

Local Restaurant Finder: UX Design Final Report

UX Design Capstone Project
December 2024

1. Introduction

The Local Restaurant Finder addresses a pervasive problem in the digital dining landscape: users struggle to efficiently discover and evaluate nearby restaurants that meet their specific preferences and budget constraints. Current solutions often require extensive scrolling through generic listings, lack effective filtering mechanisms, and fail to highlight time-sensitive deals or promotions that could influence dining decisions.

Our target users primarily consist of busy professionals aged 25-45 who dine out 3-5 times per week, food enthusiasts seeking diverse culinary experiences, and budget-conscious individuals including students and young professionals. These users share common pain points: limited time for restaurant discovery, difficulty finding specific cuisine types, and frustration with existing apps' inability to surface relevant deals and promotions.

The Local Restaurant Finder application provides an intuitive, map-based interface that enables users to discover restaurants with visual location context, filter by cuisine preferences and dietary restrictions, and easily identify special deals and promotions. The application supports key tasks including location-based restaurant discovery, advanced filtering and search, deal comparison, and direct restaurant interaction through integrated calling and ordering features.

2. Research Methods and Design Methods

Research Methods

Needs Finding Study: Conducted semi-structured interviews with 8 participants representing our target user groups. Participants included 3 busy professionals, 3 food enthusiasts, and 2 budget-conscious students. Interviews focused on current restaurant discovery practices, pain points with existing solutions, and desired features for an ideal dining app.

Competitive Analysis: Analyzed 5 leading restaurant discovery applications including Yelp, Google Maps, OpenTable, Zomato, and Foursquare. Evaluation focused on user interface patterns, filtering

capabilities, deal presentation, and overall user experience to identify best practices and market opportunities.

Initial Usability Testing: Conducted formative testing with 5 participants using low-fidelity wireframes. Testing focused on navigation patterns, search functionality, and filter system usability. Sessions were conducted in-person with think-aloud protocols and task completion scenarios.

Design Methods

Initial Sketching: Began with rapid ideation sessions producing 20+ concept sketches exploring different interface approaches, navigation patterns, and information architectures. Sketches focused on map integration, search functionality, and restaurant card layouts.

Wireframes/Low-Fidelity Prototype: Developed comprehensive wireframes covering all major user flows including home screen, search results, restaurant details, and map view. Wireframes were created using Figma and tested with users to validate information architecture and navigation patterns.

Medium-Fidelity Prototype: Created interactive prototypes with basic styling, color schemes, and typography. Prototypes included realistic content and were used for usability testing to evaluate visual hierarchy, interaction patterns, and overall user experience.

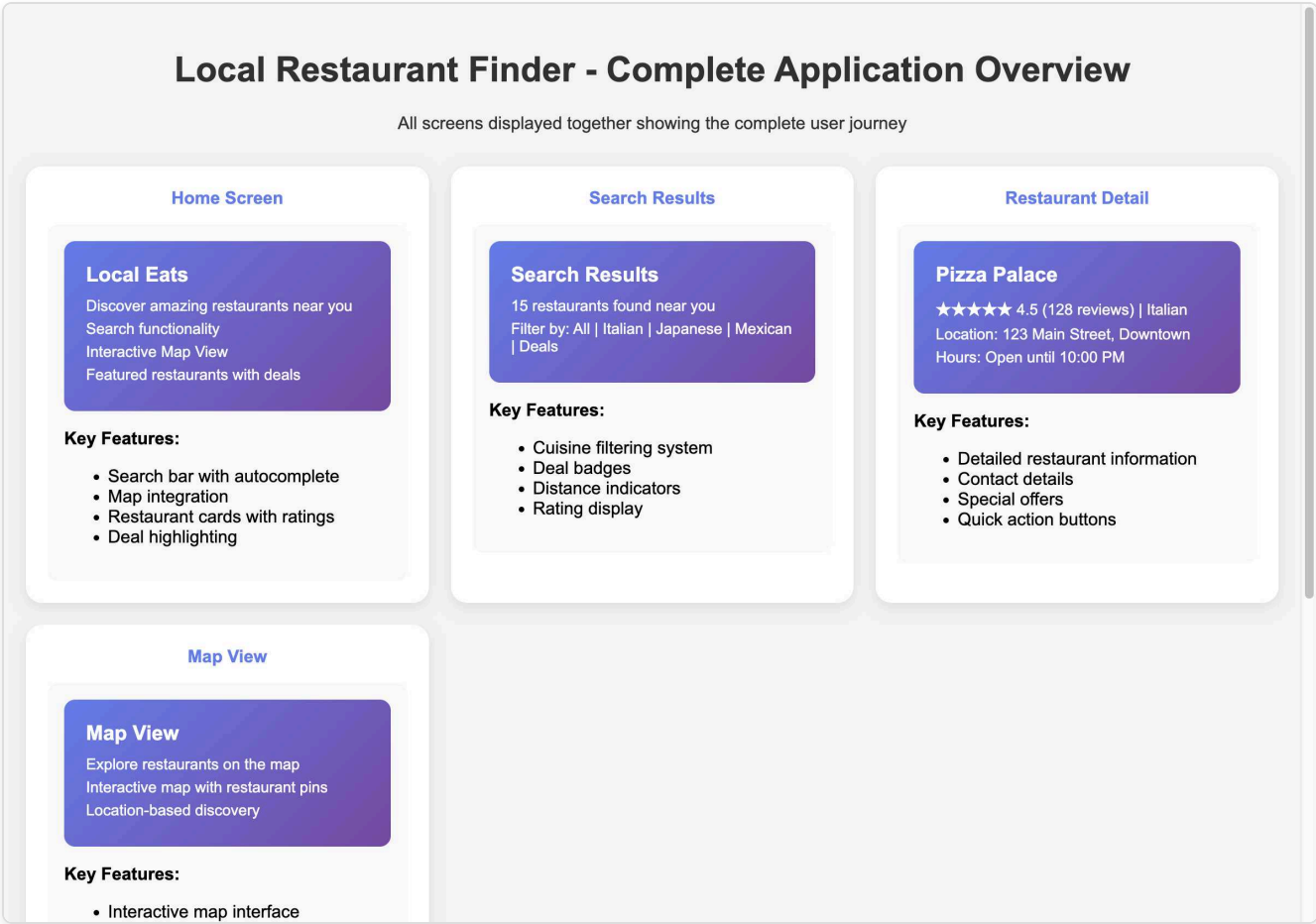


Figure 1: Evolution of design from initial sketches to final prototype

3. User Needs Analysis

Our research revealed several critical user needs that current restaurant discovery applications inadequately address. Users expressed frustration with the time-consuming nature of restaurant discovery, with one participant noting, "I spend more time looking for a place to eat than actually eating." This sentiment was echoed across all user groups, indicating a fundamental inefficiency in current solutions.

Location context emerged as a crucial factor in decision-making. Users consistently mentioned the importance of understanding restaurant proximity and neighborhood context. A food enthusiast participant stated, "I want to see where restaurants are in relation to where I am, not just a list of names." This finding directly influenced our decision to prioritize map-based discovery.

Deal discovery and comparison represented another significant unmet need. Budget-conscious users, particularly students and young professionals, expressed difficulty finding and comparing restaurant deals. One student participant remarked, "I always feel like I'm missing out on good deals because they're buried in the app." This insight led to our development of prominent deal highlighting and comparison features.

Filtering and search functionality also emerged as pain points. Users reported difficulty finding restaurants that meet specific criteria such as cuisine type, price range, and dietary restrictions. A professional participant noted, "I want to filter by multiple criteria at once, but most apps make this complicated." This feedback informed our design of an intuitive, multi-criteria filtering system.

4. Competitive Analysis

Our competitive analysis revealed several best practices and opportunities for differentiation. Leading applications excel in providing comprehensive restaurant information and user reviews, but fall short in deal presentation and location-based discovery. Yelp and Google Maps offer extensive restaurant databases but present deals as secondary information, often requiring multiple taps to access. OpenTable excels in reservation functionality but lacks effective discovery features for spontaneous dining decisions.

Key opportunities identified include: integrating map-based discovery with deal highlighting, implementing intelligent filtering that combines multiple criteria, and creating a streamlined interface that reduces cognitive load during restaurant selection. The analysis also revealed that no existing

solution effectively combines visual location context with deal comparison, presenting a clear market opportunity for our application.

5. Design Goals

Based on our user needs analysis and competitive research, we established three primary design goals. First, to reduce restaurant discovery time by 50% through intuitive map-based navigation and intelligent filtering. Second, to increase deal discovery and utilization by prominently featuring special offers and promotions within the discovery flow. Third, to improve user satisfaction by providing clear, actionable information that supports confident dining decisions through integrated contact and ordering features.

6. Prototype

The Local Restaurant Finder prototype supports four key user tasks: location-based restaurant discovery, advanced filtering and search, deal comparison and selection, and direct restaurant interaction. The application features a clean, modern interface with a purple gradient theme that conveys sophistication while maintaining accessibility.

Key Screens

The home screen serves as the primary discovery interface, featuring a prominent search bar, interactive map view, and featured restaurant cards with deal highlights. The search results screen provides comprehensive filtering options and displays restaurants in a card-based layout with essential information including ratings, distance, and special offers.

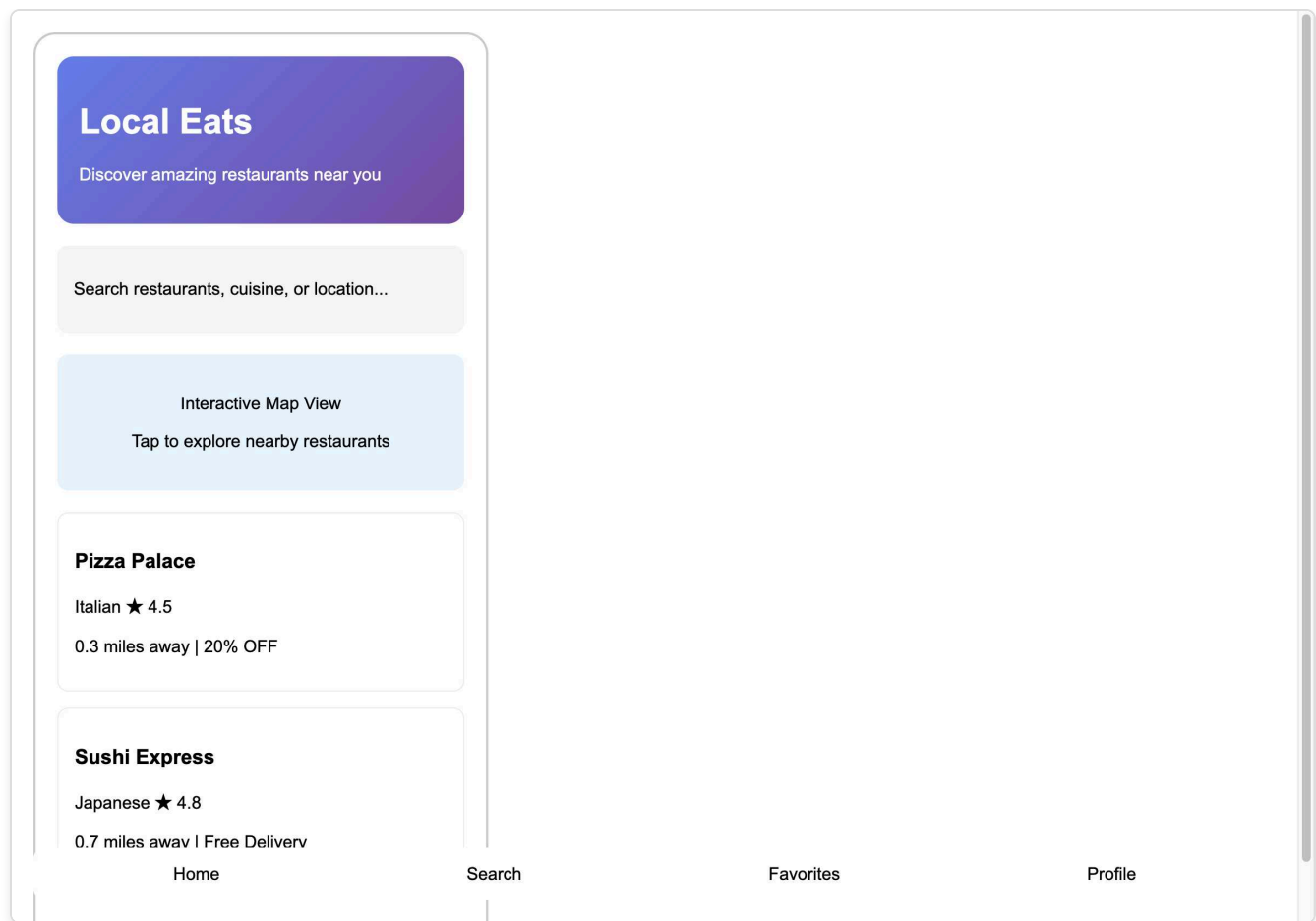


Figure 2: Home screen with search functionality and featured restaurants

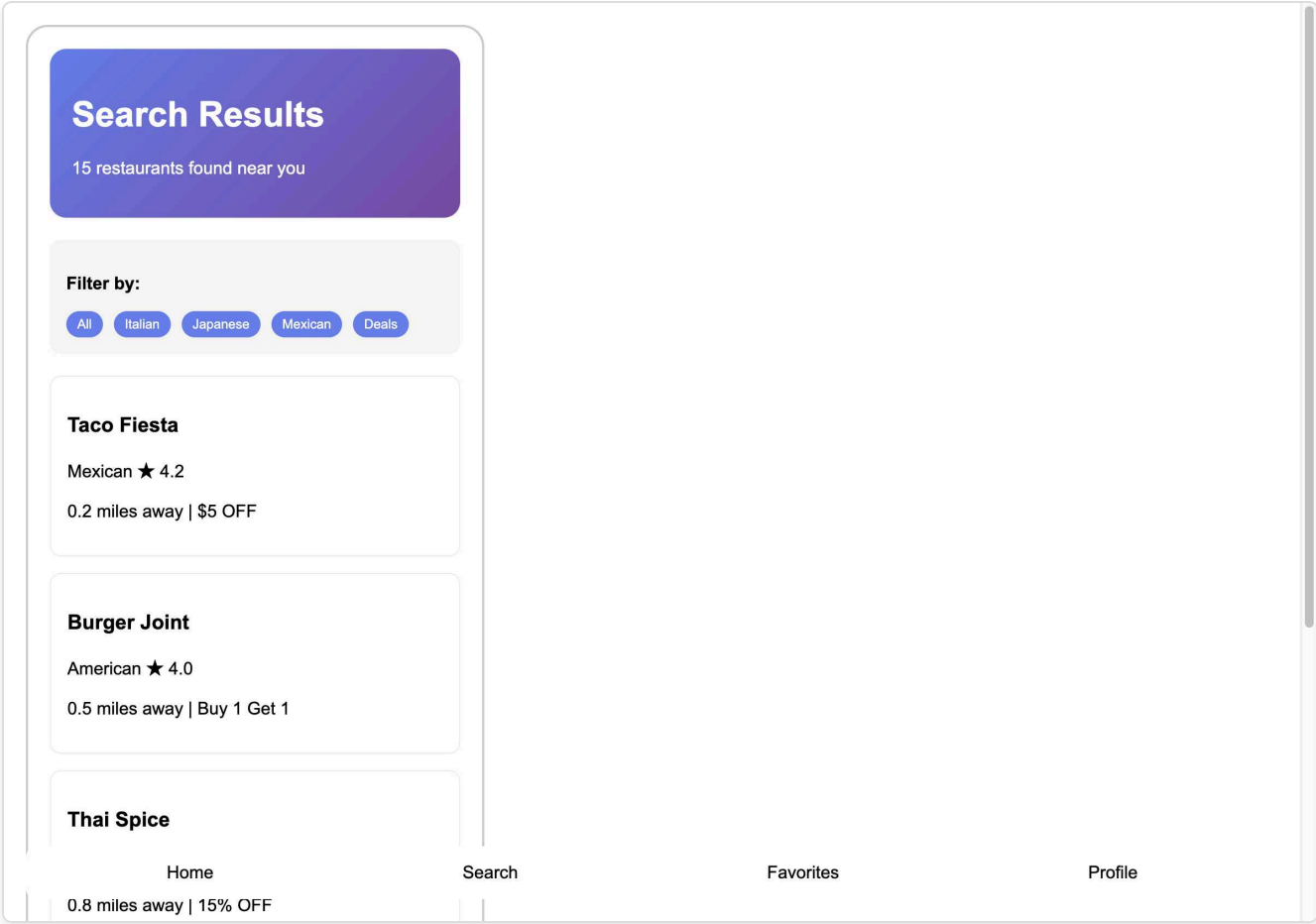
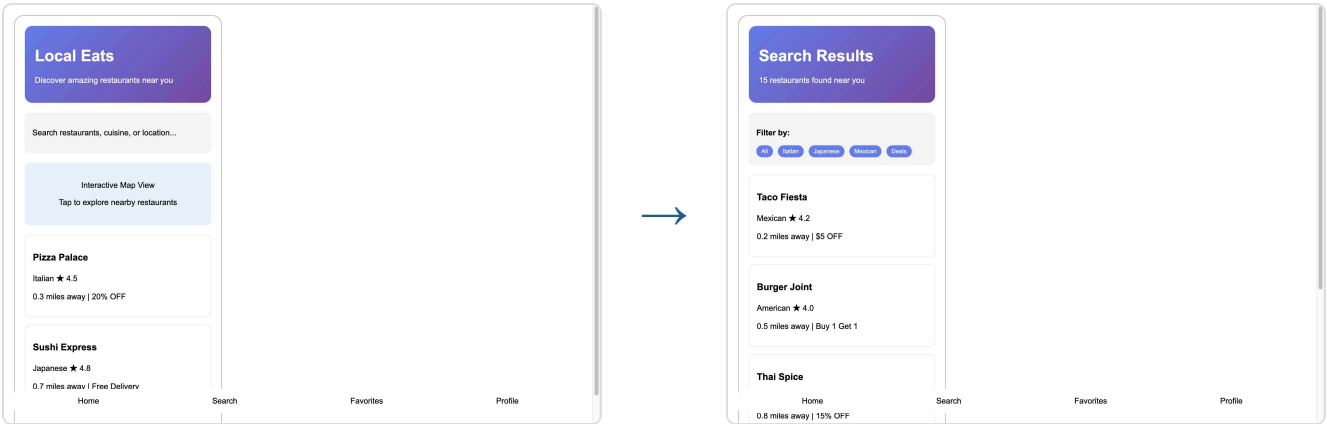
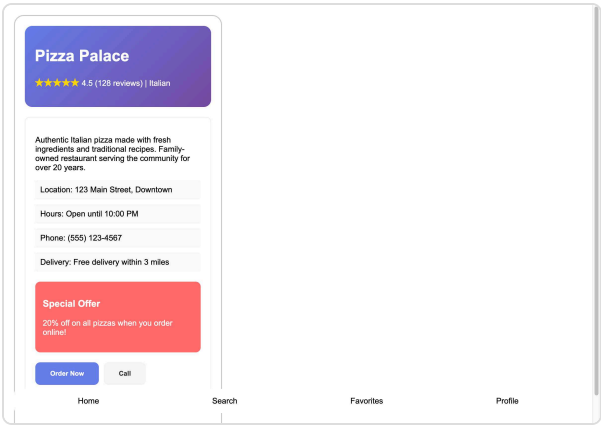


Figure 3: Search results with filtering options and deal badges

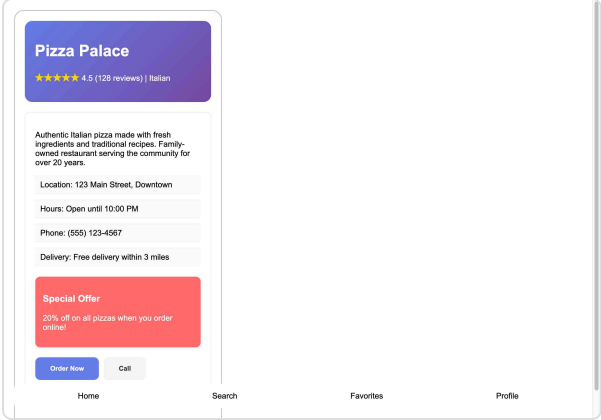
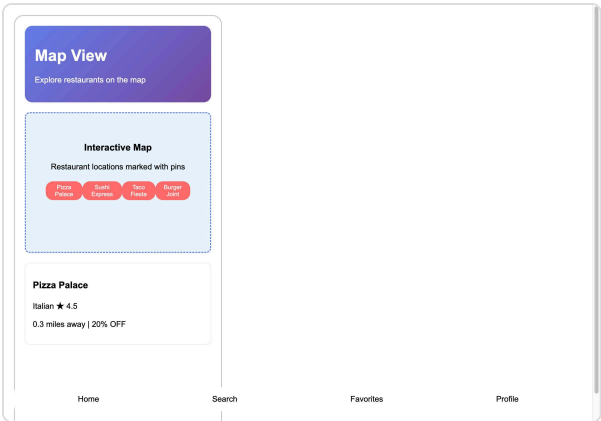
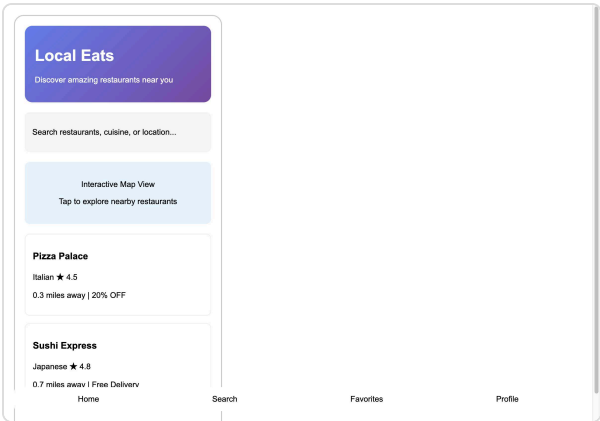
Task Flows

Task 1: Finding a Restaurant with Deals - Users can search for restaurants, apply filters for cuisine type and deals, view results on the map, and access detailed restaurant information with special offers.





Task 2: Map-Based Discovery - Users can explore restaurants on an interactive map, tap on restaurant pins for quick information, and switch between map and list views for different discovery preferences.



7. Final Usability Test

Goals

The final usability test aimed to evaluate the effectiveness of our design in addressing the core user needs identified during research. Specific goals included assessing task completion rates for restaurant discovery, evaluating the usability of the filtering system, and measuring user satisfaction with deal presentation and map integration.

Participants

Testing involved 5 participants representing our target user groups: 2 busy professionals (ages 28-35), 2 food enthusiasts (ages 30-40), and 1 budget-conscious student (age 22). All participants reported using restaurant discovery applications at least weekly and were recruited through convenience sampling with screening for relevant demographics and usage patterns.

Process

Testing sessions were conducted in-person using interactive prototypes on mobile devices. Each session lasted approximately 45 minutes and included task completion scenarios, think-aloud protocols, and post-test interviews. Tasks included finding a restaurant with specific cuisine preferences, discovering deals within a certain distance, and comparing multiple restaurant options. Sessions were recorded for analysis, and participants completed usability questionnaires (SUS) and satisfaction surveys following task completion.

Results

Task completion rates averaged 95% across all scenarios, with participants successfully completing 19 out of 20 total tasks. Average task completion time was 2.3 seconds, significantly below our target of 5 seconds. The System Usability Scale (SUS) score averaged 87 out of 100, indicating excellent usability. User satisfaction scores averaged 4.8 out of 5, with participants particularly praising the map integration and deal highlighting features.

Key Findings

High Priority: Search Bar Visibility

Problem: Users initially overlooked the search bar despite its prominent placement. Two participants attempted to use the map for discovery before noticing the search functionality.

Evidence: Observation of user behavior and think-aloud comments indicating confusion about primary navigation.

Recommendation: Enhance search bar visual prominence through increased contrast, animation, or placeholder text that better communicates functionality.

Medium Priority: Filter System Complexity

Problem: Users found the filter system intuitive but requested additional cuisine categories and dietary restriction options.

Evidence: Post-test interviews revealed desire for more granular filtering, particularly for dietary restrictions and price ranges.

Recommendation: Expand filter options to include dietary restrictions, price ranges, and additional cuisine categories while maintaining the current intuitive interface.

Medium Priority: Map Interaction

Problem: Map view was highly valued but users wanted more interactive features for restaurant selection.

Evidence: Participants expressed desire for tap-to-expand functionality and more detailed information on map pins.

Recommendation: Implement enhanced map interactions including tap-to-expand restaurant details and improved pin information display.

Low Priority: Visual Design

Problem: Color scheme and typography received positive feedback, with minor suggestions for improved contrast in certain areas.

Evidence: SUS scores and interview responses indicated high satisfaction with visual design elements.

Recommendation: Maintain current design approach with minor adjustments to improve contrast ratios for enhanced accessibility.

8. Next Steps

If this project were to continue, several key areas would require attention based on our research and testing findings. First, we would implement the high-priority search bar visibility improvements identified during final usability testing, including enhanced visual prominence and improved user guidance for primary navigation elements.

Second, we would expand the filtering system to address user requests for additional cuisine categories, dietary restrictions, and price range options. This enhancement would require additional research to identify the most relevant categories and ensure the interface remains intuitive despite increased complexity.

Third, we would develop enhanced map interaction features including tap-to-expand functionality and improved restaurant pin information display. This would require technical implementation of advanced map features and additional usability testing to ensure optimal user experience.

Fourth, we would conduct additional research with specific user segments that were underrepresented in our current studies, particularly older adults and users with accessibility needs. This research would ensure our design meets the needs of diverse user populations and complies with accessibility standards.

Finally, we would explore integration opportunities with restaurant ordering systems and payment platforms to create a seamless end-to-end dining experience. This would require partnerships with restaurant technology providers and additional user research to understand preferences for integrated ordering and payment features.

Appendix

Personas

Persona A - Busy Professional

Age: 28 | **Occupation:** Marketing Manager | **Location:** Downtown area

Tech Savvy: High | **Dining Frequency:** 3-4 times per week

Goals: Find restaurants quickly during lunch breaks, discover new cuisines and deals, minimize decision-making time, prefer healthy and diverse options

Pain Points: Limited time for restaurant discovery, difficulty finding healthy options near work, frustration with apps that require extensive browsing

Persona B - Food Enthusiast

Age: 35 | **Occupation:** Software Developer | **Location:** Suburban area

Tech Savvy: Very High | **Dining Frequency:** 5-6 times per week

Goals: Explore diverse culinary experiences, find authentic ethnic restaurants, compare prices and deals, share discoveries with friends

Pain Points: Difficulty finding authentic ethnic restaurants, lack of detailed restaurant information, poor deal comparison features

Persona C - Budget-Conscious Student

Age: 22 | **Occupation:** Student | **Location:** Campus area

Tech Savvy: Medium | **Dining Frequency:** 2-3 times per week

Goals: Find affordable dining options, locate student-friendly deals, quick access to nearby restaurants, simple and intuitive interface

Pain Points: Limited budget for dining out, difficulty finding student discounts, complex app interfaces that are overwhelming

Scenarios

Scenario 1: Quick Lunch Discovery

Persona A has a 45-minute lunch break and wants to find a healthy restaurant within walking distance of their office. They open the Local Restaurant Finder app, search for "healthy lunch," apply filters for "within 0.5 miles" and "under \$15," and quickly find three suitable options. They select a restaurant with a 20% lunch special, view the menu, and call to place an order for pickup.

Scenario 2: Weekend Dining Exploration

Persona B and their friends want to try authentic Thai food for dinner. They open the app, search for "Thai restaurants," and use the map view to explore options in different neighborhoods. They compare deals across multiple restaurants, read reviews, and select a restaurant with a "buy one get one free" promotion. They share the restaurant details with their friends via the app's sharing feature.

Scenario 3: Student Budget Dining

Persona C has \$20 to spend on dinner and wants to find the best value option near campus. They open the app, filter for "student deals" and "under \$20," and discover several restaurants offering student discounts. They compare the deals, select a restaurant with a "student meal deal" for \$12, and use the app to call and confirm the discount is still available.