



Team members

Rajeev R (70)

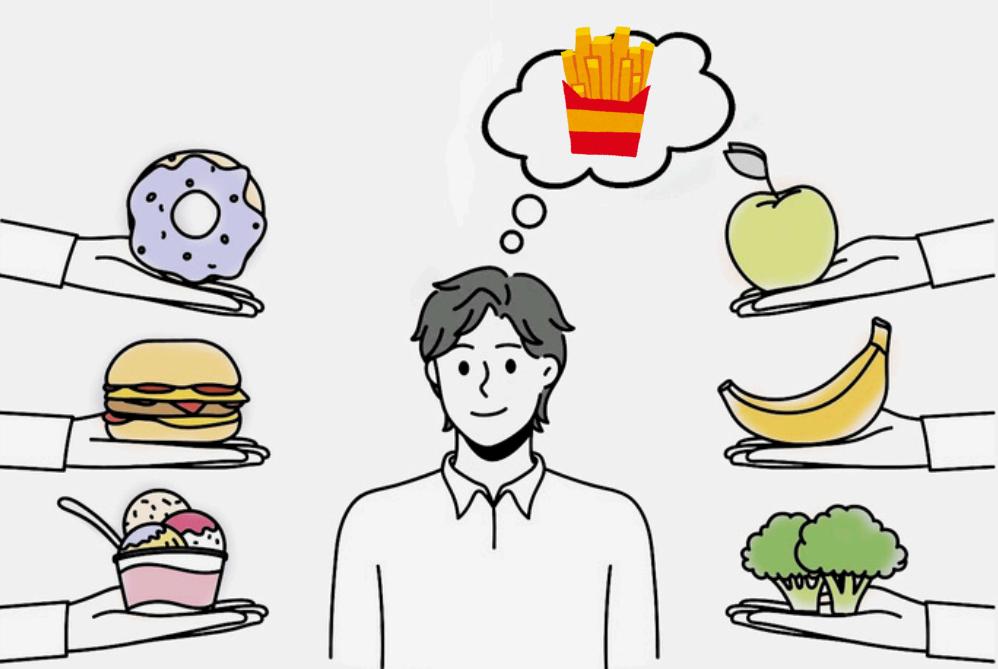
Nidha Shameer T S (45)

Brighty Jobin (26)

Adeela Farshana (7)

Guide

Maanasa N A S



PROBLEM STATEMENT

- Businesses in the food industry, such as restaurants, cafes, and food delivery platforms, face significant challenges in retaining customers and encouraging repeat business. Traditional food recommendation methods are often generic, failing to cater to individual preferences. This results in missed opportunities for upselling and cross-selling, ultimately affecting sales and revenue.
- At the same time, individuals are increasingly aware of the importance of maintaining a healthy lifestyle, yet making informed dietary choices can be challenging. The overwhelming variety of food options and the lack of personalized recommendations often leave users struggling to find meals that align with their dietary preferences, restrictions, and health goals, leading to frustration and dissatisfaction. Users also seek the ability to discover recipes based on their preferred ingredients and personal choices, allowing them to explore and try new dishes, ultimately enriching their culinary experience.

PROPOSED SOLUTION

To tackle the challenges faced by both consumers and businesses in the food industry, we propose a Personalized Food Recommendation System. This solution uses machine learning and advanced data analytics to provide tailored food suggestions, creating a seamless connection between what users need and what businesses offer.

USERS

- Health-conscious individuals
- People with Specific Dietary Needs or Health Conditions
- Businesses in the food industry, including restaurants, cafes and online food delivery platforms
- Nutritionists and diet planners
- Families and Home Cooks

HOW IS IT CURRENTLY DONE?

- Self-Research
- Generic Food App Recommendations
- Pre-Defined Diet Plans
- Consultation with Nutritionists.
- Limited Use of Advanced Systems
- Revenue-Driven Suggestions

FEASIBILITY ANALYSIS

Technical Feasibility



- **Backend:** FastAPI framework for efficient API development
- **Frontend:** Streamlit for interactive user interfaces
- **Machine Learning:** Content-based recommendation system using Food.com dataset with over 500,000 recipes
- **Technologies Used:** Python, Scikit-learn, Pandas, Numpy, Docker, etc.

Time Feasibility



- Development time minimized using pre-built frameworks like FastAPI and Streamlit.
- Docker simplifies deployment by containerizing services

Resource Feasibility



- Open-source tools and libraries used to manage costs.
- Leverages a publicly available dataset.
- Local or cloud-based infrastructure sufficient for initial development and testing.
- Since the dataset is free to use, no additional costs are incurred for acquiring data
- Docker's lightweight containerization minimizes resource consumption, further optimizing cost.
- Scalable deployment enabled via Docker for production environments.

PROJECT ROADMAP

