ISSN: 2582 - 6379
Orange Publications
International Journal for Interdisciplinary Sciences and Engineering Applications
IJISEA - An International Peer- Reviewed Journal
2025, Volume 6 Issue 1
www.ijisea.org

Personalized Nutrition Plans Based On Individual Health Data

B.Rajesh,K.Harshitha[1],M.Kavya[2],M.SriPavanaNagaVasavi[3],N.Vasundara[4],
P.Yashasree,R.Nandini[5]
Asst.Professor1 ,UG Student2,3,4,5
Chaitanya Bharathi Institute of Technology, Proddatur, A.P, India.
bandelarajesh86@gmail.com ,20harshithareddy@gmail.com
mittakavya19@gmail.com, vasavimitta8@gmail.com, vasundaranalapalli@gmail.com,
yashasreepeddi@gmail.com, nandini.ravulakollu1@gmail.com

ABSTRACT

Theproject"PersonalizedNutritionPlansBasedonIndividualHealthData"aimsto develop an intelligent system that tailors nutrition plans based on users' unique health profiles. The system collects demographic, health, and lifestyle data to analyze dietary habits, physical activity, and genetic tendencies. By leveraging advanced recommendation techniques, it provides users with meal plans tailored to their health goals. Additionally, the application allows users to log meals, track progress, and receive real-time updates based on daily activities and nutritional intake. This data-driven approach helps improve health outcomes with scientifically-backed meal plans.

II.LITERATURESURVEY

Year	Title	Outcomes
2022	Personalized Diet Plans UsingMachineLearning	AI-driven meal recommendations improvedietadherenceandhealth outcomes.
2021	HealthDataAnalyticsfor Nutrition Management	Bigdataanalyticsenhancereal-time nutrition tracking and meal planning.

ISSN: 2582 - 6379
Orange Publications
International Journal for Interdisciplinary Sciences and Engineering Applications
IJISEA - An International Peer- Reviewed Journal
2025, Volume 6 Issue 1
www.ijisea.org

III.EXISTINGSYSTEM

Existing nutrition management systems typically provide generic dietary recommendations that do not account for individual differences in health, lifestyle, and genetic factors. These one-size-fits-all approaches often lead to ineffective or unsustainable dietary practices, as they fail to address the unique needs of users. Many apps lack comprehensive data analysis and personalization, offering limited functionality for meal tracking or real-time updates. As a result, usersmaystruggletofindeffectivesolutionstailoredtotheirspecifichealthgoals, highlighting the need for a more individualized and data-driven approach to nutrition.These limitations emphasize the growing need for a data-driven, intelligent nutrition system that delivers personalized meal plans, real-time insights, and continuous adaptation based on user-specific health data.

Advantages:

1.MealPlans:Providesdietplansbasedonindividualhealthneedsand preferences.

2.Real-TimeTracking:Allowsuserstologmealsandmonitortheirnutrition progress.

Disadvantages:

1.LackofPersonalization:Existingsystemsprovideone-size-fits-allmealplans without considering users' health conditions, allergies, or fitness goals.

2.LimitedDataAnalysis:Mostapplicationsfailtousereal-timedataanalyticsto adapt meal plans based on user progress and changing dietary needs.

3.GenericNutritionalRecommendations:Manyappsdonotofferscience-backed, data-driven meal plans, leading to ineffective or unsustainable diet practices.

4.PoorUserEngagement:Withoutinteractivefeatureslikemealreminders,goal setting, or progress visualization, users often lose motivation and stop using the app.

5.Security & Privacy Concerns : Some platforms lack robust data protection measures,raisingconcernsaboutthesecurityofsensitivehealthinformation.

IV.PROPOSEDSYSTEM

The proposed system aims to develop a personalized nutrition management applicationthatcustomizesmealplansbasedonindividualhealthdata.Userscan input their demographic details, medical history, and lifestyle preferences to createacomprehensivehealthprofile.Thesystemwillthenanalyzedietaryhabits and physical activity levels to generate tailored nutrition recommendations.Additionally, the application will enable users to log their meals, track their nutritional intake, and monitor progress in real-time. This interactive approach fosters higher user engagement, ensuring better adherence to personalized dietary plans and promoting long-term healthy eating habits.

ISSN: 2582 - 6379
Orange Publications
International Journal for Interdisciplinary Sciences and Engineering Applications
IJISEA - An International Peer- Reviewed Journal
2025, Volume 6 Issue 1
www.ijisea.org

Advantages:

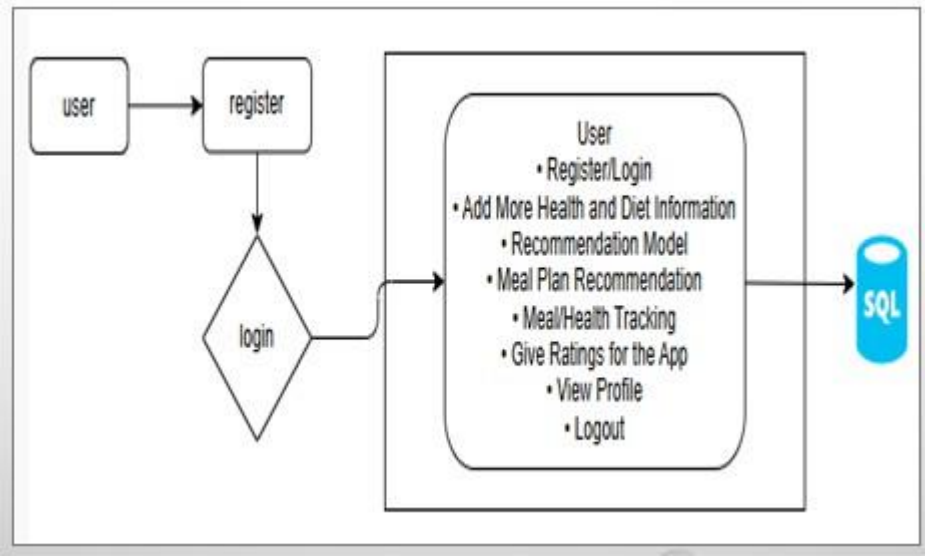
1.PersonalizedMealPlans:Generatescustomizednutritionplansbasedon individual health data, lifestyle, and dietary preferences.

2.Real-TimeTracking:Allowsuserstologmeals,monitortheirnutritionalintake, and track progress dynamically.

3.EnhancedUserEngagement:Providesinteractivefeatureslikeprogresstracking and recommendations, encouraging long-term adherence.

4.Health-BasedAdaptation:Continuouslyupdatesmealplansbasedonchanging health conditions and user activity levels.

Architecture:



Modules:

1.UserRegistration/Login:Userscreateanaccountandinputhealthdata.

2.Health&DietInformationInput:Usersentermedicalconditions,preferences, and lifestyle details.

3.RecommendationModel:AIprocessesdatatogeneratepersonalizedmeal plans.

4.MealPlanRecommendation:Displayscustommealplansalignedwithhealth goals.

5.Meal&HealthTracking:Userslogmealsandtrackprogress.

6.FeedbackSystem:Usersrateandreviewrecommendations.

7.UserProfileManagement:Allowsuserstoupdatetheirdata.

8.LogoutFeature–Ensuressecureusersessionmanagement.

ISSN: 2582 - 6379
Orange Publications
International Journal for Interdisciplinary Sciences and Engineering Applications
IJISEA - An International Peer- Reviewed Journal
2025, Volume 6 Issue 1
www.ijisea.org

V.CONCLUSION

This project aims to transform nutrition management with AI-driven personalization.Itanalyzesuserhealthdata,dietaryhabits,andlifestylefactorsto generate tailored meal plans. The system offers real-time tracking and adaptive recommendations for better adherence. Users can log meals, monitor progress, and receive personalized insights. This approach enhances nutrition planning, promoting improved health and wellness.

REFERENCES:

[1].PersonalizedNutritionAdvisor:Awebappprovidingpersonalizeddiet recommendations using FastAPI and Streamlit. https://github.com/GNishanth7/Personized-Nutrition-Adviso

[2].PersonalizedNutritionPredictor:UsesRidge Regression,FFNN,andRandom Forest Regressor for tailored calorie recommendations. https://github.com/AyushKumarVujani/Personalised-Nutrition-Predictor

[3].Nutrition-AIMobileApp:Amobileapplicationusingmachinelearningfor personalized nutritionrecommendations.https://github.com/nathan-wick/nutrition-ai

[4].Personalized Nutrition Chatbot : AI chatbot providing personalized nutrition suggestions based on user data.https://github.com/KushagraIsTaken/Personalized-Nutrition-Recommendation-Chatbot

[5].DietRecommendationSystem:Acontent-basedrecommendationenginefor promoting healthy eating.

https://github.com/zakaria-narjis/Diet-Recommendation-System

[6].PersonalizedDietPlanwithGUI:ATkinter-basedGUIapplicationforgenerating personalized meal plans.

https://github.com/MohnishRaval/Personalized-Diet-Recommendation-System

[7].PersonalizedDietRecommendationSystem:UsesMLalgorithmstosuggest food items based on user data. https://github.com/RawfurJim/Personalized_Diet_Recommendation_System

[8].Disease-SpecificNutritionSystem:ML-basedpersonalizednutritionfor individuals with chronic diseases.

https://github.com/jeevams27/Personalized-Disease-Specific-Nutrition-Recommendation-System

[9].Nutri-Recommender:ML-poweredpersonalizedfoodrecommendationsystem for healthier food choices.

https://github.com/aniketsurve46/Nutri-Recommender-Personalized-Food-Recommendation-System

[10].NutritionRecommendationSystem:Providespersonalizeddietsuggestions using ML based on user characteristics. https://github.com/sailubandi/Nutrition-Recommendation-System