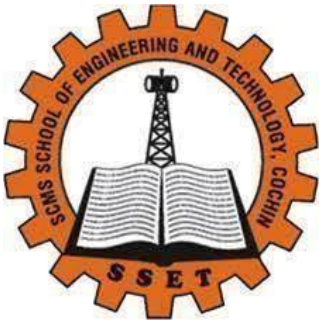

SCMS School of Engineering & Technology

Department of Computer Science and Engineering

MICROPROJECT

ABSTRACT

BMI Calculator Application

Introduction:

In today's health-conscious world, maintaining a healthy weight is essential for overall well-being. The Body Mass Index (BMI) is a widely used measure to assess an individual's body weight relative to their height. This micro project aims to design and develop a web-based BMI calculator application using HTML, CSS, and JavaScript. The system will provide users with an easy-to-use interface to calculate their BMI and gain insights into their health status based on standard BMI categories.

Objective:

The primary objective of the project is to create a responsive and user-friendly platform for:

1. Accurately calculating BMI based on user input (height and weight).
2. Displaying BMI category (Underweight, Normal, Overweight, Obese).
3. Providing basic health suggestions based on the BMI result.
4. Ensuring an intuitive and visually appealing interface for users of all demographic

Features:

1. **User Input Form:**
    - Fields to input height (cm/inches) and weight (kg/lbs).
    - Dropdown for unit selection.
2. **Real-Time BMI Calculation:**
    - Instant calculation of BMI upon form submission.
    - Display of BMI value and category.
3. **Responsive Design:**
    - Compatible with mobile, tablet, and desktop screens.
    - Attractive and modern UI/UX using CSS.
4. **Error Handling:**
    - Input validation to ensure numerical values.
    - User-friendly error messages.
5. **Health Suggestions:**
    - General health tips based on BMI category.

Methodology:

Architecture:

1. A web-based application with a single-page interface.
2. Lightweight frontend framework for seamless interaction.

Technology Stack:

1. Frontend: HTML, CSS, JavaScript for interactive UI.
2. Design: CSS frameworks like Bootstrap for responsive layouts.
3. Hosting: GitHub Pages or any static web hosting service.

Components/Features:

- User Interface:
    1. Simple form for input.

2. Real-time BMI computation.
3. Result display with color-coded categories.

- Functional Logic:

1. BMI calculation formula: BMI = weight (kg) / [height (m)]^2.
2. Conditional checks to classify BMI.

Workflow Diagram:

User enters height and weight -> Submits form -> BMI calculated -> Result displayed -> Health suggestions provided.

Challenges Addressed:

1. Ensuring accuracy in BMI calculation across different unit systems.
2. Providing an engaging user experience with interactive elements.
3. Accessibility for users with varying technical skills.

Application/Importance in the Socioeconomic Context:

The BMI calculator serves as a crucial tool for individuals to monitor their health and take proactive steps toward fitness. By providing quick and accurate results, the application encourages healthier lifestyle choices, ultimately contributing to the well-being of communities.

Expected Outcome:

A fully functional BMI calculator application with:

- Accurate and instant BMI computation.
- User-friendly design.
- Responsive and accessible interface.
- Valuable health insights based on BMI results.

Future Enhancements:

1. Integration of additional health metrics (e.g., body fat percentage).
2. Personalized diet and exercise recommendations.
3. Multilingual support for wider accessibility.

Conclusion:

The BMI Calculator Application aims to provide users with an easy and effective way to monitor their health by calculating their BMI. With a user-centric design and robust functionality, this project will serve as a valuable tool for health-conscious individuals.

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