in one platform

### 3. UI Design Tools :

Purpose : Design the visual layer - buttons, typography, color, layout and responsiveness

Tool : Figma

Use case : UI design & prototype

Key features : Real-time collaboration, design systems, responsive design

Tool : Sketch

Use case : Vector-based UI design

Key features : Symbols, shared styles, plugins ecosystem

### 4. Prototyping Tools :

Purpose : Create interactive mockups to simulate real product behavior

Tool : Adobe XD

Use case : Auto-animate + voice

Key features : Prototype with transitions and voice trigger

Tool : Axure RP

Use case : Advanced interaction prototyping

Key features : Conditional logic, dynamic panels, complex flows.

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