1.1 Project Overview

The Cafeteria Menu Display System is a digital solution that automates menu updates and displays them on digital screens in real time. It allows cafeteria staff to manage daily menus efficiently and provides customers with a modern, easy-to-read interface.

1.2 Purpose

To improve customer experience in cafeterias by providing clear, attractive, and dynamic menu displays, while reducing manual work for staff.

2. IDEATION PHASE

2.1 Problem Statement

Manual menu boards are time-consuming to update, prone to errors, and visually outdated. A digital system is needed for efficient and engaging menu management.

2.2 Empathy Map Canvas

Says: Wants faster updates, needs to attract customers

Thinks: Menu clarity and aesthetics are important

Does: Updates physical boards manually

Feels: Frustrated with frequent changes and manual rewriting

2.3 Brainstorming

Ideas included using web-based dashboards, real-time display screens, QR code integration for mobile menus, and automatic nutrition info updates.

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

Ordering → Menu Viewing → Meal Selection → Payment → Feedback

Pain Points: Long update times, unclear menu items
Opportunities: Instant updates, visual appeal

3.2 Solution Requirement

Admin dashboard, digital display interface, database for menu storage, feedback system

3.3 Data Flow Diagram

Admin → Update Menu → Database → Display System → Customer View

3.4 Technology Stack

HTML, CSS, JavaScript, PHP (or Python Flask), MySQL, Raspberry Pi or smart displays

4. PROJECT DESIGN

4.1 Problem-Solution Fit

A digital system ensures quick updates and improved presentation, reducing manual effort.

4.2 Proposed Solution

A web-based admin panel to update menus, connected to digital screens in the cafeteria.

4.3 Solution Architecture

1. Menu Data Entry

2. Menu Storage

3. Real-Time Sync

4. Digital Display Update

5. Feedback Collection

5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

Week 1: Requirement gathering & design
Week 2: Database setup
Week 3: Web app development
Week 4: Display system integration
Week 5: Testing & refinement
Week 6: Deployment & documentation

6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

Tested for fast updates, smooth screen refresh, and real-time changes. Average update time: <5 seconds.

7. RESULTS

7.1 Output Screenshots

Screenshots include admin dashboard interface, live menu display screen, and feedback collection module.

8. ADVANTAGES & DISADVANTAGES

Advantages

Quick and easy menu updates

Improved customer satisfaction

Supports attractive visuals and images

Reduces manual errors

Disadvantages

Requires reliable internet and hardware

Initial setup cost

9. CONCLUSION

The Cafeteria Menu Display System modernizes cafeteria operations, saves time, and enhances the dining experience with clear, dynamic, and appealing menus.

10. FUTURE SCOPE

Mobile app integration

Nutritional information display

AI-based customer recommendations

Multi-language support

Integration with payment and ordering systems