Project Title: Smart Nutrition Assistant (NutriSnap: Capture your health)
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Project Description:
This project aims to develop a platform leveraging a computer vision API to simplify nutritional tracking. Users can capture a photo of their meal, and the system will identify the food items and calculate an estimated nutritional content. The user-friendly interface displays this information clearly, with features like graphical trends for dietary monitoring. It also offers personalized dietary recommendations based on individual health goals or restrictions.

Business Goals:

- To achieve high levels of user engagement and retention by providing a seamless, intuitive user experience that encourages regular use and integrates smoothly into users' daily routines
- To create an engaged community of users who are committed to improving their dietary habits
- Enhance the efficiency and accuracy of nutritional data entry, streamlining the user experience to increase platform adoption and customer satisfaction
- Offering insights into eating patterns which support weight management goals.

Main Features:

- **Interactive Health Charts**: Graphical representation of health data over time.
- **Goal Setting and Tracking**: Users can set health goals and track their progress
- **Image upload**: Users are able to upload images of their meals that will be analyzed and stored in a database.
- **Image detection:** use an open API to detect food items in images uploaded by users
- **Calorie estimation:** based on food items detected in the image, provide users with a calorie content estimation
- **Personalized recommendations:** offer tailored recommendations based on user profile/dietary restrictions

Scope:

Inside our scope:
- AI-based food recognition
- user authentication
- data visualization
- goal management
- user account management
- nutritional information retrieval
- nutritional information storage

Outside our scope:
- Physical device (hardware) that could be used for monitoring health parameters
- Software integration that imports real-time nutritional information
- In-depth medical analysis or diagnosis based on the data provided
- Global language support
- Meal planning or Meal preperation guides
- Offline functionality

Stakeholders: Users, healthcare providers, nutritionists, dietitians, web developers, project managers, governmental regulators (USDA, ESMA like organizations)

Constraints:
- **Time**: Must be completed within the academic semester.
- **Budget**: Limited to free or open-source software tools.
- **Technical**: Designed for web platforms only.
- **Method of Interaction**: GUI User Interface
- **Architecture:** A layer composed of Object-Oriented Classes
- **External:** Dependent on external API availability and accuracy

Risks:
- **User Engagement**: Risk of low user adoption, mitigated by user-friendly design and easy to upload photos for analysis.
- **Data Security**: Ensuring user data privacy, addressed with secure coding practices and data encryption.
- **Legal Risk:** If a user becomes ill due to following the personal recommendations generated by our platform our business may face legal

liability. Must specify explicitly that this platform is meant only for a generalized tracking of one's nutritional intake and users should consult a healthcare professional before making any significant changes to one’s diet.

Appendix: API documentation for Clarifai , Nutritionix, and ChatGPT