CIS 422- Human-Computer Interaction

Calories Calculator Web Application

Milestone 1

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1. Introduction

In today's fast-paced world, maintaining a healthy lifestyle has become increasingly challenging. Many individuals struggle to track their daily calorie intake, monitor their nutritional balance, and stay consistent with their weight management goals. Traditional methods of tracking nutrition and weight often require manual calculations, which are time-consuming and error-prone.

To address these challenges, our project focuses on developing a calorie calculator Web Application. This intuitive and user-friendly platform enables users to calculate their daily caloric intake, analyze nutritional information, and track their weight over time. The application will also provide personalized weight loss and maintenance plans based on user preferences and goals. By leveraging modern web technologies and best practices in Human-Computer Interaction, we aim to create a seamless and engaging experience that promotes healthier eating habits.

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2. Literature Review

With the fast advancement of technology, the design of user interfaces has gotten more sophisticated, necessitating a thorough grasp of both aesthetic appeal and functional efficiency to assure user happiness.

The following studies examine the influence of the interface design of applications, concentrating on how various features and layouts affect users' ability to manage their diet and reach their health goals.

2.1. MyFitnessPal

MyFitnessPal is one of the most broadly utilized web and mobile applications for calorie following and nutrition analysis. The platform enables users to log their meals, track calorie intake, and monitor macronutrient distribution (carbohydrates, proteins, and fats). Moreover, it coordinates with fitness tracking gadgets to give a comprehensive outline of an individual's well-being and wellness journey. One of MyFitnessPal's qualities is its broad food database, which incorporates both generic and branded food items, permitting users to log meals with high accuracy [1].

In addition, the app supports goal setting, helping users make personalized weight management plans based on their dietary needs. The success of MyFitnessPal highlights the significance of user-friendly interfaces, real-time feedback, and data visualization in health-related applications [1].

2.2. Cronometer

The Cronometer app provides a simple and user-friendly interface for tracking diet and health while providing accurate and detailed nutritional information from verified sources [2]. Users may register meals by searching a food database, scanning barcodes, or manually inputting things, and the app will offer real-time updates on calories, macronutrients, and micronutrients. It also monitors activity and calorie expenditure. Premium services include configurable nutritional goals and sophisticated reporting [3].

The design is simple and straightforward, with color-coded nutritional breakdowns and a dark mode option. Chronometer design promotes accuracy and usability, making it an effective tool for precise nutrition tracking [3].

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2.3. EatWell

EatWell is a free app available on both Apple and Android platforms that helps you track calories and your diet. It supports the journey of building a healthy lifestyle and contributes to achieving your dream of a healthy body [4].

The app interface is very simple and basic enhancing user experience. On the main interface, you can access all three meals for the day. For each meal, you can add the recipe or choose from the previously saved recipes that have been pre-calculated calorie counts [4].

Additionally, EatWell allows you to set daily goals based on your preferences, weight, and height. You can watch your progress through the trends interface which includes a user-friendly chart that makes the reading easier to understand your habits [4].

Finally, the research stresses the role of user interface design in increasing engagement and efficacy in health-tracking apps. A well-designed interface improves usability, encourages consistent tracking, and helps users achieve their health objectives.

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3. Problem Statement and Proposed Solution

3.1. Problem Statement

Many people struggle with weight management due to the difficulty of tracking daily calorie consumption, making it challenging to maintain a balanced diet. They frequently struggle to keep track of the calories they consume and expend, regardless of whether they are attempting to maintain a balanced lifestyle, grow muscle, or reduce weight. Users may find it difficult to make educated nutritional decisions due to the complexity, lack of customization, or inability to give real-time feedback on existing solutions.

3.2. Proposed Solution

We propose developing an online calorie calculator that simplifies tracking daily caloric intake and expenditure. Users can get immediate feedback on their progress by entering their meals, activities, and personal objectives. To assist users in making healthier choices, the app will have a user-friendly UI, real-time tracking, and personalized recommendations.

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4. User Analysis

4.1. User Analysis Table

Criteria	General User
Age	16 years old or greater.
Gender	Male- Female
Physical Abilities	No physical abilities are required.
Cognitive Abilities	- Basic problem-solving. - Ability to understand and use the application. - Basic nutritional awareness.
Education	Basic literacy (reading and understanding nutritional data).
Cultural and Ethnic Background	Users from different cultural and ethnic backgrounds with diverse dietary habits and preferences.
Training	Intuitive interface; therefore, minimal training is required.
Motivation	The desire to maintain or improve health, fitness, and well-being.
Goals	- Losing or maintaining the weight. - Tracking calorie intake to maintain a healthy lifestyle and diet. - Developing better eating habits.
Personality	Motivated, goal-oriented, health-conscious, and persistent in achieving fitness goals.

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4.2. Persona

Name: Sarah Johnson.

Age: 28

Gender: Female.

Physical Abilities: No limitations.

Cognitive abilities:
- **Basic Problem-Solving:** She can analyze her eating habits and make necessary adjustments to meet her health goals.
- **Nutritional Awareness:** She understands the importance of calorie intake and portion control but relies on the app to provide detailed insights and recommendations.
- **Data Interpretation:** She can read and interpret nutritional data but prefers visual representations (charts, graphs) for better clarity.

Education: Bachelor's degree in business.

Cultural and Ethical Background: Open-minded and adaptive to diverse dietary preferences.

Training: Only 1-3 days to get used to the application.

Goals and Motivation:
- Maintain current weight
- Track calorie intake and diet
- Develop better eating habits
- Improve overall health and well-being

Personality:
- Sarah sets clear health and fitness goals and is determined to achieve them. She enjoys seeing progress and feels a sense of accomplishment when meeting milestones.
- Sarah prioritizes maintaining a balanced lifestyle, making informed food choices, and staying active. She is mindful of her diet and fitness but not overly strict.
- Juggling a demanding job and social life, Sarah values efficiency. She prefers tools that save her time and integrate seamlessly into her routine.

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5. Task Analysis

Tasks	User
Sign Up	*
Login	*
Edit Profile	**
Ingredient Search	****
Add New Ingredient	**
Meal Logging	****
Save Favorite Meals	**
Track Weight Progress	***
Create a Weight Loss Plan	**
View Nutrition Plan	****
Track Water Intake	****
Track Calories Intake	****
Log Exercise	***
Calculate BMI	*
Scan the Barcode for Nutrition Facts	****

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[4] EatWell, "Track Diet & Calories," *EatWell Diary*. [Online]. Available: https://eatwelldiary.com/. [Accessed: 15-Feb-2025].