A Field Project Report on

NUTRICHECK AND HEALTH ADVISORY SYSTEM

Submitted

In partial fulfillment of the requirements for the award of the degree

BACHELOR OF TECHNOLOGY

In

COMPUTER SCIENCE and ENGINEERING

By

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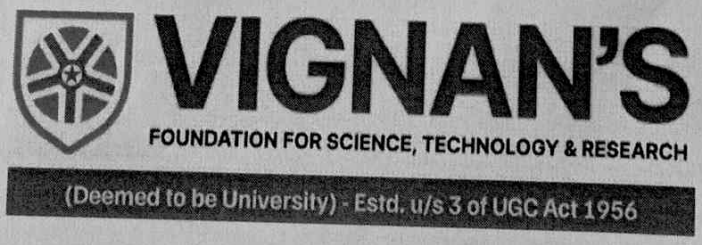

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

SCHOOL OF COMPUTING AND INFORMATICS

VIGNAN'S FOUNDATION FOR SCIENCE, TECHNOLOGY & RESEARCH
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CERTIFICATE

This is to certify that the field project entitled "**NUTRI CHECK AND HEALTH ADVISORY SYSTEM**" is being submitted by K.SaiVivek (231FA04B97), K.SriNayana(231FA04C32),K.Jaswanth(231FA04C57),k.Sravanthi(231FA04D10) in partial fulfilment of the requirements for the degree of **Bachelor of Technology (B.Tech.) in Computer Science and Engineering** at Vignan's Foundation for Science, Technology and Research (Deemed to be University), Vadlamudi, Guntur District, Andhra Pradesh, India.

This is a bonafide work carried out by the aforementioned students under my guidance and supervision.

Guide

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DECLARATION

Date: 26-04-2025

We hereby declare that the work presented in the field project titled "NUTRICHECK AND HEALTH ADVISORY SYSTEM" is the result of our own efforts and investigations.

This project is being submitted under the supervision of **Dr. Nerella Sameera, Assistant Professor** in partial fulfillment of the requirements for the Bachelor of Technology (B.Tech.) degree in Computer Science and Engineering at Vignan's Foundation for Science, Technology and Research (Deemed to be University), Vadlamudi, Guntur, Andhra Pradesh, India.

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INTRODUCTION

INTRODUCTION

The Nutri Check and Health Advisory System is an innovative web application designed to empower individuals in managing their dietary habits and enhancing overall well-being. In a world increasingly focused on health, this system addresses the rising prevalence of lifestyle-related diseases by providing users with a user-friendly platform for tracking food intake and understanding nutritional values. It promotes awareness of dietary choices, encourages goal setting, and offers personalized recommendations tailored to individual preferences and health objectives. Leveraging modern web technologies, the application ensures accessibility across various devices and features a robust database for real-time updates on food items. Beyond individual tracking, Nutri Check fosters a supportive community where users can share tips and success stories, while also providing access to health professionals for expert advice. Ultimately, the Nutri Check and Health Advisory System serves as a comprehensive health management tool, inspiring users to take control of their nutrition and lead healthier lives.

Problem Definition

The **Nutri Check and Health Advisory System** addresses the critical issue of poor dietary habits and the rising incidence of lifestyle-related health problems, such as obesity, diabetes and cardiovascular diseases. Many individuals lack the knowledge and tools necessary to make informed nutritional choices, leading to unhealthy eating patterns and a disconnect between their dietary intake and health goals.

Existing System

Traditional nutritional tracking methods face several significant challenges:

Environmental Impact: Reliance on printed materials contributes to paper waste and deforestation.

Cost and Time: Manual tracking is often expensive and time-consuming, requiring effort to maintain physical logs.

Lack of Flexibility: Once recorded, changes to dietary entries are difficult to make, limiting adaptability.

Limited Interactivity: Many systems lack real-time features for feedback, meal planning, and progress tracking, leading to user disengagement.

Inaccessibility of Information: Users often struggle to quickly access reliable nutritional information, resulting in uninformed choices.

Generic Recommendations: One-size-fits-all advice fails to consider individual dietary needs and preferences.

Lack of Community Support: Traditional methods often do not provide a supportive community, which is essential for motivation and accountability.

1.3 Proposed System

The Nutri Check and Health Advisory System is designed to enhance user experience in managing dietary habits through the following key components:

User Registration and Login

User Registration:

Users create accounts with name, email, and password.

Validation checks for unique emails and secure passwords.

User Login:

Existing users log in with email and password.

Password reset option available.

Food Item Information

Food Input Interface:

Users enter food names with a search feature for suggestions.

Nutritional Data Retrieval:

Displays calories, protein, carbs, fats, and health ratings for selected food items.

Quantity Input:

Users specify the quantity consumed, and the system calculates nutritional values accordingly.

Food Tracking

Tracking Consumed Food:

Users log food intake in a daily food diary.

Maintains a history of consumed foods.

Total Nutritional Summary:

- Displays total calories and macronutrients consumed for the day.

4. Suggestions and Alternatives

Health Suggestions:

- Provides feedback on dietary choices and tips for improvement.

Alternative Food Suggestions:

- Offers healthier substitutes for unhealthy or moderately healthy foods.

1.4 Literature Review

The Nutri Check and Health Advisory System builds on existing research highlighting the importance of personalized nutrition and technology in promoting healthier eating habits. Studies indicate that digital tools enhance user engagement and accountability in dietary management. By integrating real-time tracking, personalized recommendations, and community support, this system aims to address the limitations of traditional nutritional approaches and improve overall health outcomes.

CHAPTER-02
SYSTEM REQUIREMENTS

2.1 Hardware & Software Requirements

To ensure the Nutri Check and Health Advisory System operates efficiently and provides a seamless user experience, the following detailed hardware and software requirements are necessary:

Hardware Requirements

Client Devices:

Desktop or Laptop:

Minimum: Intel i3 or equivalent processor.

Recommended: Intel i5 or higher for optimal performance.

Mobile Devices:

Smartphones or tablets with Android (version 5.0 or higher) or iOS (version 12.0 or higher)

Memory (RAM):

Minimum: 2 GB RAM.

Recommended: 4 GB RAM or more for better multitasking and performance.

Storage:

Minimum: 500 MB of free storage for application data and user profiles.

Recommended: 1 GB or more for caching and storing additional resources.

Network:

Stable internet connection (minimum 1 Mbps download speed) for accessing online features and update

Software Requirements

Operating System:

Desktop:

Windows 10 or later.

macOS Mojave (10.14) or later.

Linux (Ubuntu 18.04 or later).

Mobile:

Android 5.0 (Lollipop) or later.

iOS 12.0 or later.

Web Browser:

Latest versions of:

Google Chrome.

Mozilla Firefox.

Safari.

Microsoft Edge.
JavaScript enabled for dynamic content and interactivity.

Development Tools (for developers):
Frontend:
HTML5, CSS3, JavaScript (ES6+).
Frameworks: Tailwind CSS for styling.
Backend (if applicable):
Node.js or any server-side language (e.g., Python, PHP) for handling user data and requests.
Database: LocalStorage for client-side data storage or a cloud-based database (e.g., Firebase, MongoDB) for user data management.

APIs:
Integration with third-party APIs for additional features (e.g., nutrition databases, fitness tracking).

2.2 Software Requirements Specification (SRS)

Frontend Development for Nutri Check and Health Advisory System

Languages & Technologies:
- **HTML5**: Semantic markup enhances accessibility and SEO.
- **CSS3**: Utilizes Flexbox and Grid for responsive layouts and animations.
- **JavaScript (ES6+)**: Enables DOM manipulation and event handling for interactivity.
- **AJAX**: Facilitates dynamic content loading without page refresh.

Frameworks & Libraries:
- **Tailwind CSS**: Provides utility-first classes for rapid and responsive UI design.
- **Bootstrap 5**: Offers a responsive grid system and pre-built components for consistency.
- **Font Awesome**: Supplies icons to enhance the user interface visually.

Key Frontend Features:
- **Mobile-First, Responsive Design**: Optimized for various devices and screen sizes.
- **Cross-Browser Compatibility**: Ensures consistent performance across major web browsers.
- **Form Validation (Client-Side)**: Real-time validation for user inputs during registration and logging.
- **Dynamic UI Updates Without Page Reload**: AJAX allows seamless interactions and data retrieval.
- **User -Friendly Interface**: Intuitive navigation for easy access to all features.
- **Accessibility Compliance**: Adheres to web accessibility standards for inclusive design.

CHAPTER-03
SYSTEM DESIGN

3.1 Modules of the System

1. **User Authentication Module**: Manages user registration, login, and password management.
2. **Food Database Module**: Stores and retrieves food items along with their nutritional information.
3. **Nutritional Information Module**: Displays detailed nutritional data based on user input and calculates values.
4. **Food Tracking Module**: Allows users to log consumed food items and calculates total nutritional intake.
5. **User Interface Module**: Provides a user-friendly and responsive interface for navigation and interaction.
6. **Health Advisory Module**: Offers personalized health advice and suggestions for healthier food choices.
7. **Data Storage Module**: Stores user data and food information locally using web storage (localStorage).

3.2 UML Diagrams

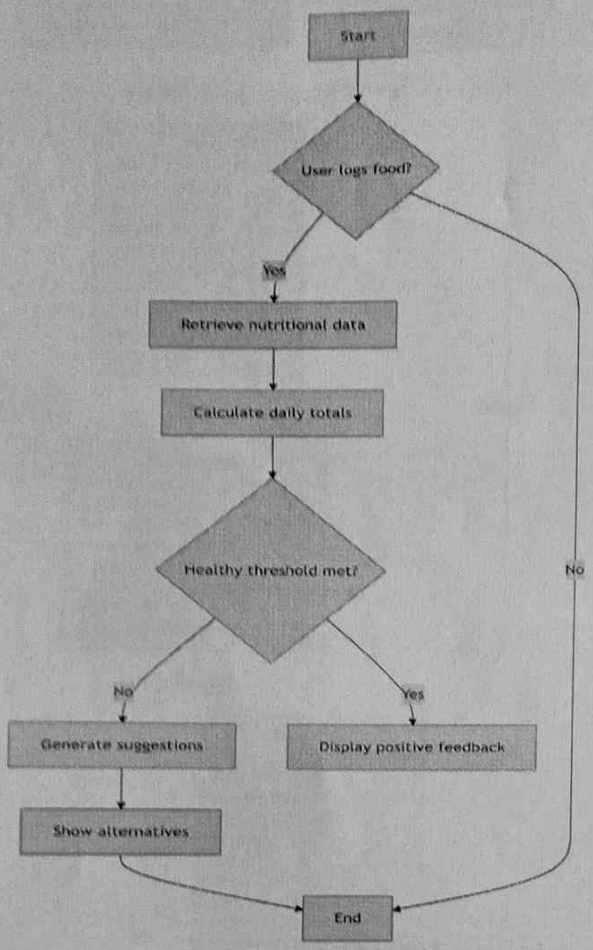
Includes system flow diagrams, use case diagrams, and sequence diagrams for better understanding of the project structure.

1. Use Case Diagram

"This diagram shows the main functionalities of your system from a user's perspective."

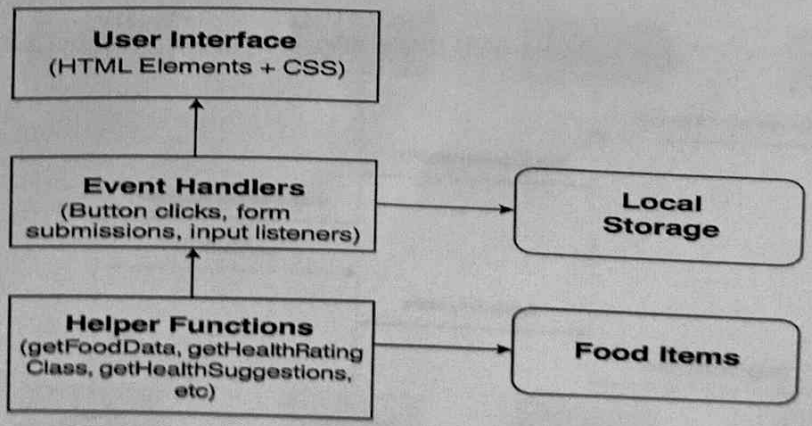
4. Activity Diagram (RSVP Process):

"This shows the workflow when a guest responds to an invitation."



5. Component Diagram

"This shows the high-level architecture of your system"



CHAPTER-04
IMPLEMENTATION

4.1 Sample Code

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Food Tracker Pro</title>
<link rel="stylesheet" href="styles.css">
</head>
<body>
<div class="container">
<h1>Food Tracker Pro</h1>

<!-- Registration Form -->
<div id="registerContainer">
        <h2>Register</h2>
        <input id="registerName" type="text" placeholder="Full Name" required>
        <input id="registerEmail" type="email" placeholder="Email" required>
        <input id="registerPassword" type="password" placeholder="Password" required>
        <button id="registerButton">Register</button>
<p id="registerError" class="error-message"></p>
</div>

<!-- Login Form -->
<div id="loginContainer" class="hidden">
        <h2>Login</h2>
<input id="loginEmail" type="email" placeholder="Email" required>
        <input id="loginPassword" type="password" placeholder="Password" required>
<button id="loginButton">Login</button>
        <p id="loginError" class="error-message"></p>
</div>

<!-- Food Tracking Section -->
<div id="foodTrackerContainer" class="hidden">
<h2>Track Your Food</h2>
<input id="foodInput" type="text" placeholder="Enter food name">
        <input id="quantityInput" type="number" placeholder="Quantity (g)">
```

```
<button id="addFoodButton">Add Food</button>
<ul id="foodList"></ul>
<button id="logoutButton">Logout</button>
</div>
</div>

<script src="script.js"></script>
</body>
</html>
```

4.2 Test Cases

Test Cases for Food Tracker Pro

Test Case ID: TC-1

Description: Successful Food Item Addition

Input:

Food Name: "Oatmeal"

Quantity: 150

Expected Result:

Food item "Oatmeal - 150g" is added to the food list.

The food list displays the new item correctly.

Test Case ID: TC-2

Description: Attempt to Add Food Item with Empty Fields

Input:

Food Name: ""

Quantity: 200

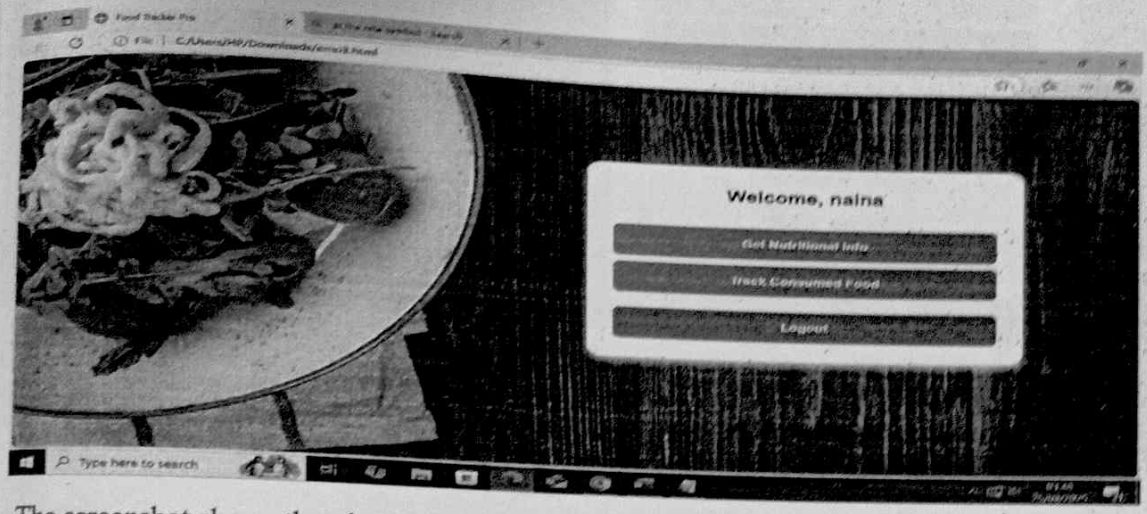
Expected Result:

Alert message "Please enter both food name and quantity." is displayed.

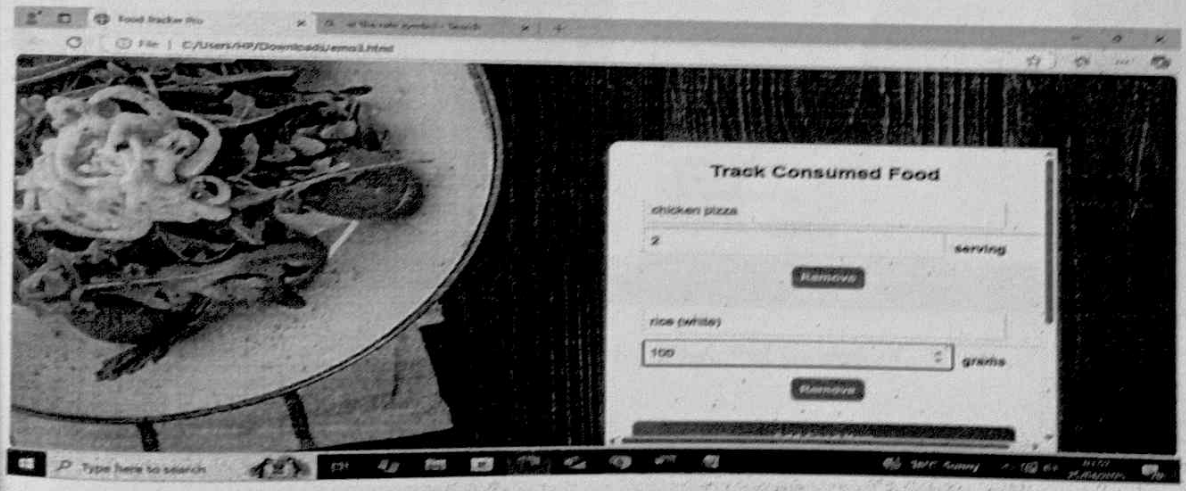
No new item is added to the food list.

CHAPTER-05
RESULTS

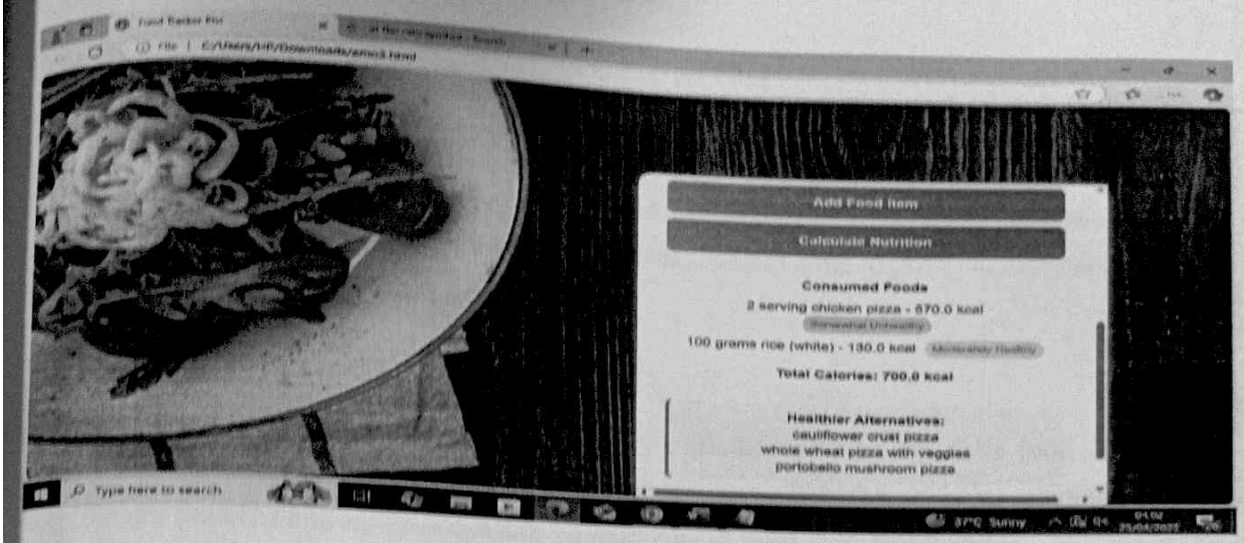
5.1 Output Screens



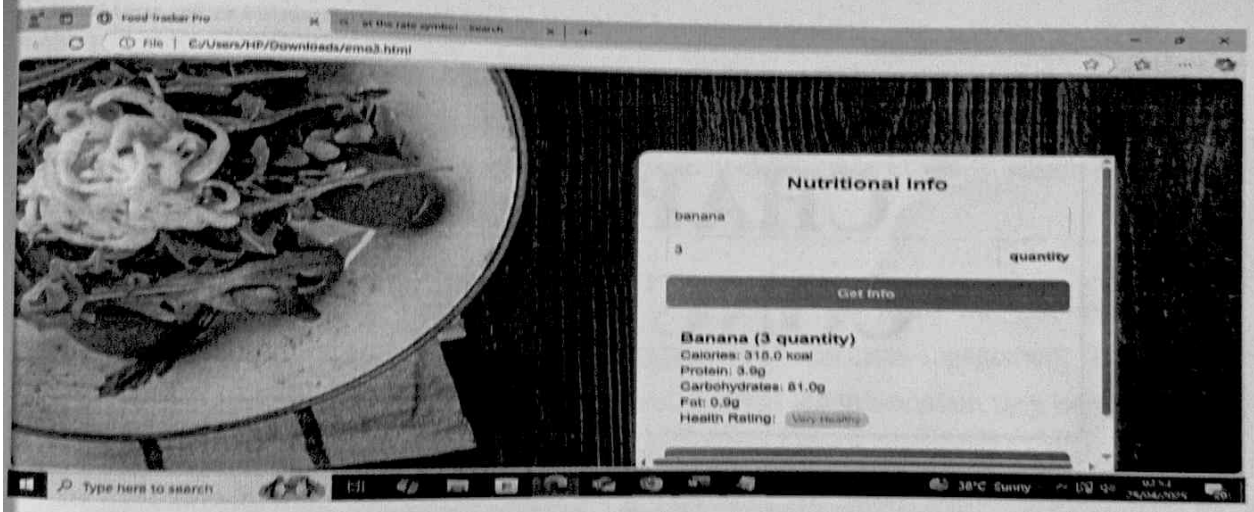
The screenshot shows that there were two options provided to user either that is to check nutritional info or track the consumed food



The above screenshot shows how the tracking of consumed food works ,like we enter the food we consumed and also the quantity .



In this we can see that the consumed food was tracked and it shows the healthier alternatives to the food we consumed



In this screenshot we can get the nutritional info of an food item that we entered

CHAPTER-06
CONCLUSION

CONCLUSION

The NutriCheck and Health Advisory System is an innovative application designed to empower users in managing their dietary habits and overall health. By providing personalized nutritional insights and health recommendations, this system aims to promote healthier lifestyles and informed food choices.

Key Achievements:

Personalized Nutritional Tracking: The system allows users to log their food intake and receive real-time feedback on their nutritional consumption. This feature helps users understand their dietary patterns and make necessary adjustments to meet their health goals.

Health Advisory Features: The application offers tailored health advice based on user inputs, such as dietary preferences, health conditions, and fitness goals. This personalized approach ensures that users receive relevant and actionable recommendations.

Comprehensive Food Database: NutriCheck includes an extensive database of food items, complete with nutritional information. This database enables users to easily search for foods, view their nutritional content, and make informed choices.

User -Friendly Interface: The application is designed with a focus on user experience, featuring an intuitive interface that simplifies navigation and enhances engagement. The use of modern design principles ensures that users can easily access the information they need.

Future Enhancements: The project lays the groundwork for future enhancements, such as integrating machine learning algorithms for predictive analytics, incorporating wearable device data for real-time health monitoring, and expanding the food database to include more international cuisines and dietary options.

Overall Impact: The NutriCheck and Health Advisory System not only addresses the immediate needs of users seeking to improve their dietary habits but also fosters a culture of health awareness and proactive wellness management. By leveraging technology to provide personalized health insights, this system has the potential to significantly impact users' lifestyles and health outcomes.

In conclusion, the NutriCheck and Health Advisory System represents a significant advancement in the field of health technology. It serves as a valuable resource for individuals looking to enhance their nutritional knowledge and make informed dietary choices. As the

system evolves, it can further contribute to the promotion of healthier communities and improved public health.

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PROJECT LINK:

https://github.com/jaswanth77755/Nutricheck.git