Dr. D. Y. Patil Educational Federation's

Dr. D. Y. Patil College of Engineering & Innovation

Approved by AICTE, Affilated to SPPU Pune

Department of AI &DS

LAB MANUAL

UI/UX Design Laboratory

(BE)

Semester I

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Experiment No. 1(Group A)

Aim: Design user persona for the users of selected product / system.

Outcome: At end of this experiment, student will be able to design a persona for any given product.

Theory :

What is a user persona?

A user persona is a semi-fictional character based on your current (or ideal) customer. Personas can be created by talking to users and segmenting by various demographic and psychographic data to improve your product marketing.

Why we need user personas:

User personas are extremely useful to grow and improve a business: they help uncover the different ways people search for, buy, and use products, so you can focus your efforts on improving the experience for real people and use cases.

What should a user persona consist of?

A simple persona, answers the following questions:

- Who are you?
- What's your main goal?
- What's your main barrier to achieving this goal?

Who are they?

You're looking for details like "B2C marketer who works for a large company" or "office admin who manages digital and print correspondence," which sum up a lot about your persona's perspective when it comes to choosing and using your product.

What are their goals?

This is so you can understand how your product/service actually fits into your users' and customers' lives. Why are they buying/using it? What job are they trying to get done with it, what problem are they trying to solve?

What are the barriers preventing them from achieving their goals?

Now that you know who your users and customers are and what they are trying to accomplish, there's one more thing to find out: what is stopping them from buying your product, or using it more often/better/more expertly?

How Do You Make a User Persona?

- **Name**: User personas should feel like a real person. Giving them a name is the first step. Avoid general denominations like "John Doe" or "Sally the Thrifty Shopper."

- **Photo**: You always want to put a face to a name. Some companies choose to use fictional characters and celebrities as their persona photo but we advocate against this in order to create a new and original identity that's free of stereotypes or preconceived traits.
- **Personal motto**: Just like a photo, this helps build out your persona to make them feel more realistic.
- **Bio**: Everyone loves a good back story. Give your persona a little history. Where did they grow up? Why did they choose their current job? How do they spend their free time? Include some details that help make them unique.
- **Demographics**: Of course, you'll want to target users with specific interests, wants, and needs, rather than your perception of those things. Including demographics will help improve your understanding of and relationship with users, so you can relate to them in the way they want.
- **Personality traits**: Does your persona have a short attention span? Are they cautious? Do they make impulsive decisions? Assigning personality traits might help you understand if you need faster site designs or the option to comparison shop.
- **Motivations**: The goal is to get inside your user's head and understand how they think. More importantly, what motivates them to use your product?
- **Goals and frustrations**: While the scope of a persona's goals and frustrations should directly relate to your business needs, it's worth highlighting goals that your persona may have outside of those your product or service directly impacts.
- **Preferred brands and influences**: You can learn a lot about a person by diving into brands they like and influencers they follow. Chances are the marketing tactics used by these brands and influencers will likely apply to you as well — allowing you to craft your outreach accordingly.

Create consistency across the business: User personas offer a company-wide understanding of your users, putting everyone on the same page. Across the board, personas create a consistent and specific understanding of each target group of customers within your company.

Signal user behavior: By gaining insight into the backgrounds of user personas, you'll have a better understanding of where your real users spend their time, where they obtain information, and which social networks they thrive in. This information allows you to target and promote your products or services in places where they will actually be seen.

Help with user-focused reasoning: So, you and your team have brainstormed a service or offer that you think will be valuable to your users, but is it really something that they want? You might think your idea is genius, but what if you spend time brainstorming and it's not something that's actually in demand? User personas help eliminate wasted time and resources by clearly focusing on the needs of the user.

Improve design and development workflow: Not only do personas allow you to gain knowledge of user behavior and create consistency across your business, but they're incredibly valuable in enabling design and product managers to create better products, services, designs, and UX. Better development guarantees your ability to suit the needs and preferences of your real users.

Define product positioning: Because you've utilized user personas in the brainstorm and developmental phases, you'll be in a better place to position your product when it comes to promotion. User personas arm you with research to face the challenges and problems that come with product positioning.

Conclusion:

Questions:

1. What are user persona spectrums?
2. How to create a user flow?
3. What are voice personas and placeonas?

Experiment No. 2(Group A)

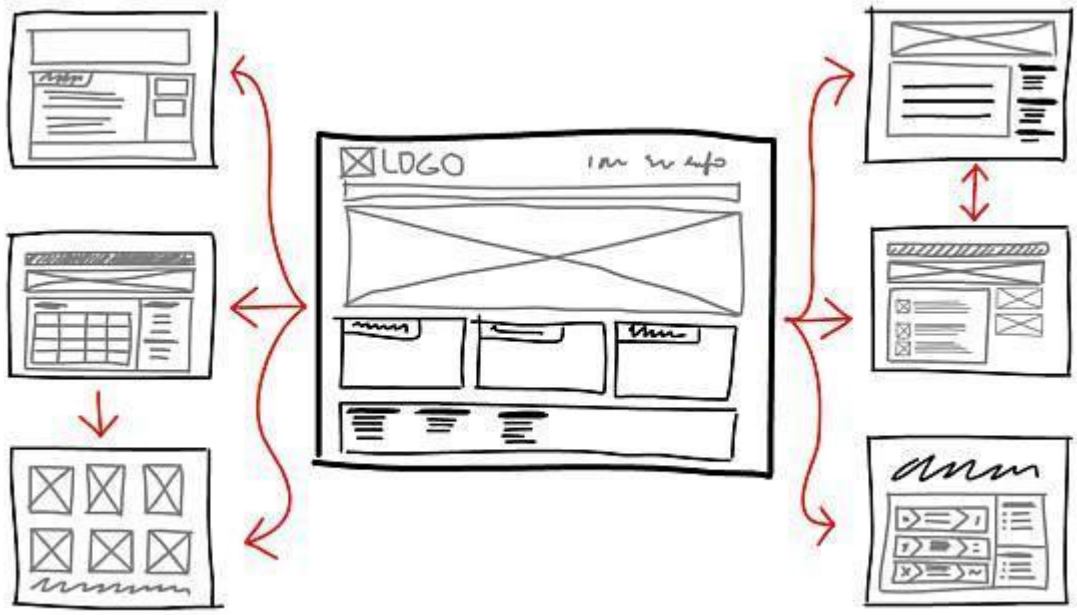
Aim: Design a wireframe for an online learning platform that includes course listings, video lectures, quizzes, and progress tracking.

Outcome: At end of this experiment, student will be able to design a online learning platform using wireframe tool.

Software Requirement: IDE (e.g., Xcode or Android Studio), design tools (e.g., Figma or Adobe XD or Wireframe)

Theory :

Wireframing is an important tool for product design and development. Whether you're building the next hot startup or a solid website or mobile application, wireframes are invaluable in keeping everyone on the same page – not just product managers, designers, and engineers. And they can be changed really quickly to accommodate the collaborative and iterative nature of product design and development, especially in agile startups and enterprises. For this reason, wireframes are typically created in the product design and development process in one way or another, even if it's a quick sketch on scratch paper or a grid notepad.



Wireframes are the "blueprint for design."

They're supposed to connect the underlying conceptual structure (or information architecture) to the surface (or visual design) of a website or mobile app. More specifically, they're visual representations of an interface, used to communicate the following details to get everyone on the same page:

- Structure – How will the pieces of this site be put together?
- Content – What will be displayed on the site?
- Informational hierarchy – How is this information organized and displayed?
- Functionality – How will this interface work?

• Behavior – How does it interact with the user? And how does it behave?

In wireframing, "high-fidelity" and "low-fidelity" refer to two different levels of detail and complexity in the wireframe design. These distinctions are important because they serve different purposes in the design and development process:

1. Low-Fidelity (Low-Fi) Wireframes:

- Simplicity: Low-fidelity wireframes are basic and minimalist in nature. They use simple shapes, lines, and placeholders to represent page elements such as text, images, buttons, and navigation menus.

- Purpose: Low-fi wireframes are primarily used for early-stage ideation and concept development. They help convey the overall layout and structure of a webpage or application without getting into specific design details.

- Speed: They are quick to create and easy to modify, making them ideal for brainstorming and rapid iterations. Changes can be made without investing much time or effort.

- Feedback Focus: Low-fi wireframes are often used to gather feedback on the general information architecture, page flow, and content placement rather than visual aesthetics.

2. High-Fidelity (High-Fi) Wireframes

- Detail: High-fidelity wireframes are more detailed and polished. They include finer design elements, such as specific fonts, colors, and visual styles, to closely resemble the final product's appearance.

- Purpose: High-fi wireframes are created in later stages of the design process when the overall layout and structure have been finalized. They serve as a bridge between wireframes and full-fledged visual design, providing a clearer representation of the final user interface.

- Realism: High-fi wireframes can convey a more realistic impression of what the final product will look like. They help stakeholders and designers better understand the visual aspect of the design.

-Development Reference: Developers often use high-fi wireframes as a reference when building the actual product because they include more detailed information about design elements and interactions.

Conclusion:

Questions:

1. What is Wireframe in web design?
2. How to create good wireframes?
3. How do wireframes differ from prototypes?
4. What is best way to add interactivity to a wireframe?

EXPERIMENT NO. 3 (Group A)

Aim: Designing a Social Fitness App: Create wireframes and a prototype for a social fitness app that allows users to track workouts, connect with friends, and share progress. Design the user interface for logging exercises, setting goals, and incorporating social features.

Outcome: At end of this experiment, student will be able to design a Social Fitness App

Software Requirement: IDE (e.g., Xcode or Android Studio), design tools (e.g., Figma or Adobe XD)

Theory:

Wireframes are simplified visual representations of digital interfaces, such as websites, mobile apps, or software applications. They serve as a foundational design tool, focusing on the layout, structure, and placement of elements within the interface, without including detailed visuals, colors, or interactive functionality. Wireframes are used in the early stages of the design process to plan and communicate the basic framework of a digital product, facilitating collaboration between designers, developers, and stakeholders.

They help identify and address design issues, ensure alignment with user needs, and provide a clear blueprint for the subsequent stages of design and development. Wireframes come in different levels of fidelity, from low-fidelity sketches to high-fidelity representations, depending on the project's requirements and objectives.

Types of Wireframes:

There are various types of wireframes, including:

- **Low-Fidelity Wireframes**: These are basic, abstract representations with minimal detail.
- **Mid-Fidelity Wireframes**: More detailed than low-fidelity wireframes, they include placeholder content.
- **High-Fidelity Wireframes**: Closer to the final design, they may incorporate some visual styling and details.

Designing a Social Fitness App:

A social fitness app is designed to help users track their workouts, connect with friends, and share their fitness progress. The development of such an app follows key principles to ensure its success and user engagement.

1. User-Centered Design:

- User Personas: User personas are created to understand the target audience, their fitness goals, preferences, and pain points.
- User Research: User research is conducted to gather insights into user behaviors, motivations, and expectations regarding fitness apps.

2. Wireframes and Prototypes:

- Wireframes: Wireframes are low-fidelity representations of the app's interface, focusing on layout and structure without detailed visuals.
- Prototypes: Prototypes are interactive models that demonstrate the app's functionality, helping visualize user interactions and workflows.

3. Core Features:

- Workout Tracking: Users can log exercises, including exercise type, duration, intensity, and sets/reps.
- Social Interaction: The app enables users to connect with friends, follow each other, and engage in social activities related to fitness.
- Progress Sharing: Users can share their fitness progress, achievements, and milestones with their social network.

4. User Interface Design:

- Exercise Logging: The user interface for logging exercises should be intuitive, with input fields for key exercise details.
- Goal Setting: The goal-setting interface should allow users to define specific, measurable fitness goals.
- Social Features: The social aspect of the app should include user profiles, friend requests, activity feeds, and messaging functionalities.

5. Gamification and Motivation:

- Gamification Elements: Incorporating gamification elements such as badges, challenges, and leaderboards can motivate users to achieve their fitness goals.
- Progress Tracking: Visualizing progress through charts and statistics can boost motivation.

6. Usability and Accessibility:

- Usability Testing: Regular usability testing helps identify and address usability issues, ensuring an intuitive user experience.
- Accessibility: The app should adhere to accessibility standards, making it inclusive for users with disabilities.

7. Privacy and Data Security:

- Privacy Settings: Users should have control over their data, with options to set privacy preferences for sharing their fitness information.
- Data Security: Implement robust data security measures to protect user data from breaches.

8. Iterative Design:

- Feedback Loop: Encourage user feedback and iterate on the app's design and functionality based on user input.
- Continuous Improvement: Continuously enhance the app's features and user experience to meet evolving user needs.

9. Cross-Platform Considerations:

- Mobile and Web: Consider designing the app for both mobile and web platforms to reach a broader audience.
- 10. Monetization Strategies: - Explore various monetization strategies, such as premium subscriptions, in-app purchases, or ad-supported models, while ensuring they align with user valueTop of FormBottom of Form

Conclusion: -

Thus we have studied and designed wireframes and a prototype for a social fitness app.

Questions:-

1. What's the main difference between a sketch and a wireframe?
2. When is it appropriate to start creating wireframes for a new website or app?
3. What are the typical deliverables for a wireframe project?

EXPERIMENT NO. 4 (Group A)

Aim: Designing a user interface for a recipe finder application, allowing users to search for recipes based on ingredients, categories, and dietary restrictions by using figma tool

Outcome: At end of this experiment, student will be able to design application using figma tool.

Software Requirement: IDE (e.g., Xcode or Android Studio), design tools (e.g., Figma or Adobe XD)

Theory :

Figma:

Figma is a popular cloud-based design and prototyping tool used by designers, UX/UI professionals, and product teams to create digital interfaces, user experiences, and interactive prototypes.

Cloud-Based Collaboration: Figma operates entirely in the cloud, which allows multiple users to collaborate on the same design project in real-time. This collaborative approach fosters teamwork and simplifies version control.

Cross-Platform: Figma is accessible on various platforms, including Windows, macOS, and web browsers. This makes it a versatile tool for designers using different operating systems.

Vector Editing: Figma provides a robust vector editor that enables users to create and edit vector-based graphics and illustrations. It supports common design elements like shapes, text, and images.

Interactive Prototyping: Designers can use Figma to create interactive prototypes by adding clickable links, transitions, and animations to simulate user interactions and demonstrate the flow of a digital product.

Components and Styles: Figma offers a system of components and styles that allows designers to create reusable design elements, ensuring consistency throughout a project. Changes to a component or style propagate automatically to all instances in a design, streamlining the design process.

Visual elements that can be implemented using Figma's Vector tool :-

Navigation and Menu:

Design the navigation menu or tabs that allow users to access different sections of the app, such as recipes, favorites, or settings.

Recipe Listing:

Create a layout for displaying recipe cards. Include elements like recipe names, images, and brief descriptions.

Consider how users can filter and sort the recipes.

Recipe Details Page:

Design a page where users can view detailed information about a selected recipe. Include ingredients, instructions, and cooking times.

Add buttons for actions like saving to favorites or sharing.

Search and Filters:

Design the search results page with filters and sorting options.

Create UI components for applying filters, such as dietary restrictions or cuisine types.

User Interactions:

Use Figma's interactive features to simulate user interactions. For example, you can create clickable prototypes to demonstrate how the app's features work.

Typography and Color Scheme: Define a typography style and color scheme that aligns with your app's branding and enhances readability.

Testing and Feedback:

Share your Figma prototype with potential users or team members for feedback.

Iterate on your design based on the feedback received.

Responsive Design:

Ensure your design is responsive, adapting to different screen sizes and orientations.

Features:

Create Artboards:

Start by creating an artboard for the recipe details page. You can do this by selecting the "Frame" tool in Figma and choosing the appropriate device or custom size for your design.

Header Section:

Design the header section, including the recipe name, a back button or navigation, and options for saving to favorites or sharing.

Instructions:

Design a section for step-by-step cooking instructions. Use numbered or bulleted lists to make it easy to follow.

Cooking Time and Servings:

Include information about cooking time and the number of servings the recipe yields.

Save to Favorites:

Design a button or icon that allows users to save the recipe to their favorites or recipe collection. You can use the Figma "Button" component for this.

Comments and Ratings:

Consider adding a section for user comments and ratings to provide social proof and feedback.

Related Recipes:

Optionally, you can include a section with related or similar recipes that users might find interesting.

Footer Navigation:

Design a footer that may include navigation to other parts of the app, such as the recipe listing, search, or user profile.

Interactivity:

Make elements interactive. For example, users should be able to click on the "Save to Favorites" button to save a recipe.

Typography and Styling:

Ensure consistent typography, colors, and styling throughout the page to maintain a cohesive design.

Conclusion: -

Questions:-

1. What does the Figma wireframe mean?
2. What is Figma Design System & Component Library?
3. What is Figma plugins?
4. How to improve prototyping workflow in Figma?

Experiment No. 5 (Group A)

Aim: Usability Testing Simulation: Develop a high-fidelity interactive prototype using any UI/UX tool. Prepare a usability testing plan, recruit participants, and simulate usability testing sessions. Analyze the feedback and iterate on the design based on the insights gathered during the testing.

Practical Outcome:

1. High-Fidelity Interactive Prototype: Develop a fully interactive, high-fidelity prototype that accurately represents the design's look and functionality.

2. Usability Testing Plan: Prepare a comprehensive usability testing plan including objectives, scenarios, tasks, participant profiles, metrics, and logistics.

3. Recruited Participants: Recruit a diverse group of participants who represent the target user base.

4. **Usability Testing Sessions:** Conduct simulated usability testing sessions with participants, including think-aloud protocols and task scenarios.

5. **Recorded Sessions:**Capture usability testing sessions through screen recording software, with the participants' consent.

Software Requirements:

1. **UI/UX Design Tool:** Select a design tool such as Figma, Sketch, Adobe XD, or In Vision to create the high-fidelity interactive prototype.

2. Usability Testing Software: Use software like Zoom, Microsoft Teams, or user testing platforms like Usability Hub or User Zoom for remote usability testing sessions.

3. **Recruitment Tools:** Consider using tools like LinkedIn, social media, or dedicated participant recruitment platforms for finding and recruiting participants.

4. Screen Recording and Analysis Tools: Employ screen recording software like OBS Studio or built-in recording features of video conferencing tools for capturing usability testing sessions. Use spreadsheets or specialized usability testing analysis software for data analysis.

4. **Note-Taking Tools:** Use digital note-taking tools like Google Docs, Microsoft Word, or specialized usability note-taking software to capture observations during usability testing sessions.

Theory:

Usability testing is a critical step in the UI/UX design process that involves evaluating a product or prototype's usability by real users. It helps identify usability issues, user preferences, and areas for

improvement. This practical exercise aims to simulate the process of developing a high-fidelity interactive prototype, conducting usability testing, and iterating on the design based on user feedback.

Usability Testing Goals:

1. Usability Testing Goals: The primary goals are to uncover usability problems, assess user satisfaction, and make informed design improvements.

2. Usability Issues: These are obstacles or difficulties users encounter while interacting with the product. Identifying these issues helps in creating a smoother user experience.

3. User Satisfaction: This measures how satisfied users are with the product. Satisfied users are more likely to use the product and recommend it to others.

4. Iteration: Usability testing is an iterative process. Insights from testing inform design changes, which are then retested until the product meets user needs and expectations.

5. Design Tools: UI/UX designers use specialized software like Figma, Sketch, or Adobe XD to create high-fidelity prototypes that resemble the final product.

6. Usability Testing Plan: Before testing, a plan is created, outlining objectives, user profiles, scenarios, tasks, metrics, and logistics for the testing sessions.

7. Recruitment: Participants matching the target user group are recruited using various methods, including social media and participant recruitment platforms.

8. Testing Sessions: Participants interact with the prototype or product while thinking aloud and completing specified tasks. This provides insights into their thought processes and difficulties faced.

9. Recording: Usability testing sessions are recorded, usually with participants' consent, for later analysis.

10. Feedback Analysis: Observations, feedback, and data collected during testing are analyzed to identify usability issues and opportunities for improvement.

Conclusion:

Questions:

1. What's the goal of usability testing
2. How do you gather information on a usability test?
3. What should you ask a participant during a moderated usability test?