

Abstract 28 – Paper ID: 036**“DIET BOX”: An AI Powered Personalized Diet and Management System**

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Abstract

With the current hustle and bustle urban life, a healthy and customized diet has become very difficult especially to the old people, those who indulge in fitness, and people who have demanding work schedules. Zomato and Swiggy are the current food delivery platforms, which aim at convenience, but do not emphasize nutritional personalization or health optimization. In this paper, the researcher will suggest an AI-driven dietary recommendation and delivery service built on OAuth2/JWT-based user authentication and a machine learning-based personal diet plan generation. The suggested system will allow the user to either subscribe to dietary plans or create their own meal plans by choosing dishes depending on their availability and health value. Moreover, a smart AI bot helps users that are not aware of the proper dieting by proposing the best meal combinations based on their age, weight, and health status, and lifestyle information. The site provides scalable payment systems of fixed subscriptions and tailor-made daily or periodic plans. Besides, an intelligent delivery scheduling system will enable customers to specify favorite delivery time or get automatic notifications prior to every delivery, which will increase the convenience of the user and decrease the number of delivery conflicts. The effectiveness of the proposed model is proven by experimental assessments and architectural design, which prove the model to be possible, scalable, and secure. Secure authentication and AI powered personalization combined with automated logistics will help in closing the gap between nutrition science and the current food delivery ecosystems, enabling healthier living by dietary management enabled by technology.

Keywords: JWT Authentication, Machine Learning models, AI Chatbot, Diet Recommendation, Subscription Plans, Payment Gateway, Delivery Scheduling, Nutrition Database, Cloud Architecture