



CONFLUENTIA HACKATHON '25

Indian Institute of Technology (BHU), Varanasi

Team: Smart Food Recommendation System for Health

Problem Statement 6: Smart Food Recommendation System for Health

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The Problem: Navigating Nutrition for Health

Nutrition is crucial for disease prevention and management, yet many individuals struggle with understanding appropriate food choices for their specific health conditions. Our goal is to empower users with a data-driven solution, enabling them to make smarter, disease-specific dietary decisions easily.

Key Challenges an AI Chatbot Can Address:

→ Unhealthy Eating Habits

Suggests balanced meals to foster healthier dietary patterns.

→ Diet-Related Diseases

Assists in managing conditions like diabetes, obesity, and hypertension through tailored recommendations.

→ Food Wastage

Generates recipes based on available ingredients, reducing household waste.

→ Nutritional Awareness

Educates users on essential vitamins, minerals, and calorie intake for informed choices.



→ Allergies & Intolerances

Recommends safe and suitable food alternatives, preventing adverse reactions.

→ Time Constraints

Provides quick, convenient, and healthy meal ideas for busy schedules.

→ Cultural & Regional Gaps

Suggests meals respecting diverse dietary preferences and traditions.

Our objective is to help users easily discover [disease-specific dietary guidelines](#) in a conversational and intuitive manner.



Insights: Understanding the Dietary Gap



Lack of Professional Guidance

A significant portion of the population lacks access to professional nutritionists, leading to unawareness regarding healthy dietary practices.



Prevalence of Unhealthy Habits

This gap results in poor eating habits, excessive consumption, and a general disregard for food's profound impact on health.



Rise of Lifestyle Diseases

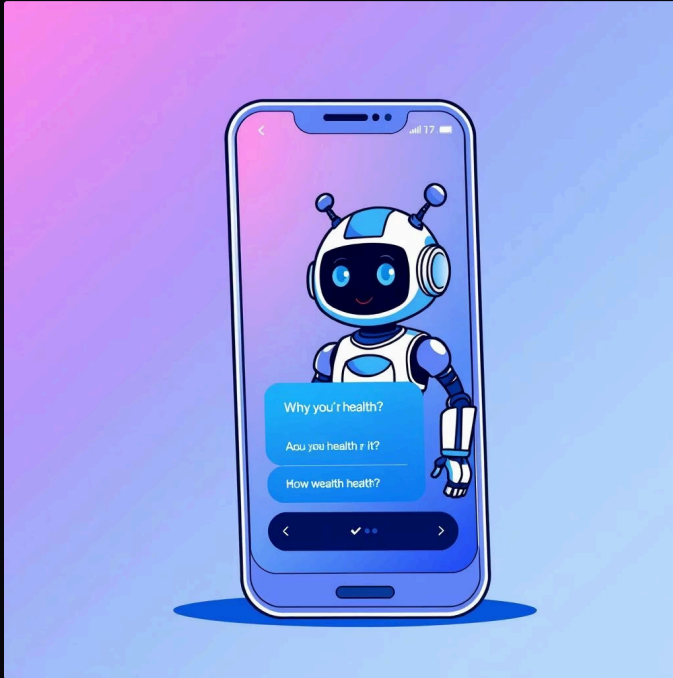
Such practices gradually lead to adverse health effects, manifesting as lifestyle diseases like diabetes, heart conditions, and obesity.



Diet as a Curative Tool

Given that many of these diseases stem from diet, timely diagnosis and intervention through healthy, moderated dietary practices can lead to partial or even full recovery.

Our Solution: An AI-Powered Dietary Chatbot



Our innovative solution introduces an **AI-based chatbot** designed to provide instant and accurate resolutions to diet-related queries, specifically tailored to the consumer's health conditions.

Easy-to-Use Interface

The chatbot is designed for maximum user-friendliness, ensuring seamless interaction and clear understanding.

Accurate Query Resolution

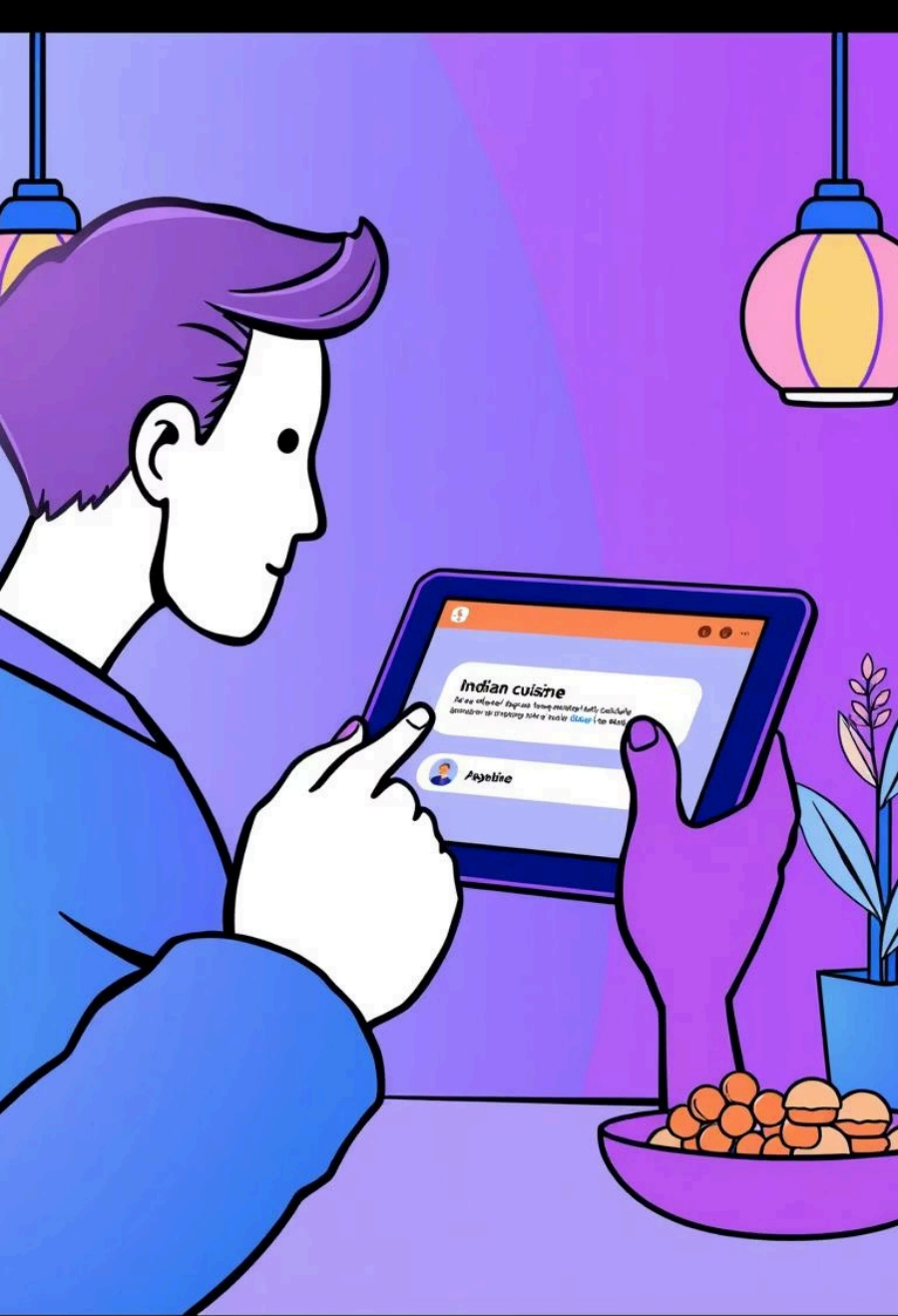
Leveraging advanced AI, it guarantees precise and reliable dietary advice.

Food Safety Assessment

Users can inquire if a food item is safe to consume. If yes, the bot provides crucial remarks on appropriate amounts and consumption methods.

Holistic Food Recommendations

Beyond safety, the chatbot suggests other edible items that not only help combat specific diseases but also contribute to the individual's overall well-being.



Live Demonstration

Watch our AI-powered chatbot in action as it demonstrates its capabilities to provide instant, personalized, and accurate dietary advice. Observe its intuitive interface and how it guides users through healthy food choices tailored to specific health conditions.

- Real-time query processing for various health conditions.
- Demonstration of food safety checks and consumption guidelines.
- Interactive suggestions for disease-specific and overall wellness meals.
- Highlighting the ease of use and accessibility for all users.

Next Steps: Enhancing the Future of Dietary Guidance



Personalised Bot Profiles



Develop a feature where the bot stores consumer health data, allowing for more context-aware and personalized dietary recommendations without repeated inputs.

Multi-Language Support



Expand accessibility by integrating multiple languages, including regional Indian languages, ensuring wider reach and inclusivity for all users.

Comprehensive Diet Charts



Enable the chatbot to generate full-fledged, custom diet charts that not only aid in disease management but also significantly improve overall health.

Dynamic Health Tracking



Implement regular health data updates, allowing the chatbot to dynamically adjust and refine diet plans and food suggestions based on evolving health metrics.

Interactive Offline Quiz Game



When users are offline, the chatbot launches an engaging quiz-based game that educates users about healthy food habits, nutritional facts, and dietary awareness in an interactive and fun way.