Mawlana Bhashani Science and Technology University

Santosh, Tangail-1902

Project Report

Department : Computer Science and Engineering

Course Title : Software Development Project-I and Industrial tour

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Submitted by

Name : Md.Nahid Riaj

ID: CE21037

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Supervised by

Md.Mahfuz Reza

Associate Professor

Department of CSE,

MBSTU

Project Title : HEALTH INDEX CALCULATOR

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INTRODUCTION

The Health Index Calculator is a software application that allows users to calculate various health metrics and monitor their health status. The application provides functionality to calculate Body Mass Index (BMI), Basal Metabolic Rate (BMR), burned calories, total calorie intake, blood pressure, cholesterol levels, and average blood sugar levels.

OBJECTIVES

1. Implemented the BMI calculation functionality based on user input of weight and height in both metric and imperial units.
2. Developed the BMR calculation feature considering age, weight, height, and gender.
3. Added a feature to calculate the total calories burned for various physical activities.
4. Implemented the option for users to input their daily calorie intake for different food items.
5. Integrated the functionality to calculate and analyze blood pressure readings and provide suggestions based on the results.
6. Added a feature to calculate cholesterol levels and inform users about their cholesterol ratio.
7. Implemented the average blood sugar level calculation and provided warnings based on the results.

FEATURES AND FUNCTIONALITIES

- BMI Calculation: The program calculates the Body Mass Index (BMI) based on the user's weight and height input. It then provides a BMI category and suggests whether the user needs to increase or reduce weight for a healthy range.
- BMR Calculation: The program calculates the Basal Metabolic Rate (BMR) based on the user's age, weight, height, and gender. It also considers the user's activity level to estimate daily calorie needs for maintaining or adjusting weight.
- Burned Calories Calculation: Users can input various activities and their respective durations to calculate the total calories burned throughout the day.
- Total Calorie Intake: Users can input the quantity of different food items consumed to calculate their total calorie intake for the day.
- Blood Pressure: Users can input their systolic and diastolic blood pressure readings to calculate pulse pressure and mean arterial pressure. The program provides suggestions for contacting a doctor if the values fall outside the normal range.
- Cholesterol Level: Users can input their total cholesterol, HDL cholesterol, LDL cholesterol, and triglycerides levels to calculate their cholesterol ratio and receive suggestions based on the ratio.
- Average Blood Sugar: Users can input multiple blood sugar readings before and after meals, and the program calculates the average blood sugar level. It then suggests whether the blood sugar level is within the normal range or needs medical attention.

CHALLENGES FACED

1. Integrating various health metrics calculations and ensuring the accuracy of the results.
2. Handling different units of measurement (metric vs. imperial) for height and weight inputs.
3. Designing a user-friendly interface to make the application intuitive for users of all ages.

FURTHURE SCOPE

- ✓ Integrating various health metrics calculations and ensuring the accuracy of the results.
- ✓ Handling different units of measurement (metric vs. imperial) for height and weight inputs.
- ✓ Designing a user-friendly interface to make the application intuitive for users of all ages.

CONCLUSIONS

The Health Index Calculator project is making steady progress, and the core functionalities have been successfully implemented. The application aims to help users monitor their health and make informed decisions to improve their overall well-being. The development team is committed to refining the application and incorporating user feedback to deliver a reliable and user-friendly health monitoring tool.

References

- Geeksforgeeks
- Google
- Wikipedia
- WHO(World Health Organization)

SIGNATURE OF SUPERVISOR Date:02-08-2023