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SMART MESS SELECTOR

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ABSTRACT

This project focuses on creating a smart system to help users find the best mess around them, optimizing meal selection based on preferences, dietary needs, and mess availability. By automating this process, the system simplifies decision-making, reduces waste, and enhances user convenience, offering a personalized dining experience.

Keywords: Smart System, Mess Availability, Meal Selection, User Preference, Dietary Needs.

I. INTRODUCTION

The Smart Mess Selector is designed to revolutionize how users choose meals by utilizing technology to simplify the dining process. This system intelligently matches users with mess services based on their preferences, dietary needs, and availability. By offering a seamless experience, it aims to reduce the stress of meal planning while ensuring users find the best dining options near them. With real-time updates and personalized suggestions, this project transforms how people interact with their daily food choices, leading to greater convenience and satisfaction.

II. METHODOLOGY

1. Requirement Analysis:

Conduct surveys and interviews with potential users (students, staff) to gather insights on preferences, dietary restrictions, and pain points in the current mess selection process. Define system requirements, including functionalities such as user profiles, meal preferences, and mess availability.

2. System Design:

Design a user-friendly interface that allows users to input their preferences and dietary needs. Develop a backend database to store information about users, mess options, meals, and realtime availability.

3. Algorithm Development:

Implement recommendation algorithms (e.g., collaborative filtering, content-based filtering) to provide personalized meal suggestions based on user inputs and historical data. Integrate condition-based monitoring to adjust recommendations based on the availability of meals and user feedback.

4. Technology Stack:

Choose a programming language (C++) for backend development, alongside relevant frameworks for web or mobile application development. Use database management systems (e.g., MySQL or SQLite) to manage data related to users and mess options.

5. Implementation:

Develop the front-end interface and back-end logic, ensuring seamless communication between the user interface and the database. Integrate real-time data collection methods, such as APIs or manual updates from mess operators.

6. Testing and Validation:

Conduct usability testing with a focus group to gather feedback on the system's functionality, user interface, and overall experience. Implement iterative testing to identify and resolve any bugs or usability issues.

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III. MODELING AND ANALYSIS

Prototype Goals:

To create a functional model of the Smart Mess Selector that showcases its core features, including user registration, preference input, meal recommendations, and mess information retrieval. To gather user feedback and validate design choices before full-scale development.

Tools and Technologies:

Wireframing Tools: Use tools like Figma, Adobe XD, or Sketch to design the user interface and flow.

Prototyping Tools:

Employ platforms such as InVision or Axure for interactive prototyping, allowing users to navigate through different screens.

Prototype Features:

User Registration/Login: Simple interface for users to create an account or log in.

Preference Input Form:

A dynamic form where users can input dietary preferences, restrictions, and favorite cuisines.

Mess Selection Interface:

A dashboard displaying available messes based on user preferences, including details such as menu, distance, and ratings.

Meal Recommendation Engine: An area where users receive meal suggestions based on their input and real-time availability.

IV. RESULTS AND DISCUSSION

1. Prototype Goals:

Develop a functional Smart Mess Selector model showcasing key features and validate it with user feedback.

2. Tools and Technologies:

Use Figma, Adobe XD, or Sketch for wireframing and InVision or Axure for prototyping.

3. Prototype Features:

Include user registration, preference input, mess selection interface, and a meal recommendation engine.

4. Validation and Feedback:

Conduct usability testing to refine the prototype based on user feedback.

5. Expected Outcome:

Ensure the prototype demonstrates feasibility and user satisfaction before full-scale development.

V. CONCLUSION

The Smart Mess Selector prototype serves as a critical step toward creating an intuitive and efficient solution for personalized meal selection. By incorporating user-friendly features such as seamless registration, tailored dietary input, and real-time meal recommendations, the prototype aims to address diverse user needs effectively. Leveraging advanced tools like Figma for design and InVision for interactive prototyping ensures a robust user experience. Feedback-driven iterations will refine the design, validating its functionality and relevance before full-scale development. This prototype lays the groundwork for a scalable, user-centered platform that enhances convenience and satisfaction in meal planning.

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