

a) Explore the fundamentals of UI and UX

In terms of fundamentals, let's start with the abbreviations of 'UI' and 'UX'. The full form of UI is User Interface and the full form of UX is User experience. When it comes to UI, it is about the look and feel. They are the visual elements users interact with. UX focuses mainly on how users interact with the product and have that experience feels. It's about solving problems and making the journey smooth. UI elements are buttons, typography, color schemes, icons and layout. Designers use principles like contrast, alignment, proximity and hierarchy to guide the user's attention and make interfaces easy to navigate. For instance, a call-to-action button should stand out with bold color and clear text. UX design is all about crafting the journey a user takes when interacting with product or service. It is about usability, accessibility and emotional resonance. A well-designed UX anticipates user needs, removes friction and creates a sense of satisfaction.

b) Differentiate between UI and UX using real-world studies.

Case Study : Spotify Web Player

User Interface

The goals are to create a visually cohesive experience across desktop, mobile and web. Improve readability and hierarchy for faster decision-making, breaking down UI into reusable components like buttons, cards and modals, refreshed the color palette to emphasize contrast and accessibility. eg. the redesigned "Now Playing" section. The UX included the problem identification including navigation confusion, personalization gaps. Several researches like surveys, interviews, competitive analysis were conducted. Several UX solutions are founded like the introduction of a "Smart Playlist Builder" that lets fine-tune recommendations based on mood, genre and activity. Simplified the navigation bar, grouping core actions like "Search" and "Library". This improved task success rates for playlist creation and device switching.

c) Illustrate the relationship between UI and UX in design.

The relationship between UI and UX can often be described as complementary but also sometimes distinct. Consider a coin which has two different sides.

UX Design:-

It is the foundation, how a product works and how effectively it solves the problem. It involves research, strategy and structure. It entirely focus on the journey a user takes, from discovering a product to using it. The goal is to make that journey smooth and satisfying.

UI Design:-

On the other hand, it is the layer users see and touch. It is all about how that looks, the colours, typography, spacing and visual appealing. UI designers ensure that the interface is not only beautiful but also consistent and accessible.

The relationship between UI and UX is symbiotic. A well-researched UX strategy can fall flat if the UI is confusing. Likewise, a stunning UI can't compensate for a poorly designed user flow. Together, they create a product that's both functional and delightful. UX ensures users can accomplish their goals and UI makes the process enjoyable.

○ Demonstrate various UI/UX design tools in detail.

There are various design tools for UI/UX development. Some of them are:

Canva:-

Canva is a beginner - friendly design tool that simplifies UI mockups, presentations and quick visuals. While it's not a professional-grade UI/UX platform, Canva offers drag-and-drop functionality, pre-made templates and a vast asset library that makes it accessible to non-designers.

Figma:-

Figma is a cloud-based design tool that has revolutionized collaborative UI/UX design. It allows multiple designers, developers and stakeholders to work on the same file, making real-time feedback and iteration seamless. It supports vector editing, auto layout for responsive design, and interactive prototyping with transitions and overlays.

Sketch:-

It is a vector-based design tool exclusive to macOS, known for its simplicity and efficiency in UI design.

It introduced the concept of symbols - reusable components that can be updated globally - making it a forever favorite for building scalable design systems.

Maze :-

It is a remote user testing platform that integrates with design tools like Figma, Sketch. It allows designers to run usability tests and analyze user interactions. It is a comprehensive tool for validating design decisions.

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