Personalized Nutritional Analyzer

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Problem Statement

Nutrition Mission:

Finding the diet information and providing good diet percentage.

ABSTRACT

"My program offers detailed nutritional analysis for informed dietary decisions and healthy lifestyle choices."

Functionalities

Reading Data

Fetches nutritional details from a file.

Displaying Available Items

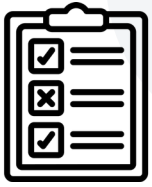
Presents a user-friendly list of food items from the file.

User Input and Checking

Accepts user-specific food items for comparison.

Nutritional Value Calculation

Computes total calories, protein, fat, saturated fat, fiber, and carbohydrates for specified items.



Diet Quality Assessment

Evaluates a user's diet based on predefined nutritional thresholds.

Memory Management

Ensures efficient allocation and release of memory resources.

01 Nutritional Understanding

The program facilitates a better grasp of food nutrition, emphasizing its impact on overall health.

02 Evaluation of Food Choices

Allows users to assess their dietary preferences, making informed decisions for healthier eating habits.

03 Application in Health Management

Offers a practical tool for managing personal health by aligning food choices with recommended nutritional standards.

INTRODUCTION

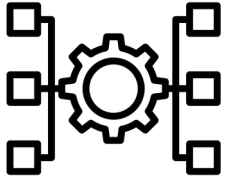
1

The presentation introduces the "Personalized Nutritional Analyzer" program, addressing gaps in nutritional awareness, health implications of dietary choices, and the necessity for informed decision-making program.

Overview

File Handling

Reading and parsing data from external files containing nutritional information.

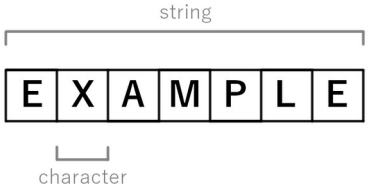


Structures

Utilizing structures to organize and store food item attributes in a coherent manner.

Memory Management

Efficient allocation and deallocation of memory using dynamic memory allocation.

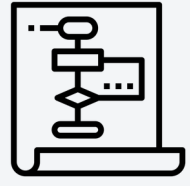


String Manipulation

Techniques for string cleaning, parsing, and comparison.

User Interaction

Using console I/O to interact with users for input and display purposes.



Algorithmic Logic

Calculating total nutritional values, matching user inputs with stored data, and assessing diet quality based on predefined thresholds.

SYSTEM DESIGN

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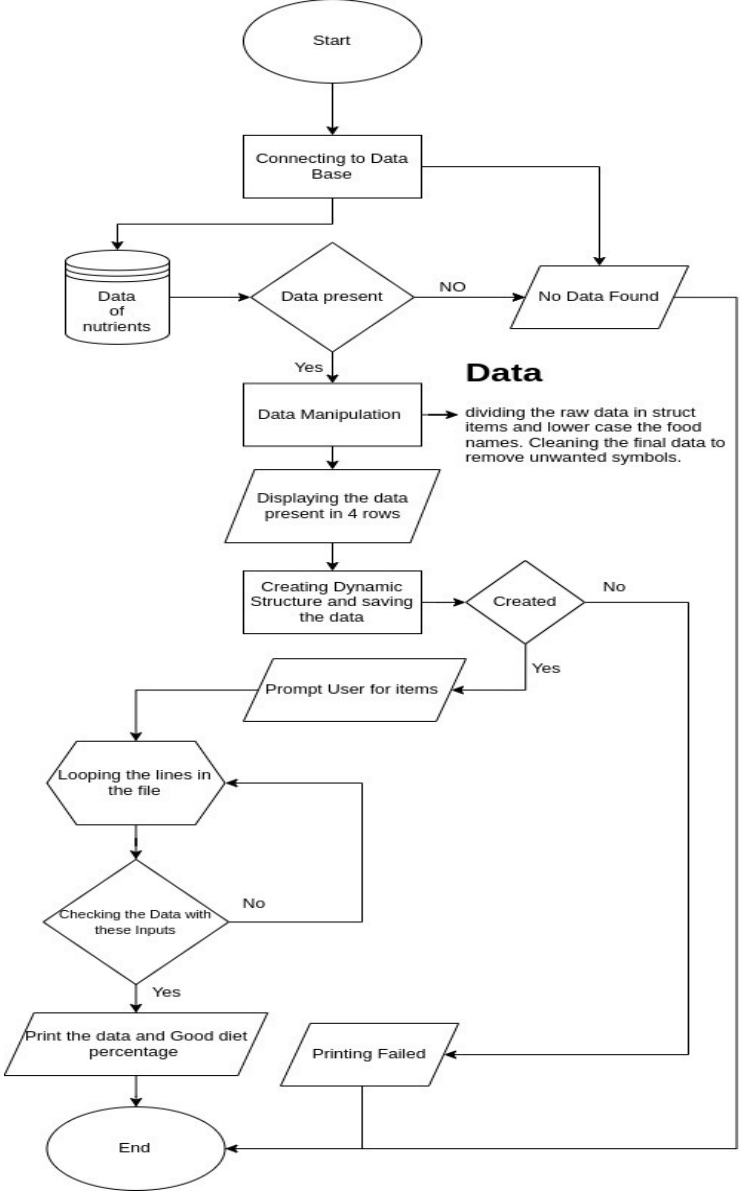
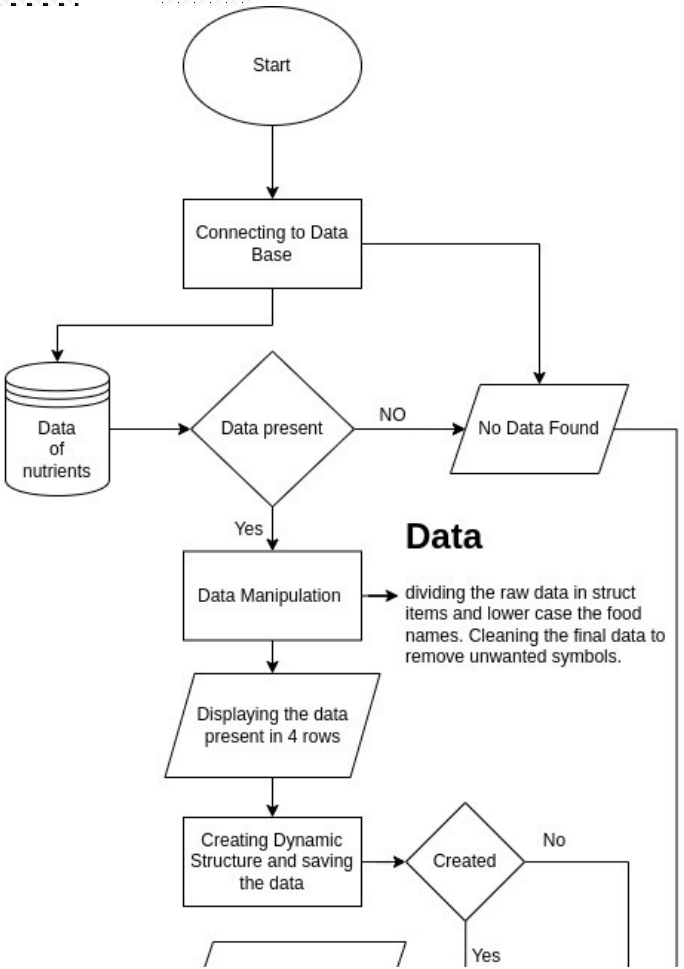
The system design incorporates file reading, data parsing, user interaction, nutritional analysis, and memory management, ensuring a comprehensive tool for dietary assessment and informed decision-making.


Start
Connecting to Data Base
Data of nutrients
Data present
NO
No Data Found
Yes
Data
Data Manipulation
dividing the raw data in struct items and lower case the food names. Cleaning the final data to remove unwanted symbols.
Displaying the data present in 4 rows
Creating Dynamic Structure and saving the data
Created
No
Yes
Prompt User for items
Looping the lines in the file
Checking the Data with these Inputs
No
Yes
Print the data and Good diet percentage
Printing Failed
End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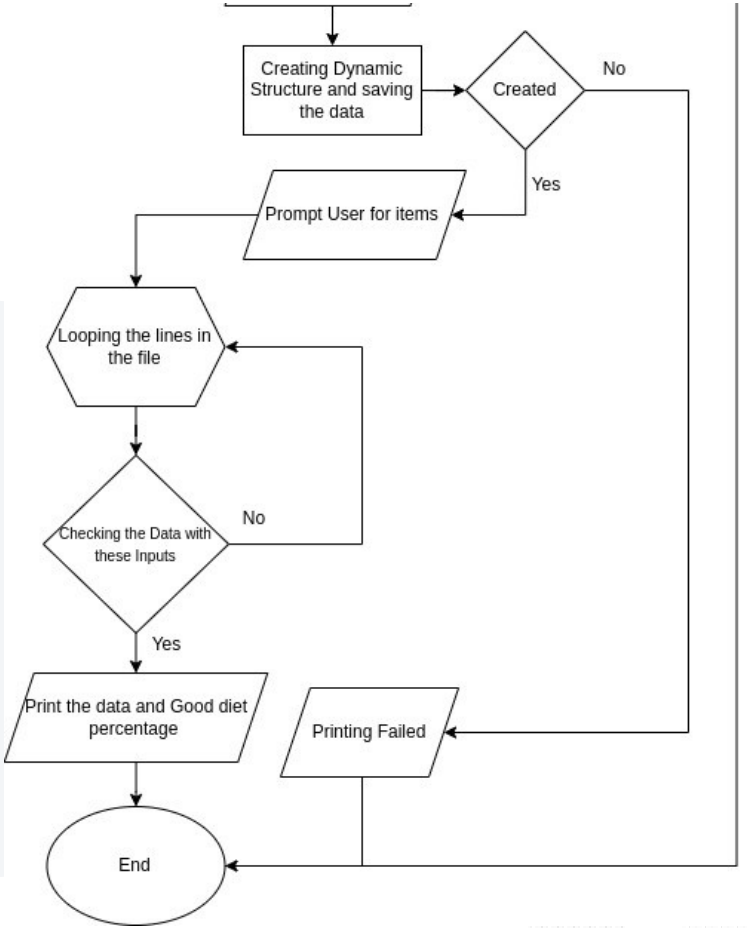
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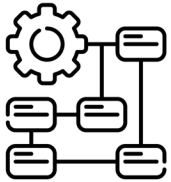


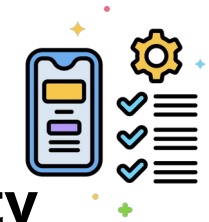
01 Struct Definition

Defining a structure for storing food item nutritional data.

02 File Reading & Data Parsing

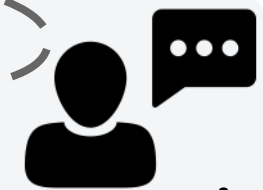
Reading files and parsing nutritional data for analysis and evaluation.

03 Display Functionality



Showing available food items in a structured, user-friendly manner.

04 User Interaction



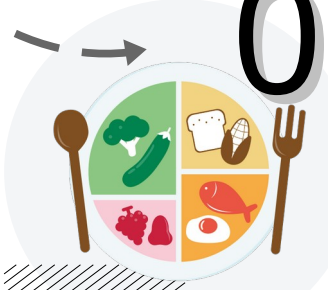
Interacting with users to input and analyze food item data.

05 Data Processing & Analysis

Processing data to calculate nutritional values for dietary analysis.

07 Memory Management

Allocating and freeing memory for the structured array of food items.



06 Diet Quality Assessment

Evaluating diet quality based on nutritional thresholds for user-input foods.

08 Error Handling

Handling memory allocation failure and ensuring program execution stability.

FEASIBILITY ANALYSIS & REAL TIME APPLICATIONS

3

The feasibility analysis assesses tool usability, efficiency, and adaptability, evaluating its practicality in real-time dietary assessment, enabling informed decisions for healthier eating habits.

Feasibility Analysis

Assessing tool usability, efficiency, and adaptability.

Real-Time Application

Practicality in immediate dietary assessment for informed, healthier eating habits.

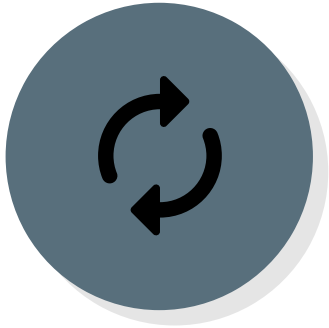
Evaluation Metrics

Metrics for measuring tool effectiveness in real-world dietary contexts.

Limitations

Data Accuracy

The accuracy of nutritional information depends on the data source's reliability, potentially impacting the program's results.

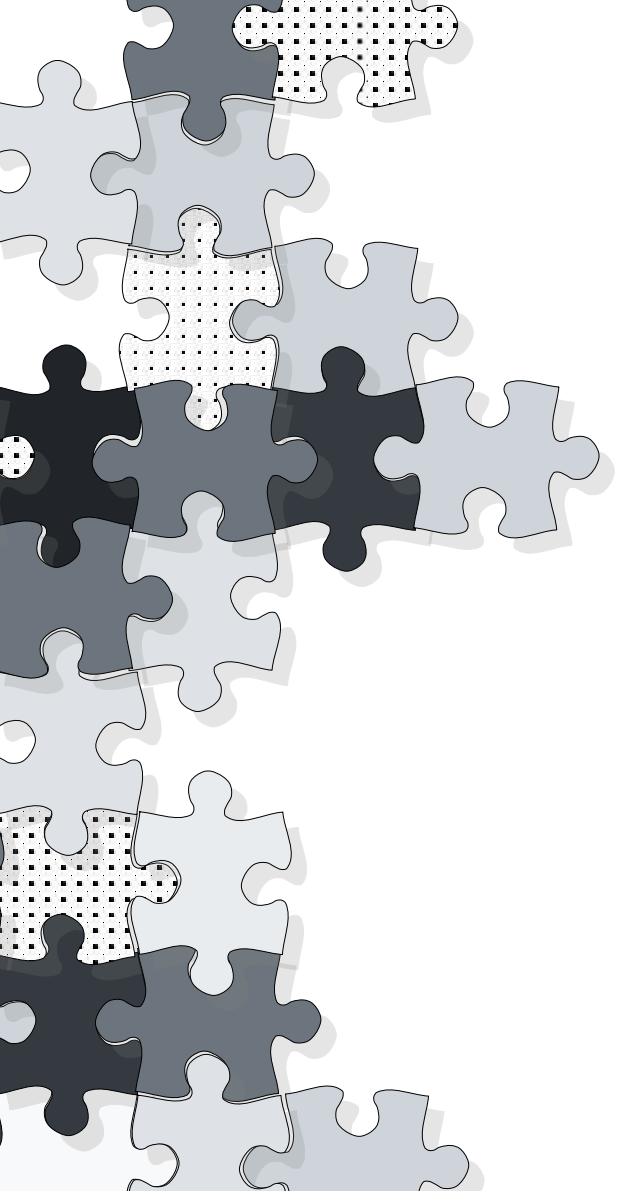


Generalized Thresholds

Healthy thresholds used for evaluation might not suit everyone's dietary needs, lacking personalized adjustments.

Limited Food Database

The program’s effectiveness is constrained by the database's scope and may not cover all available food items or regional cuisines.



> Exploring nutritional analysis practicality and applicability in daily diets is at the core of our discussion.

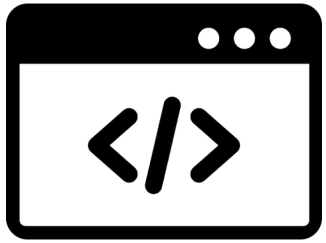
Reference Links:

For Dataset:
https://www.kaggle.com/datasets/niharika41298/nutrition-details-for-most-common-foods/

For Flowchart:
https://app.diagrams.net

For Idea on Data:
https://pubmed.ncbi.nlm.nih.gov
https://www.fao.org/nutrition/education/food-dietary-guidelines/regions/countries/india
https://www.mayoclinic.org/healthy-lifestyle/weight-loss/in-depth/mayo-clinic-diet/art-20045460
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7071223/
https://www.health.harvard.edu/topics/nutrition
https://www.medicalnewstoday.com/articles/160774#macronutrients

Let's experience the code in action



https://github.com/Bookinheaven/BK-Hub/tree/main/PPS/Idea%20Presentaion/FOOD/


Thank
You!