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# **Personalize Diet Finder**

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Abstract: In Today's busy life healthy body is dream for everyone to have a proper balanced diet. A balanced diet is important because your organs and tissues need proper nutrition to work effectively. Without good nutrition, your body is more prone to disease, infection, fatigue, and poor performance. Children with a poor diet run the risk of growth and developmental problems and poor academic performance, and bad eating habits can persist for the rest of their lives. At the core of a balanced diet are foods that are low in unnecessary fats and sugars and high in vitamins, minerals, and other nutrients. The following food groups are essential parts of a balanced diet. Calories play a vital role in our growth and energy. A good diet can help you manipulate calorie intake based on your requirements. The proposed application will provide the user with a user-friendly User-Interface where they can create an account, manage their account and get the diet by the click of just one button. If the user is allergic to some kind of food, it also has the feature to contact an actual dietitian to consult. And there's also a page where the user can just read some interesting facts on health and human body. This application will save a lot of user's time by not actually visiting a dietitian and getting everything done on their phone

Keywords: DietExpert

## I. INTRODUCTION

DietExpert is an android application is a provides a personalized diet to its users. It acts as a diet consultant similar to a real Dietitian. This system acts in a similar way as that of a dietitian. A person in order to know his/her diet plan needs to give some information to the dietitian such as its weight, height, gender etc. Similar way this system also provides the diet plan according to the information entered by the user. The system asks all data from the user and processes it to provide the diet plan to the user.

The project has a login page where the user is required to register his/her account and then they can use the app. Thus, the user does not need to visit any dietitian which also saves time and the user can get the required diet plan in just a click.

The system will give more accurate results as it accepts the data entered by the user and processes it depending on some metrics already known to the application on the basis of which a diet plan is generated and ask the user if the user accepts the diet plan. If not accepted the system may also give and alternative diet plan. If a user wants to stay fit and eat healthy, he can surely follow the program provided to him. The Application also has a card for Health Facts on the home screen, which will provide all the general knowledge and some amazing facts on our human body and body parts. This Application can be a vital part of a user if he wishes to maintain his health and body perfectly and follow the diet plan & the workout plan provided to the user.

## **II. LITERATURE SURVEY**

There are no one-size-fits-all diets. To help people with health concerns make healthy and sustainable meal plans, we proposed an artificial intelligence (AI)–enabled personalized meal planning strategy tailored to an individual's unique dietary needs, preferences, and goals while also considering their lifestyle and available resources.

Specifically, we adopted semantic web technologies to model complex and heterogeneous diet knowledge, used semantic logic to enable automatic machine reasoning to apply clinical diet rules, used fuzzy logic to handle uncertainty

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and vagueness of food data and improve flexibility, and designed heuristic search-assisted multicriteria decisionmaking (MCDM) to effectively integrate multiple user preferences in meal planning.

In our work, we treated each person as a unique individual with different health concerns, flavor preferences, financial situations, religions, and cultural and traditional backgrounds.

Our app addresses the gaps in existing meal planning systems by offering a more comprehensive and personalized meal planning experience that considers a wide range of factors, including health constraints, taste preferences, cultural practices, changing goals, and emotional connections to food. In addition, our approach used highly flexible and efficient AI algorithms, enabling us to consider a significantly larger number of factors and deliver fast and flexible responses. This further distinguishes our app from existing solutions as it allows for more comprehensive and dynamic meal planning capabilities. We implemented the proposed planning system with a mobile app prototype. Comprehensive evaluation tests were performed on the prototype. This review paper presents a comparative analysis of machine learning algorithms for customer segmentation, discussing their strengths, weaknesses, and real-world applications. I."A Review of Customer Segmentation Techniques Using Machine Learning" by Sheth, Smit, et al. (2020) - This review article examines various machine learning techniques employed for customer segmentation, highlighting methodological advancements and practical challenges.

### III. METHODOLOGY

- Goal Setting: Users will define goals like weight loss, muscle gain, or general health improvement.
- Dietary Preferences: Users will indicate preferred food types (vegetarian, vegan, etc.), allergies, and dislikes.
- Lifestyle: Questions will capture activity level, daily schedule, and access to cooking facilities.
- Health Data (Optional): Integration with fitness trackers or manual input can gather weight, height, and medical conditions (consult a disclaimer about consulting a doctor for personalized plans based on medical conditions)..
- **Matching Algorithm**: Based on user input, the app will match the user's profile to a suitable dietary approach (e.g., Mediterranean, Keto).

### **Calorie and Macronutrient Targets**:

The app will calculate daily calorie needs and suggest a macronutrient (carbs, protein, fat) breakdown based on goals and activity level.

- **Meal Planning:** The app will generate personalized meal plans with recipes or food suggestions that meet calorie and macronutrient targets while considering user preferences.Recipe Library: Provide a searchable recipe library with options aligned with the user's dietary plan.
- Grocery List Generation: Automatically generate shopping lists based on the chosen meal plan.
- **Progress Tracking**: Allow users to track their weight, measurements, and other health markers to monitor progress.
- Educational Content: Integrate educational content about healthy eating habits, portion control, and nutrient benefits.

### Data Security and Disclaimer:

The app should prioritize user data security and comply with relevant data privacy regulations

A clear disclaimer should advise users to consult a doctor before implementing any diet plans for pre-existing medical conditions.

This methodology provides a framework for a personalized diet finder app. The specific features and functionalities can be further refined based on user needs and market research.



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### V. OUTPUT

These apps take into account your goals (weight loss, muscle gain, etc.), preferences (vegetarian, allergies, etc.), and lifestyle (budget, cooking time) to create custom meal plans. Try searching for "customizable meal planner" or "macro meal plan generator"

Fig 4: Customer Spending Score



Fig 1. User page for information

A registered dietitian (RD) can cre approach, especially if you have any underlying health conditionate a personalized plan based on your health history, needs, and goals. This is generally the safest and most effective **s**.



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#### Fig 2. Program output

Customizable meal plan generators: These combine aspects of the above, allowing you to set goals, specify preferences, and generate a plan with options for customization.

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