Theory Assingment

Ui desing tools and practical Application

1. Tool comparison:compare figma ,sketch ,and adobe XD terms of features and ease of use for UI/UX desing.

Tool Comparison: Figma vs. Sketch vs. Adobe XD for UI/UX Design

Feature	Figma	Sketch	Adobe XD
Platform	Web-based (works on Windows, Mac, Linux via browser)	macOS only	Windows & macOS
Collaboration	Real-time collaboration (like Google Docs)	Limited (requires third-party plugins)	Co-editing available but not as seamless as Figma
Performance	Fast in-browser, some lag for large files	Optimized for macOS, smooth performance	Smooth, but less optimized for very large projects
Plugins & Integrations	Extensive plugin library, third-party integrations (Notion, Jira, etc.)	Large plugin ecosystem, but Mac-exclusive	Plugin support, but fewer than Figma & Sketch
Prototyping	Advanced interactive prototyping, smart animations, shared previews	Basic prototyping, relies on InVision for interactions	Strong prototyping with auto-animate, voice commands
Design Systems & Components	Excellent component and variant system	Powerful symbol system but less flexible than Figma	Good component system but not as intuitive as Figma
Version Control	Built-in version history & cloud storage	Manual version control or with Abstract	Built-in version history but less seamless than Figma
Learning Curve	Easy to learn, intuitive for beginners	Slightly steeper learning curve	Beginner-friendly, but some Adobe-specific workflows

Pricing	Free plan available, paid plans for teams	One-time purchase, requires Mac	Subscription-based, included in Adobe CC

Ease of Use Summary

Figma is the best for teams needing real-time collaboration and cross-platform accessibility.

Sketch is ideal for macOS users who prefer a one-time purchase and a native app experience.

Adobe XD integrates well with the Adobe ecosystem and is great for designers familiar with Adobe products.

Which One Should You Choose?

For Collaboration & Cloud-based Workflow → Figma

For macOS Users Preferring Offline Work → Sketch

For Adobe Users Who Need Prototyping Features → Adobe XD

2. Component-based desing :Explain the importance of reusable components and desing systems.

1. Importance of Reusable Components

Reusable components are building blocks that can be used across various sections of an application. Their significance lies in:

a) Efficiency and Faster Development

Developers can create a component once and use it multiple times instead of coding similar features from scratch.

This reduces redundant work, accelerates development, and allows teams to focus on solving unique challenges.

b) Consistency in Design & UI

Using reusable components ensures that the look and feel remain uniform across an application.

Buttons, forms, and modals behave consistently, improving user experience.

c) Maintainability & Scalability

If a change is needed, modifying a single component updates all instances where it is used.

This makes updates and bug fixes more manageable, leading to scalable applications.

d) Improved Collaboration

Teams can share components across different projects, promoting better teamwork and reducing duplication.

Developers, designers, and product teams can work more cohesively.

2. Importance of Design Systems

A **design system** is a collection of reusable UI components, guidelines, and best practices that ensure a consistent and scalable user interface. It includes elements like typography, colors, spacing, and component libraries.

a) Design Consistency

Ensures all elements follow a unified visual language across different screens and platforms.

Prevents UI inconsistencies when multiple designers or developers are involved.

b) Reusability at Scale

Components from a design system can be easily adapted for different projects or products.

It helps organizations standardize design across their product ecosystem.

c) Better Collaboration Between Teams

Aligns developers and designers with a single source of truth, reducing miscommunication.

Enhances efficiency by providing ready-to-use assets and documentation.

d) Faster Prototyping and Iteration

Teams can quickly assemble interfaces using pre-built components, making prototyping and user testing faster.

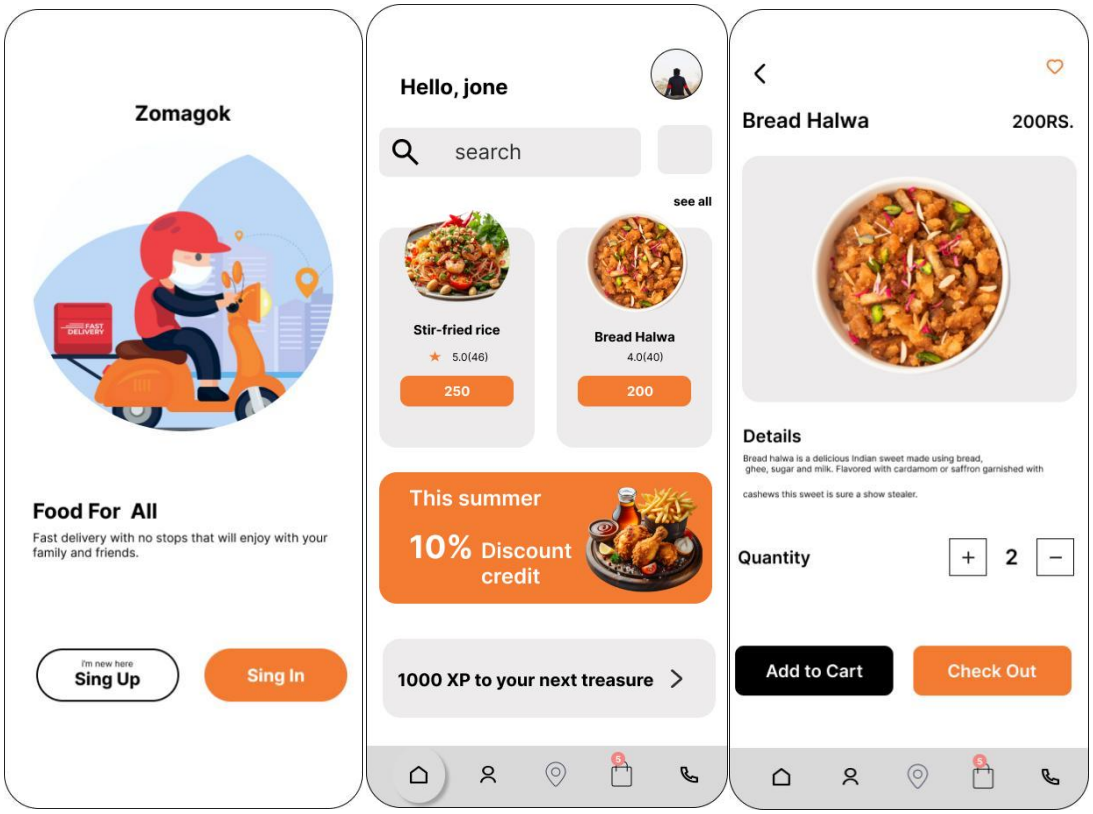
Allows for rapid iterations based on user feedback.

Conclusion

Component-based design, powered by reusable components and design systems, is essential for modern software development. It enhances efficiency, maintains consistency, and fosters collaboration. Businesses and developers adopting this approach can build scalable, maintainable, and user-friendly applications efficiently.

Practical Assingment

1. Redesing Task:Redesing a basic webpage or app screen in figma or abode XD.



2. **Create a desing system** :Build a desing system with compnents like buttons ,input fields,and icons.

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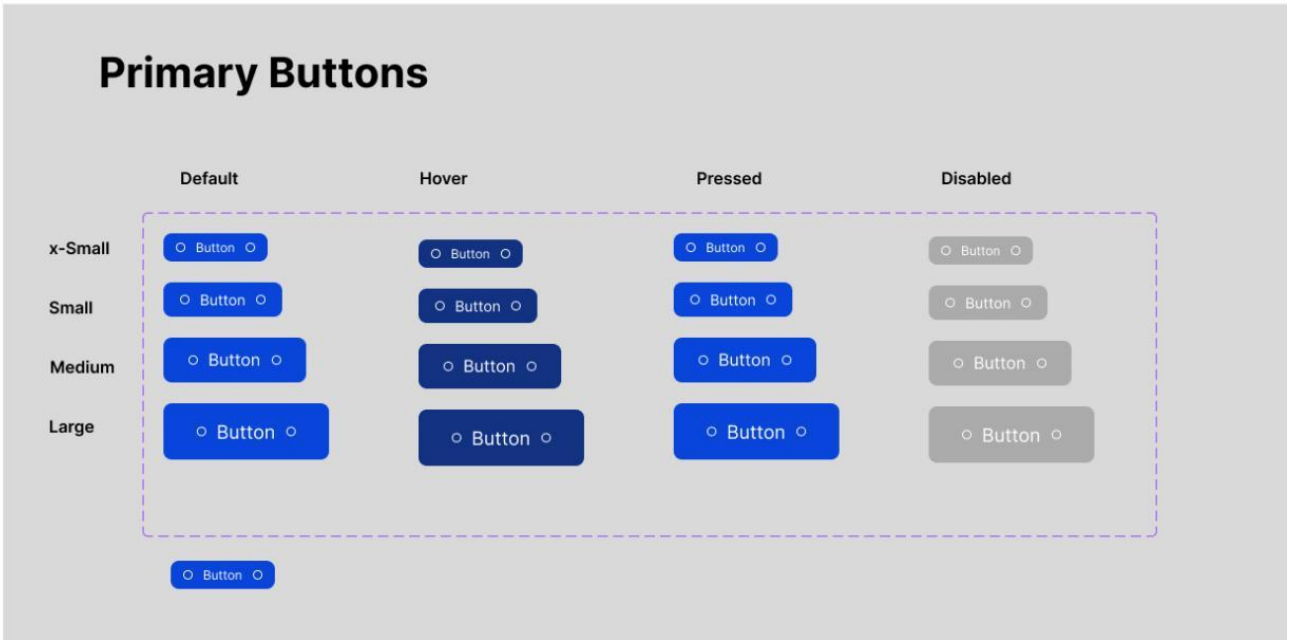
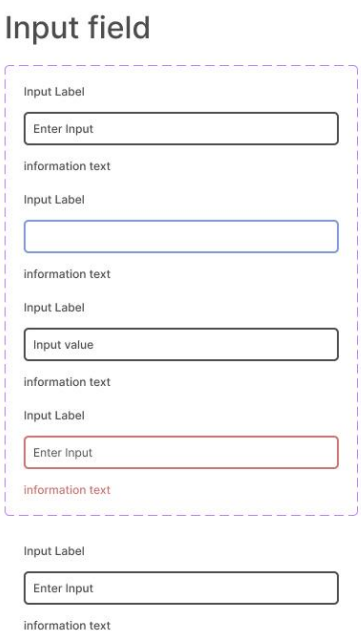
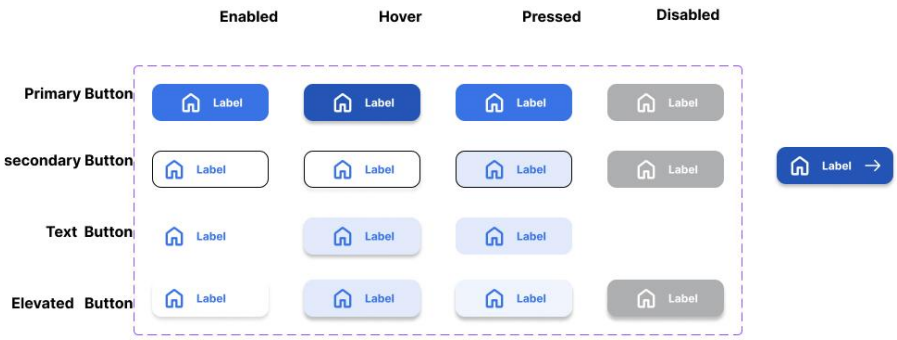
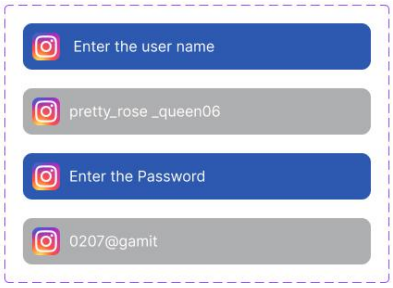




https://www.figma.com/design/ekpeRmzZbIGbedSRJ7dPMF/Untitled?node-id=1-3&t=5j8Jnon5psQbdQxD-1

3. component Library: Desing a Library of basic UI element (buttons,icons,headers) for reuse across projects.





Theory Assingment

Advance Prototyping and Usability Testing

1. usability Testing:Write a guide on planing and conducting usability testing sessioans.

1. Introduction

Usability testing is a crucial step in the design and development process, helping teams evaluate how intuitive and user-friendly their product is. This guide outlines the best practices for planning and conducting usability testing sessions to gather actionable insights.

2. Planning a Usability Testing Session

a. Define Your Objectives

Before starting, determine what you want to learn from the usability test. Common objectives include:

Identifying usability issues

Evaluating the efficiency of task completion

Understanding user satisfaction

b. Choose the Right Participants

Select users who represent your target audience. Consider factors such as:

Demographics

Technical proficiency

Prior experience with similar products

c. Select the Testing Method

There are several usability testing methods to choose from:

Moderated testing (in-person or remote): Facilitator guides users through tasks.

Unmoderated testing: Users complete tasks independently.

A/B testing: Comparing two versions of a product to determine which performs better.

d. Prepare Test Scenarios and Tasks

Design realistic tasks that reflect how users would interact with your product. Ensure that:

Tasks are clear and actionable

Instructions are neutral (avoid leading users)

Tasks align with your test objectives

e. Set Up the Testing Environment

Choose appropriate tools for remote testing (e.g., Zoom, UserTesting, Lookback.io)

Ensure a distraction-free environment for in-person testing

Test the setup in advance to avoid technical issues

3. Conducting the Usability Test

a. Welcome Participants

Briefly introduce yourself and explain the purpose of the test

Assure users that you are testing the product, not their abilities

Obtain informed consent for recording and data collection

b. Facilitate the Test

Ask users to think aloud as they complete tasks

Observe behaviors and take notesAvoid giving hints or instructions unless the participant is stuck

c. Gather Feedback

Ask open-ended questions such as:

"What did you find challenging about this task?"

"What did you expect to happen here?"

"How do you feel about this experience?"

4. Analyzing and Reporting Findings

a. Identify Key Issues

Look for patterns in user difficulties

Prioritize issues based on severity and frequency

b. Provide Actionable Recommendations

Suggest design improvements backed by data

Categorize findings into quick fixes and long-term changes

c. Create a Report

Include:

Test objectives

Participant demographics

Key findings

Suggested improvements

Supporting data (videos, screenshots, quotes)

5. Implement Changes and Iterate

Work with designers and developers to address usability issues

Conduct follow-up tests to validate improvements

Continuously iterate based on user feedback

Conclusion

Usability testing is an ongoing process that ensures products meet user needs efficiently. By following this guide, you can systematically plan, conduct, and analyze usability tests to create a better user experience.

2. usability metrice: explain key metrice use to evaluate usability (e.g..,task success rate,error rate.)

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5. Usability Metrics

To effectively evaluate usability, key metrics should be analyzed:

a. Task Success Rate

Measures the percentage of users who successfully complete a task.

High success rates indicate good usability, while low rates highlight problem areas.

A task is considered successful if the user completes it correctly without assistance.

Success rate is typically calculated as:

Task Success Rate (%) = (Number of successful completions / Total attempts) × 100

b. Error Rate

Tracks the number of errors users make while completing tasks.

Helps identify confusing or unintuitive design elements.

Can be categorized as minor or major errors depending on the impact on usability.

c. Task Completion Time

Evaluates how long it takes users to finish a task.

Faster times generally indicate a more efficient interface.

Variations in task completion time can indicate usability challenges.

d. User Satisfaction

Measured through surveys like the System Usability Scale (SUS) or qualitative feedback.

Helps understand user perceptions and overall experience.

Typically gathered through post-test questionnaires or interviews.

e. Clicks to Completion

Counts the number of clicks needed to complete a task.

Fewer clicks suggest a more streamlined user experience.

Can highlight areas where users take unnecessary steps.

f. Retention Rate

Measures how often users return to use the product after their initial experience.

Indicates long-term usability and engagement.

A low retention rate may indicate usability issues or lack of perceived value.

6. Implement Changes and Iterate

Work with designers and developers to address usability issues

Conduct follow-up tests to validate improvements

Continuously iterate based on user feedback

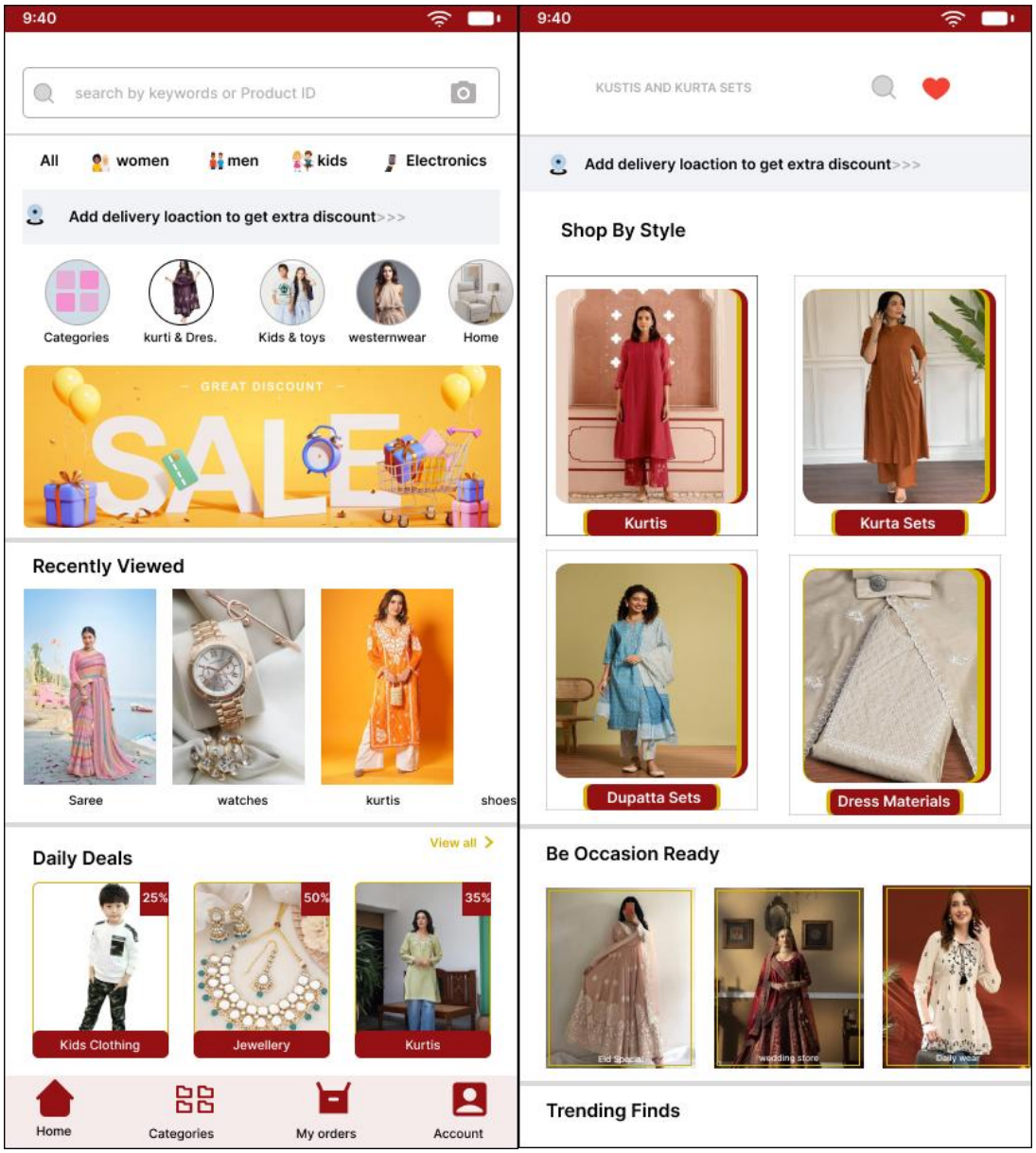
Conclusion

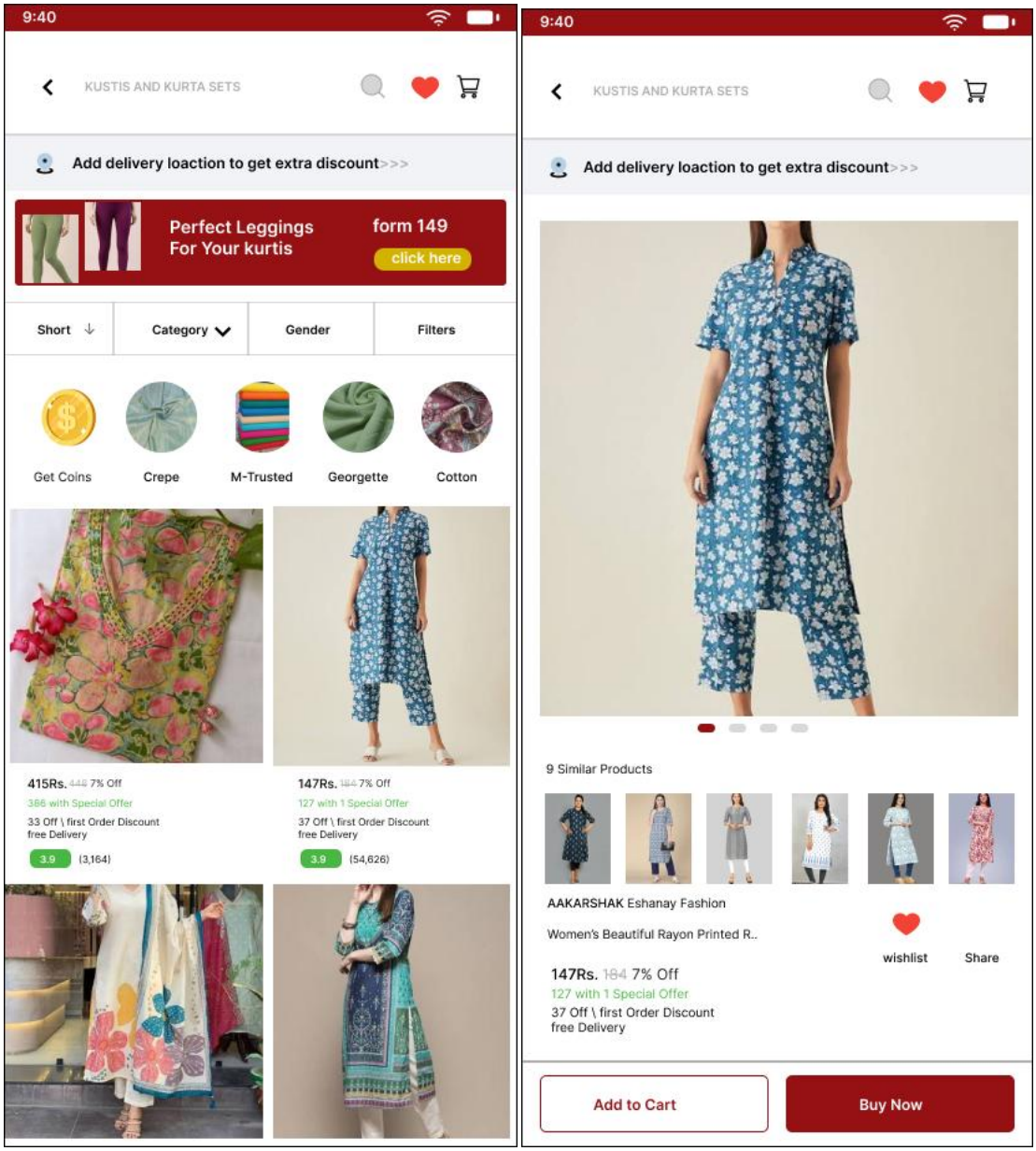
Usability testing is an ongoing process that ensures products meet user needs efficiently. By following this guide, you can systematically plan, conduct, and analyze usability tests to create a better user experience.

Practical Assingment

High fedility prototype:create an interactive high-fedility prototype for a complex page,like a product check out flow.

https://www.figma.com/design/58DUMRbAwrwvEeXaT9jlJb/product-check-out?node-id=0-1&t=4cTrcih9hmT8Jhyb-1





2.conduct a usability test: test your prototype with a small group, collect feedback ,and document findings.

Prototype Usability Test Feedback Report

Prototype Name: E- commarce app

Test Date: 26/03/2025

Participants: 4

Facilitator: Prinkagamit

Objective: Evaluate the usability, efficiency, and user experience of the checkout process in the e-commerce app prototype.

Test Method: [In-person testing / Remote testing / Survey / Think-aloud protocol]

Key Tasks Tested:

Adding items to the cart

Reviewing the cart

Entering shipping details

Applying discount codes

Selecting a payment method

Completing the checkout process

Receiving an order confirmation

2. Key Findings & Feedback

A. Positive Aspects

Smooth Cart Review: Users found it easy to review and edit their cart before proceeding. **Multiple Payment Options:** Availability of various payment methods was appreciated. **Clear Order Summary:** Users liked having a breakdown of costs before finalizing the purchase. **Responsive Design:** The checkout process adapted well to different screen sizes.

B. Issues Identified & Recommendations

Issue 1: Confusing Discount Code Application

User Feedback: "I had trouble finding where to enter my promo code.

Recommendation: Make the discount code field more prominent and allow users to apply it earlier in the process.

Issue 2: Lack of Guest Checkout Option

User Feedback: "I don’t want to create an account just to make a purchase."

Recommendation: Introduce a guest checkout feature to streamline the process for new users.

Issue 3: Slow Payment Processing

User Feedback: "After clicking pay, the loading time was too long."

Recommendation: Optimize backend processing and provide a loading indicator to inform users.

Issue 4: Unclear Error Messages

User Feedback: "When my payment failed, I didn’t know why."

Recommendation: Implement clear, specific error messages for failed transactions.

Issue 5: Missing Confirmation Page Details

User Feedback: "I wasn’t sure if my order was placed successfully."

Recommendation: Ensure the confirmation page includes order number, estimated delivery date, and customer support contact.