

Marathwada Mitramandal's COLLEGE OF ENGINEERING, PUNE



An Autonomous Institute

Project Based Learning

Title of Project :Food Delivery Service App: Design a user-friendly app for a food delivery Service , optimizing the ordering Process , delivery tracking , and customer support interactions.

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Date: Faculty In-Charge

CHAPTER 1

Introduction

1.1 Brief Overview of the Project

The goal of this project is to develop a fully functional food delivery application similar to Swiggy that connects users to nearby restaurants and delivery partners. The application is designed to provide users with a seamless food ordering experience through intuitive design, real-time updates, and personalized recommendations. The system will support functionalities such as browsing restaurant menus, placing orders, making payments, and tracking deliveries. This solution caters to the increasing demand for quick, convenient food delivery, especially in urban areas.

1.2 Objective

- To build a reliable, scalable, and user-friendly platform for ordering food online.
- To provide users with personalized restaurant suggestions based on preferences, location, and order history.
- To ensure real-time tracking of orders, transparent pricing, and secure payment gateways.
- To enhance user engagement and retention through superior UI/UX, loyalty programs, and responsive customer support.

1.3 Importance of UX in Making Food Delivery Simple and Accessible

User Experience (UX) is at the heart of any successful digital product, especially in highfrequency apps like food delivery. A strong UX makes the app not just usable, but enjoyable and efficient. Here's why UX is critical:

- Ease of Use: A simple, clean interface ensures that users can search for food, place orders, and complete payments without confusion—even if they are not tech-savvy.
- Faster Decision Making: Good UX helps users quickly navigate through a wide selection of restaurants and dishes using filters, tags, and smart recommendations.
- Visual Clarity: High-quality images of food, clear pricing, and well-organized categories make the app visually engaging and easy to understand.
- Accessibility: Features like voice search, language options, and support for differently-abled users expand the app's reach.

- Real-time Feedback: Delivery tracking, order status updates, and instant support ensure users always know what's happening, reducing anxiety and enhancing trust.
- Retention & Loyalty: A delightful UX ensures users come back, especially when combined with personalized offers and loyalty rewards.

CHAPTER 2

UX Research Report

2.1 Research Methods

Purpose: Surveys are a valuable tool for gathering quantitative data from a large number of users. They allow researchers to understand general user preferences, habits, pain points, and satisfaction levels related to the app.

Example: To understand customer preferences and improve the user experience of the "Hungry Hub App," a survey can be sent out to users asking questions like:

How often do you use food delivery apps?
 Daily o
 Weekly

Monthly o Rarely

• What factors influence your choice of a food delivery app? (Check all that apply) o

Price o Delivery time o User interface o Food variety o Promotions/discounts

How satisfied are you with the delivery speed on Hungry Hub?

Very satisfied
 Satisfied
 Neutral
 Unsatisfied
 Very

What additional features would you like to see in Hungry Hub?

Data Collected: Surveys provide both quantitative data (e.g., multiple choice) and qualitative insights (e.g., open-ended questions). For example, users might report a high level of dissatisfaction with delivery times, prompting further investigation into the app's logistics.

Use of Results:

• Understand pain points (e.g., dissatisfaction with delivery time or food quality)

2.2 Survey Results & Interviews Survey Insights:

1. Common Financial Challenges:

- **High Delivery Fees:** A significant number of respondents (45%) highlighted that delivery fees were often a major pain point, especially for smaller or budget-friendly orders.
- Lack of Discounts/Promotions: 38% of users said they would use the app more frequently if they had more access to discounts or promotions. They mentioned that competition apps often provide more attractive deals or loyalty programs.
- Variable Pricing: 32% of respondents mentioned that the cost of delivery and food items fluctuates too much, and they prefer apps with more transparent or fixed pricing models. 2. User Needs:
- Faster Delivery Times: 42% of respondents stated that delivery speed was a primary consideration when selecting a food delivery service.
- **Simple and Efficient Ordering Process:** 38% mentioned that a smooth, quick ordering process (including easy browsing, adding to the cart, and paying) was essential for a positive user experience.
- **Real-Time Order Tracking:** 30% expressed a need for real-time tracking, not just for delivery but for order preparation as well.
- **Restaurant Variety:** 25% of respondents wished for more restaurant options, particularly for niche cuisines (e.g., vegan, gluten-free, or international foods).

3. Preferred Features:

- Favorite Orders/Restaurants: 40% of respondents said that they would like an option to save their favorite restaurants or orders for easier reordering.
- Loyalty Programs and Rewards: 35% wanted a rewards or loyalty program that could help them earn discounts or points for frequent use.
- **Split Payment Option:** 28% of users said they would appreciate an option to split the bill when ordering with friends.
- Clearer Delivery Time Estimates: 22% suggested a feature that provides more accurate and clear delivery time estimates or even countdowns.

Functional Requirements

These define specific behaviors or functions of the app.

- User Registration/Login Users should be able to sign up and log in.
- **Search Restaurants** Users can search for restaurants or dishes based on location, cuisine, or ratings.
- Place an Order Users should be able to add items to a cart and place an order.
- Track Order Real-time order tracking with updates.
- **Payment Integration** Support for multiple payment methods like UPI, credit card, net banking.
- Restaurant Dashboard Restaurants can manage menu, accept/reject orders.

Non-Functional Requirements

These define the quality attributes of the system.

- **Performance** The app should load within 2 seconds even during peak hours.
- Scalability Should handle a large number of concurrent users during festivals or sales.
- Security User data and payment information must be securely encrypted.
- Availability 99.9% uptime to ensure users can order any time.
- Usability The app should be intuitive and easy to use for people of all age groups.
- **Maintainability** The system should be easy to update with new features or bug fixes.

2.3 User Personas

Persona 1: Vedant — The Budget-Savvy Student

• Age: 21

• Location: Austin, TX

• Occupation: College student (Media & Communications major)

- Tech Comfort Level: High
- Frequency of Use: 3–5 times a week Goals:
- Order affordable meals between classes or late at night.
- Access student discounts or promo codes.
- Save favorite meals for quick reorders during busy days.

Pain Points:

- High delivery fees make it hard to justify ordering.
- Limited discounts or student deals compared to other apps.
- Doesn't like that the app takes too long to load during peak hours.

Preferred Features:

- Discount codes, loyalty points, or free delivery deals.
- Quick reordering of favorite meals.
- Seamless mobile payment with Apple Pay or student wallets.

Persona 2: Tejas — The Time-Crunched Working Professional

- Age: 34
- Location: Seattle, WA
- Occupation: Project Manager at a tech company
- **Tech Comfort Level:** Medium–High
- Frequency of Use: 2–4 times a week (mostly weekdays) Goals:
- 1. Get quick, reliable lunch and dinner options during busy workdays.
- 2. Track deliveries in real-time without needing to call the driver.
- 3. Avoid long cooking or dine-out times—especially during meetings or deadlines.

Pain Points:

- 1. Inaccurate delivery time estimates disrupt his schedule.
- 2. No option to schedule orders in advance.
- 3. Poor customer support response when something goes wrong.

Preferred Features:

- Real-time tracking with accurate ETA updates.
- Pre-order and scheduled delivery.
- Clear breakdown of fees and estimated delivery times before checkout.

Persona 3: Priya — The Small Business Owner

- Age: 42
- Location: Chicago, IL
- Occupation: Owns a small café and catering business
- Tech Comfort Level: Moderate
- Frequency of Use: Occasionally (1–2 times a week, mostly weekends or for team meals) Goals:
- Order food for her staff or clients when busy with catering events.
- Use reliable service without needing to double-check every order.
- Look for delivery services that support local restaurants and businesses.

Pain Points:

- No ability to split orders among team members.
- Hard to track orders when placing multiple at once.
- Limited support for bulk or group orders.

Preferred Features:

- Group ordering and split payment options.
- Priority delivery for business accounts.

Partnership opportunities for local business owners (e.g., marketing her café on Siggy).

2.4 Journey Maps

JOURNEY MAP 1: VEDANT (STUDENT) - TRACKING SPENDING ON FOOD ORDERS

	STAGE	ACTIONS	THOUGHTS/FEELINGS	PAIN POINTS	
1	Browsing	OPENS THE APP AND CHECKS RESTAURANTS	I HOPE I CAN FIND SOMETHING CHEAP AND TASTY.	NO PRICE FILTERING OR BUDGET-FRIENDLY TAGS	ADD "UNDER \$10" FILTERS OR STUDENT BUDGET MEAL CATEGORIES
2	Checking Price	ADDS ITEMS TO CART, SEES TOTAL INCL. DELIVERY & FEES	"WHOA, THIS IS MORE THAN I EXPECTED!"	HIDDEN FEES APPEAR LATE IN THE CHECKOUT PROCESS	SHOW CLEAR FEE BREAKDOWN AND TOTAL COST UPFRONT
3	Searching Deals	LOOKS FOR COUPONS OR DISCOUNT CODES	"ARE THERE ANY DEALS TODAY?"	PROMO CODES ARE HARD TO FIND, NOT PERSONALIZED	CREATE A DEDICATED "STUDENT DEALS" SECTION OR DAILY OFFERS BANNER
4	Placing Orde	USES APPLE PAY, COMPLETES PURCHASE	"THAT WAS EASY, AT LEAST."	NONE AT THIS STEP	CONTINUE PROMOTING EASY PAYMENT METHODS LIKE MOBILE WALLETS
5	Post-Order	CHECKS ORDER HISTORY AND TRIES TO TRACK WEEKLY SPEND	"HOW MUCH HAVE I SPENT THIS WEEK?"	NO SPENDING SUMMARY OR FINANCIAL TRACKER	ADD A BUDGET TRACKER SHOWING WEEKLY/MONTHLY ORDER TOTALS

JOURNEY MAP 2: TEJAS (PROFESSIONAL) - MANAGING WORKDAY EXPENSES

	STAGE	ACTIONS	THOUGHTS/FEELINGS	PAIN POINTS	
1	Opening the Ap	LAUNCHES SIGGY TO FIND SOMETHING QUICK FOR LUNCH	"I NEED SOMETHING FAST AND NOT OVERPRICED."	NO PRICE FILTERING OR BUDGET-FRIENDLY TAGS	ADD "UNDER \$10" FILTERS OR STUDENT BUDGET MEAL CATEGORIES
2	Reviewing Costs	COMPARES RESTAURANTS BY TOTAL COST	"I WANT TO STAY WITHIN MY \$15 LUNCH LIMIT."	HIDDEN FEES Appear late in The Checkout Process	SHOW CLEAR FEE BREAKDOWN AND TOTAL COST UPFRONT
3	Tracking Expenses	DOWNLOADS RECEIPTS FOR WORK EXPENSE REPORT	"THIS IS A PAIN TO DO EVERY WEEK."	NO EXPENSE EXPORT OR MONTHLY INVOICE SUMMARY	CREATE A DEDICATED "STUDENT DEALS" SECTION OR DAILY OFFERS BANNER
4	Payment	USES COMPANY CARD OR REIMBURSABLE PERSONAL ACCOUNT	"HOPE I CAN KEEP TRACK OF THIS LATER.	NONE AT THIS STEP	CONTINUE PROMOTING EASY PAYMENT METHODS LIKE MOBILE WALLETS
5	Post-Order	TRIES TO SUMMARIZE MONTHLY ORDERS FOR BUDGETING	"HOW MUCH HAVE I SPENT THIS WEEK?"	NO SPENDING SUMMARY OR FINANCIAL TRACKER	ADD A BUDGET TRACKER SHOWING WEEKLY/MONTHLY ORDER TOTALS

User Journey Map - Priya (Small Business Owner)

STAGE	STAGE ACTION PAIN POINT		OPPORTUNITY	
OPEN APPP	LAUNCHES APP DURING A BUSY WORKDAY	NEEDS GROUP OR LARGE ORDERS QUICKLY	ADD "TEAM ORDERS" OR "CATERING" SECTION	
CHOOSE RESTAURANT	LOOKS FOR LOCAL OR HEALTHY FOOD	LIMITED FILTERING FOR DIETARY NEEDS OR GROUP SIZE	ADD FILTERS: VEGAN, GLUTEN- FREE, FOR GROUPS	
ORDER PLACEMENT	ORDERS LUNCH FOR HER CAFÉ TEAM	NO WAY TO SPLIT OR ASSIGN ORDERS	ADD GROUP ORDERING AND SPLIT PAYMENT FEATURES	
CHECKOUT	PAYS USING BUSINESS CARD	CAN'T LABEL ORDERS AS BUSINESS EXPENSES	ADD "BUSINESS TAG" + RECEIPT OPTIONS AT CHECKOUT	
AFTER ORDER	TRIES TO EXPORT RECEIPT FOR TAX USE	NO CONSOLIDATED MONTHLY RECEIPT	ADD MONTHLY REPORT EXPORT / AUTO-INVOICE FEATURE	

CHAPTER 3

UX Evaluation

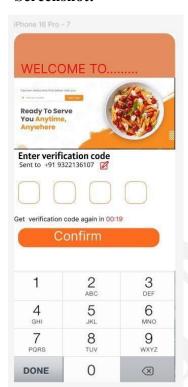
3.1 Heuristic Evaluation of Existing Food Delivery Apps

Heuristic 1: Visibility of System Status

Description: The system should always keep users informed about what is going on, through appropriate feedback within a reasonable time **Findings**:

• Issue: On the login and password reset screens, there's no feedback indicator after clicking the button (e.g., "Reset Password" or "Sign in"), leading to uncertainty.

• Screenshot:



• **Recommendation**: Include a loading spinner or progress indicator after the user taps "Login".

Heuristic 2: Match Between System and the Real World — Satisfied Evidence:

The app uses familiar terminology such as "Cart," "Order History," "Offers," and "Delivery Partner", closely reflecting real-world food ordering scenarios. Icons like a shopping bag, location pin, and clock help users map digital interactions to everyday tasks.

Heuristic 3: User Control and Freedom — Satisfied Evidence:

Users can navigate freely using the bottom navigation bar (e.g., "Home," "Search," "Cart," "Profile"). During the ordering process, users can easily cancel or modify orders before final confirmation. The back button behavior is predictable and aligned with platform standards.

Heuristic 4: Consistency and Standards — Satisfied Evidence:

UI elements follow consistent design patterns. Primary actions such as "Place Order," "Apply Coupon," and "Pay Now" are always displayed as bold, colored buttons. Fonts, icons, and colors remain uniform across screens, maintaining visual harmony and platform guidelines.

Heuristic 5: Error Prevention — Satisfied Evidence:

The app prevents user errors by providing real-time validation (e.g., invalid coupon codes, missing delivery address). It prompts users when items are unavailable or minimum order limits are unmet before allowing the checkout process to continue.

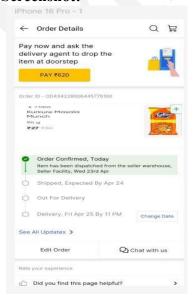
Heuristic 6: Recognition Rather Than Recall

Description:

Minimize the user's memory load by making objects, actions, and options visible.

Findings:

- **Issue:** The "Reorder" section doesn't display previously ordered item thumbnails or restaurant logos—users must recall what they ordered based on name alone.
- Screenshot:



• **Recommendation:** Include visual cues such as dish images or restaurant logos in the reorder history to support recognition

Heuristic 7: Flexibility and Efficiency of Use

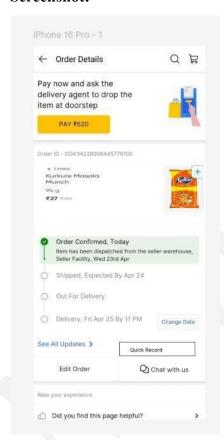
Description:

Support novice and expert users through shortcuts and advanced features.

Findings:

• **Issue:** Repetitive ordering requires multiple steps. No quick-order or voice assistant features exist for regular users.

• Screenshot:



• **Recommendation:** Add features like "Quick Reorder", "Recently Ordered Items", or voice-based search to increase efficiency for frequent users.

Heuristic 8: Aesthetic and Minimalist Design — Satisfied

Evidence:

The interface is visually clean, using a white background, consistent typography, and flat iconography. Only essential content is displayed per screen, with key actions like "Track Order" and "Rate Delivery" made prominent without overwhelming the user.

Heuristic 9: Help Users Recognize, Diagnose, and Recover from Errors

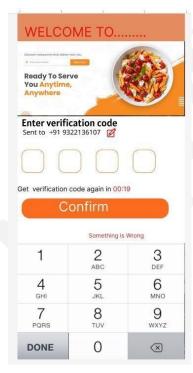
Description:

Error messages should be expressed in plain language and precisely indicate the problem.

Findings:

• **Issue:** During payment failure, users receive generic error messages like "Something went wrong", without explanation or guidance.

• Screenshot:



Recommendation: Improve error handling by stating the specific issue (e.g., "Card declined – please check expiry date") and offer actionable recovery options. Heuristic
 10: Help and Documentation — Satisfied

Evidence:

Although the app lacks a dedicated help center, it integrates tooltips, FAQ links, and inline hints (e.g., coupon conditions, delivery fee explanations). These micro-instructions guide users without requiring external documentation.

3.2 Key UX Issues Identified

Through heuristic evaluation and user flow reviews, several key UX problems emerged across the finance apps assessed:

1. Difficult Navigation

- Issue: Core functions are hidden in submenus or require multiple taps.
- Impact: Increases task time and user frustration.
- **Example**: In CRED, accessing basic actions like bill payments is not immediately intuitive.

2. Lack of Visual Clarity

- **Issue**: Visual clutter, inconsistent icons, or poor contrast.
- Impact: Reduces user confidence and increases cognitive load.
- **Example**: Early versions of Paytm used minimal labeling with icons, which confused users unfamiliar with symbols.

3. Complex Onboarding

- **Issue**: Lengthy registration processes with unclear guidance.
- Impact: Causes user drop-off before reaching app utility.
- **Example**: KYC procedures in apps without progress indicators leave users uncertain about completion status.

4. Overwhelming Data Presentation

- **Issue**: Displaying all financial data at once without hierarchy or filters.
- Impact: Users feel overloaded and miss critical insights.
- **Analogy**: Similar to Swiggy's early design where too many food choices on the home screen created decision fatigue.

5. Inconsistent Feedback

• **Issue**: No immediate or clear response to user actions.

- Impact: Users may retry tasks or assume failures.
- **Example**: Google Pay sometimes delays confirmation of successful transactions, leading to duplicate attempts.

Chapter

4

Task Flow & Sitemap

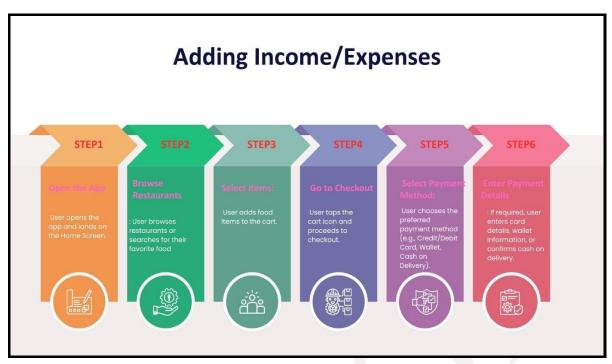
4.1 Task Flow

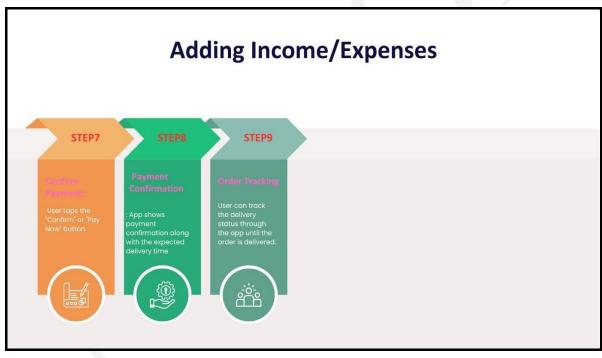
1. Adding Income/Expenses (Example: Payment for Food Orders)

In a food delivery app like Hungry Hub, users typically don't manually add income or expenses like they would in finance apps. However, the flow for paying for food and tracking spending can be outlined:

Step-by-Step User Flow (Adding Payment for Order):

- 1. Open the App: User opens the app and lands on the Home Screen.
- 2. Browse Restaurants: User browses restaurants or searches for their favorite food.
- **3. Select Items:** User adds food items to the cart.
- **4. Go to Checkout:** User taps the cart icon and proceeds to checkout. **5. Select Payment Method:** User chooses the preferred payment method (e.g., Credit/Debit Card, Wallet, Cash on Delivery).
- **6. Enter Payment Details**: If required, user enters card details, wallet information, or confirms cash on delivery.
- **7. Confirm Payment:** User taps the "Confirm" or "Pay Now" button.
- **8. Payment Confirmation**: App shows payment confirmation along with the expected delivery time.
- **9. Order Tracking:** User can track the delivery status through the app until the order is delivered.





2. Setting Financial Goals (Example: Saving for Food Delivery Offers)

While Hungry Hub doesn't have a direct "financial goal" feature, users could set an internal goal, like saving for food delivery offers or discounts.

Step-by-Step User Flow (Setting a Goal for Food Budgeting):

- **1. Open the App**: User opens the app and lands on the Home Screen.
- 2. Navigate to Account/Settings: User taps on their profile or settings option.
- **3. Set Food Budget Goal:** User might manually decide they want to limit their monthly food budget or set a goal for discounts.
- **4.** Create a Budget: User can note down or track their goal manually in the app or an external tool.
- **5. Monitor Progress**: User checks their spending on food in the Order History section to monitor progress.
- **6. Adjust Budget**: User may adjust the budget based on special offers or discounts received via the app.

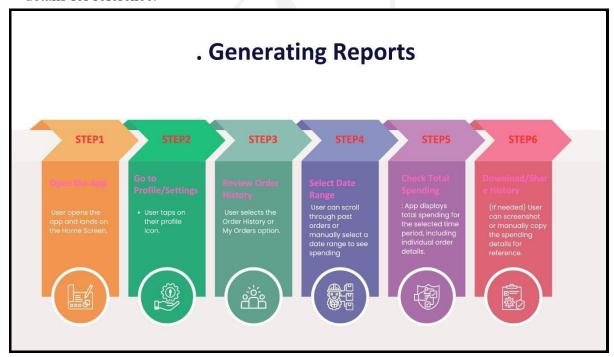


3. Generating Reports (Example: Tracking Food Spending)

Swiggy doesn't offer detailed reports in the traditional sense, but users can check their Order History for tracking spending.

Step-by-Step User Flow (Generating Order Spending Report):

- **1. Open the App:** User opens the app and lands on the Home Screen.
- 2. Go to Profile/Settings: User taps on their profile icon.
- 3. View Order History: User selects the Order History or My Orders option.
- **4. Select Date Range:** User can scroll through past orders or manually select a date range to see spending.
- **5.** Check Total Spending: App displays total spending for the selected time period, including individual order details.
- **6. Download/Share History**: (If needed) User can screenshot or manually copy the spending details for reference.

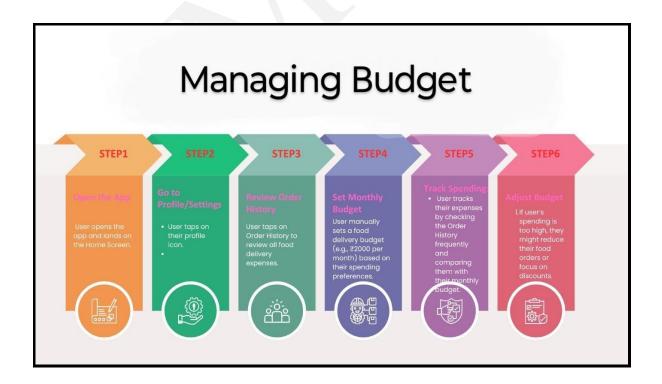


4. Managing Budgets (Example: Monthly Food Delivery Budget)

While Swiggy doesn't have a built-in budgeting feature, users can manually track their food delivery spending by reviewing Order History and budgeting their food expenses.

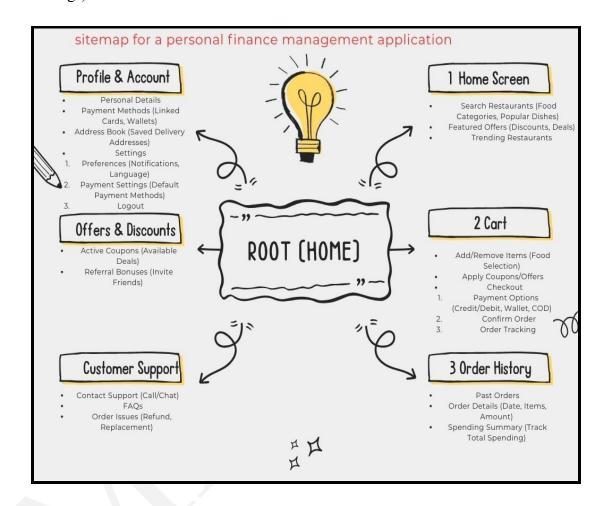
Step-by-Step User Flow (Managing Food Delivery Budget):

- **1. Open the App:** User opens the app and lands on the Home Screen.
- 2. Go to Profile/Settings: User taps on their profile icon.
- 3. Review Order History: User taps on Order History to review all food delivery expenses.
- **4. Set Monthly Budget:** User manually sets a food delivery budget (e.g., ₹2000 per month) based on their spending preferences.
- **5. Track Spending**: User tracks their expenses by checking the Order History frequently and comparing them with their monthly budget.
- **6. Adjust Budget**: If user's spending is too high, they might reduce their food orders or focus on discounts.



4.2 Sitemap

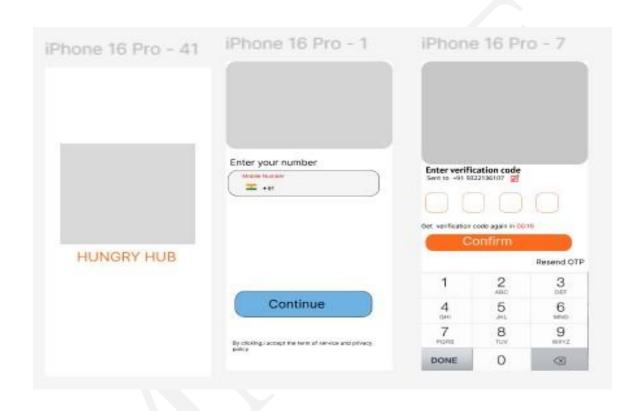
• Structure of the application (Dashboard, Expense Input, Reports, Goal Tracking, Settings).

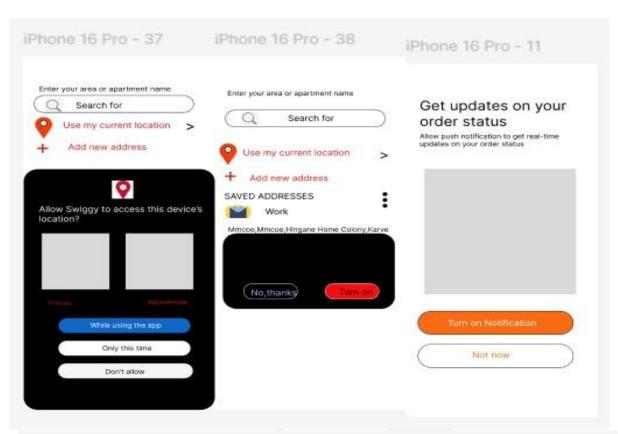


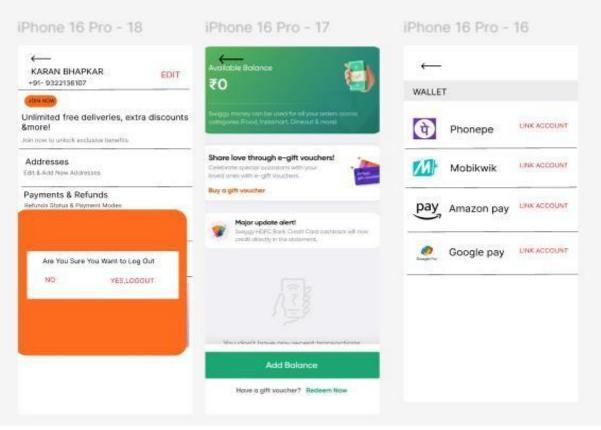
Chapter 5

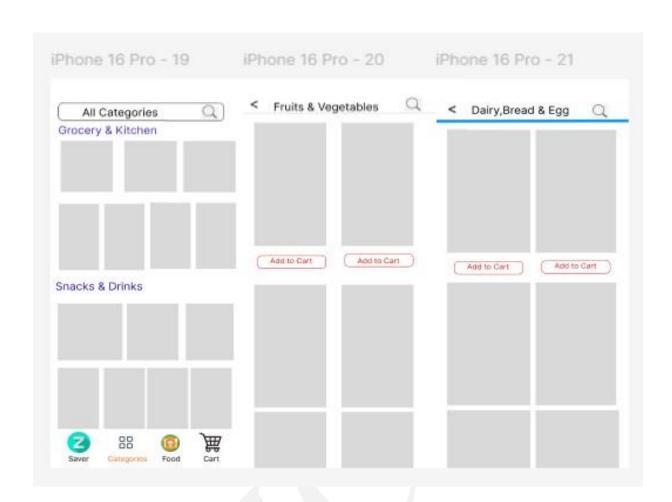
Wireframes & Interactive Prototype (Figma)

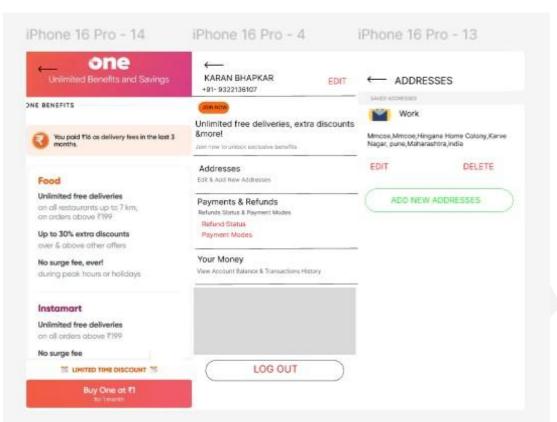
5.1 Low-Fidelity Wireframes

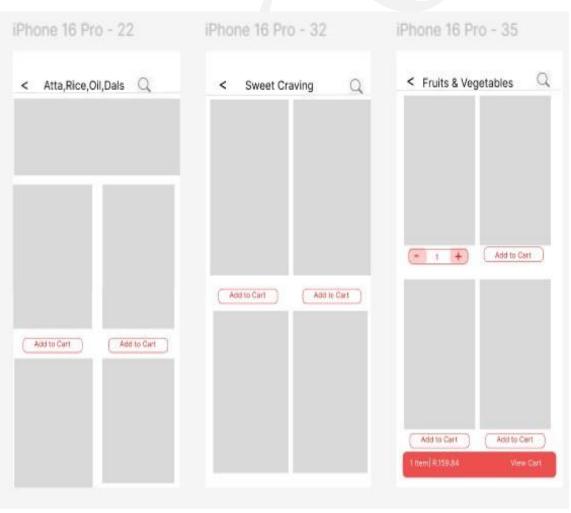


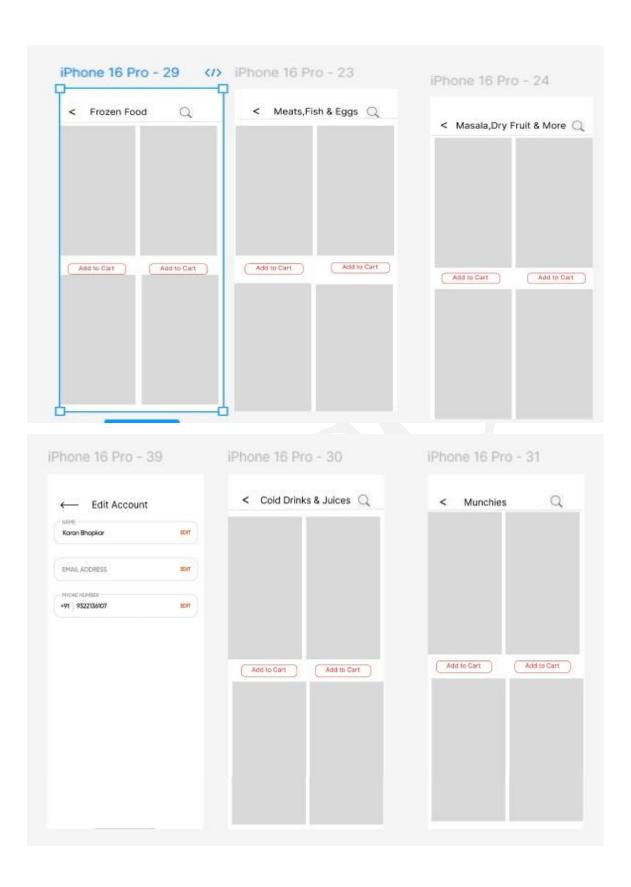












5.2 High-Fidelity Prototype

Link to the interactive prototype.

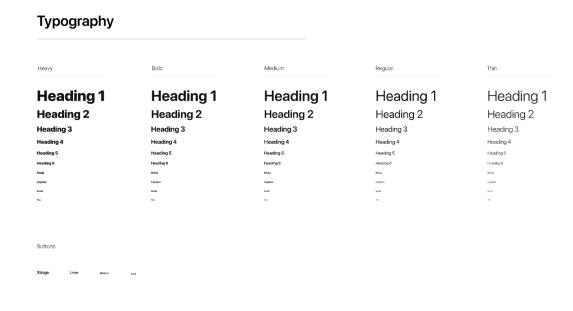
PROTOTYPE

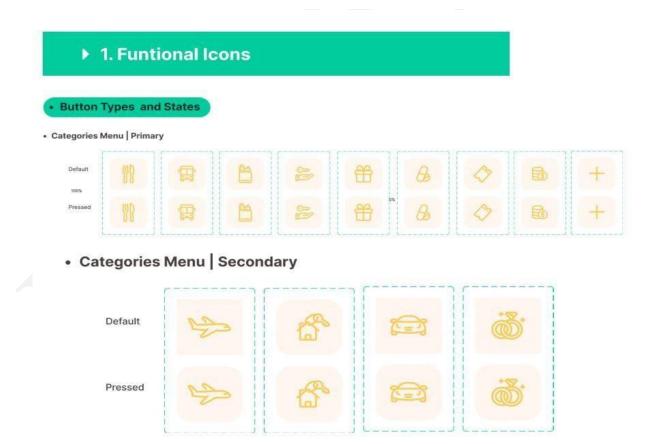
Chapter 6

Style Guide (UI Components, Typography, Color Scheme) \cdot

Typography (Primary & secondary fonts).







• Color Palette (Financially trustworthy colors like blue, green, neutral tones).

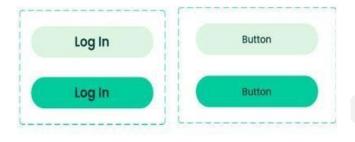
Color Palette



• UI Components (Buttons, cards, tables, icons).

2. Buttons

• Log in / Sign up



Icons

Icons from Category Menu



Findings, Designs & Improvements

7.1 Key Research Insights

- Summary of UX Findings:
- Based on user interviews, surveys, and usability testing, several key insights were identified:
- **High Abandonment During Checkout:** Users often dropped off at the payment screen due to unclear pricing and hidden delivery charges.
- **Difficulty in Customization:** Many users found it hard to customize their food (e.g., spice levels, add-ons) while placing an order.
- **Slow Reorder Process:** Users who frequently reorder the same items expressed frustration at the number of steps involved.
- **Poor Visibility of Offers:** Promotional deals were not clearly visible or easily accessible during the order process.
- **Inadequate Delivery Tracking:** Real-time tracking was sometimes inaccurate or delayed, causing user anxiety about order status.

7.2 Final Design Showcase











Add to Cart

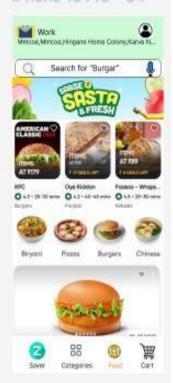
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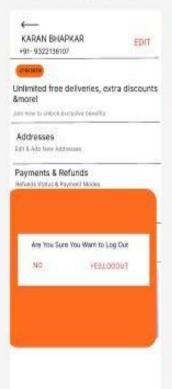
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Cart

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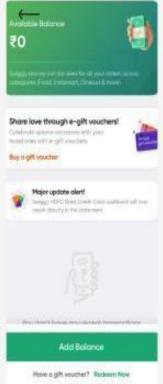


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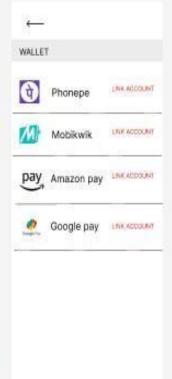
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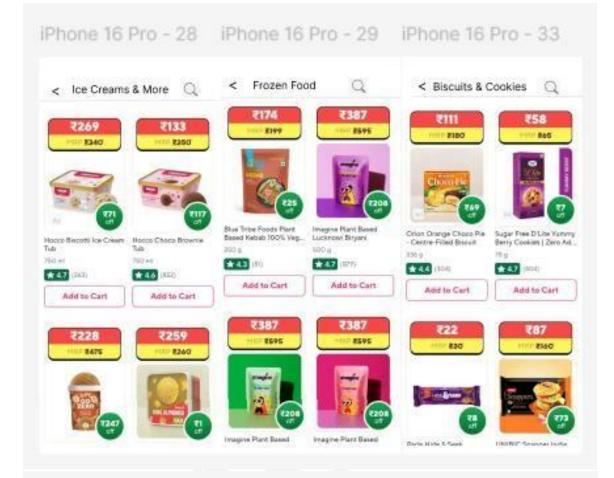
Catagories

Food

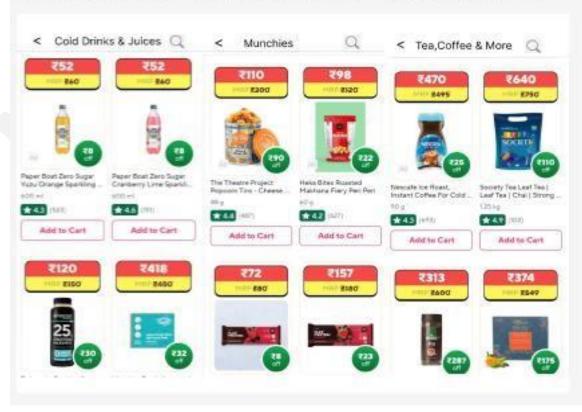


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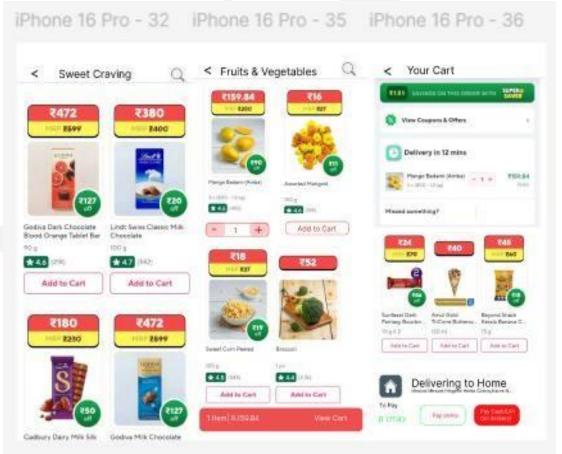


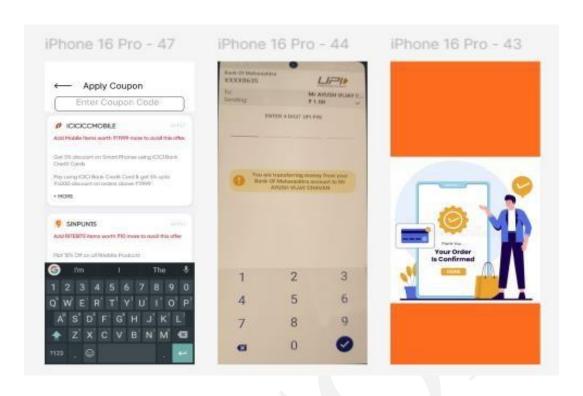


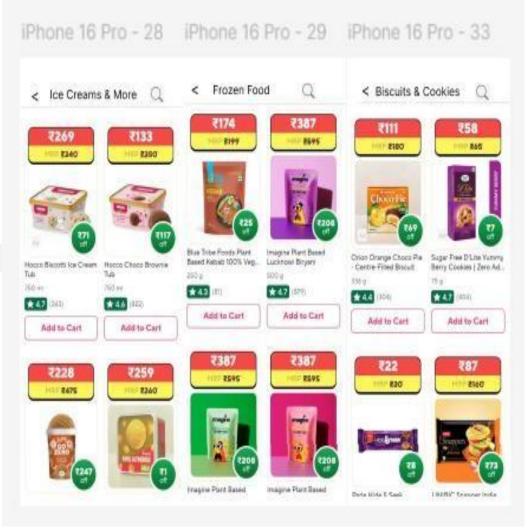
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7.3 Future Improvements

- Possible Enhancements Based on User Feedback:
- Voice Search & Ordering: Adding support for voice commands to search for restaurants or place an order.
- **Dark Mode:** Users have requested a dark mode option for more comfortable nighttime usage.
- **Eco-Friendly Tagging:** Labels for restaurants that use eco-friendly packaging or offer carbon-neutral delivery.
- **Group Ordering Feature:** Ability for multiple users to add items to a shared cart when ordering together.
- More Payment Integrations: Support for newer UPI services and digital wallets based on regional demand.