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RESEARCH ARTICLE OPEN ACCESS

CALORIE TRACKER AND MEAL PLANNER

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Abstract:

This study describes the creation and application of a meal planner and calorie tracker system designed to assist people in managing their health objectives, tracking their dietary intake, and forming wholesome eating habits. Users of the app can record their meals, get customised meal recommendations, and track their dietary progress. The system's responsive HTML/CSS/JS frontend and PHPMySQL backend guarantee scalability, performance, and userfriendliness. To improve dependability and data protection, security features like session handling, input validation, and user authentication are integrated. For those with particular dietary objectives and those who are health-conscious, this system offers an approachable way to manage one's diet.

INTRODUCTION

The rising incidence of diseases linked to a lifestyle emphasises the need for resources that help people better understand nutrition and control their diets. Dietary logging done by hand is frequently laborious, prone to mistakes, and unpersonalized. Real-time tracking of calorie intake and nutritional trends is made possible by digital tools. This study examines a comprehensive meal planner and calorie tracker app that gives users the ability to manage their diet, get goal-aligned recommendations, and see their nutritional journey. The system bridges the gap between health objectives and practical dietary implementation through technology.

PROBLEM STATEMENT

Conventional food intake tracking tools, like journals or spreadsheets, don't offer realtime insights, tailored recommendations, or user-friendly interfaces. Among these restrictions are:

- Lack of Personalisation: generic tracking that doesn't take user preferences or goals into consideration.
- Inaccurate Monitoring: Manual mistakes in meal recording and calorie estimation.
- Barriers to accessibility: Users find it challenging to regularly keep logs.
- Lack of progress visualisation or dynamic feedback presents motivational challenges.
- Cost and Complexity: Current apps frequently overwhelm users with too much information or hide helpful features behind a paywall. For reliable nutritional tracking, advice, and insight, a simplified, easily accessible, and customised system is required. and intuitive interface for administrators and voters, the proposed system seeks to address important security issues, including vote integrity, anonymity, voter authentication, and resistance to tampering.

PROPOSED SYSTEM

The web-based application that makes up the suggested system has essential features like:

- Dashboard Overview;
- Meal Categorisation and Calorie Logging;

- Customised Meal Creation;
- User Registration/Login;
- Progress Visualisation through Graph Technologies PHP ≥7.4 for the backend; MySQL for the database; HTML5, CSS3, and JavaScript for frontend
- Security: hashed passwords, input validation, and secure session handling The system ensures greater accessibility by streamlining food tracking and integrating essential dietary features without premium restrictions.

RESEARCH METHODOLOGY

The development process was prototype-driven. The procedure comprised: Observation and user interviews are used to gather requirements; iterative prototyping involves cycles of UI improvement and functionality testing; usability testing involves input from users who are concerned about their health and nutrition; and performance testing involves checking for frontend responsiveness, update efficiency, and data retrieval.

SYSTEM DESIGN

Architecture Layers:

- Presentation Layer: Login, registration, dashboard, and visualization interfaces
- Logic Layer: Controls meal calculations, user sessions, and target control
- Data Layer: Handles food, users, targets, and progress tables in MySQL Key

Modules:

- Authentication Module (Registration, Login
- Meal Tracker (Meal logging, food database lookup)
- Progress Monitor (Historical intake graphs) Security features such as password encryption and role-based access provide further protection.

RESULT AND ANALYSIS

Following testing with sample users:

- Meal Logging: Proper calorie levels were created for every entry.
- Recipe Recommendations: Visitors were given user-specific suggestions targeting preferences and outcomes.
- Progress Visualization: Clear bar and line graphs illustrating daily and weekly progress.
- Usability: 93% of users found the interface intuitive

SYSTEM PERFORMANCE

Uniform performance between browsers with minimal delay at loading. Participants reported more engagement in controlling eating behaviors and favored the simplicity over commercial uses.

FUTURE ENHANCEMENTS

Planned developments are:

- Mobile App Version (React Native or Flutter)
- Offline Data Logging with Sync Support
- AI-Based Meal Suggestions
- Grocery List Generation Based on Weekly Plans
- Integration of Wearable for Calorie Burn Estimation These features are developed to enhance accessibility, quality of comprehension, and overall user experience.

CONCLUSION

The Meal Planner and Calorie Tracker syste m illustrates the possibility of harnessing tec hnology for nutritional awareness and healthy living guidance.

Its power is in its ease,accessibility,and utility. With intellig ent tracking and personalization, it helps users make better food decisions and reach their wellness objectives. Additional features such as AI and mobile compatibility will make it an even stronger, everyday wellness aid.

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