ITP 312– IT RESEARCH METHODS

CAPSTONE/RESEARCH PROJECT TOPIC PROPOSAL

Proposed Title	Implementation of a Web-Based Nutrition Tracking Platform for Personalized Diet Planning for the Barangay Clinic in Comunal
Target Client/Beneficiary	The primary beneficiaries of this platform will be the Barangay Health Workers (BHW), nutritionists, and dietitians of the Barangay Clinic in Comunal, who require personalized meal plans based on individual health data and preferences to better serve the nutritional needs of children in the community.
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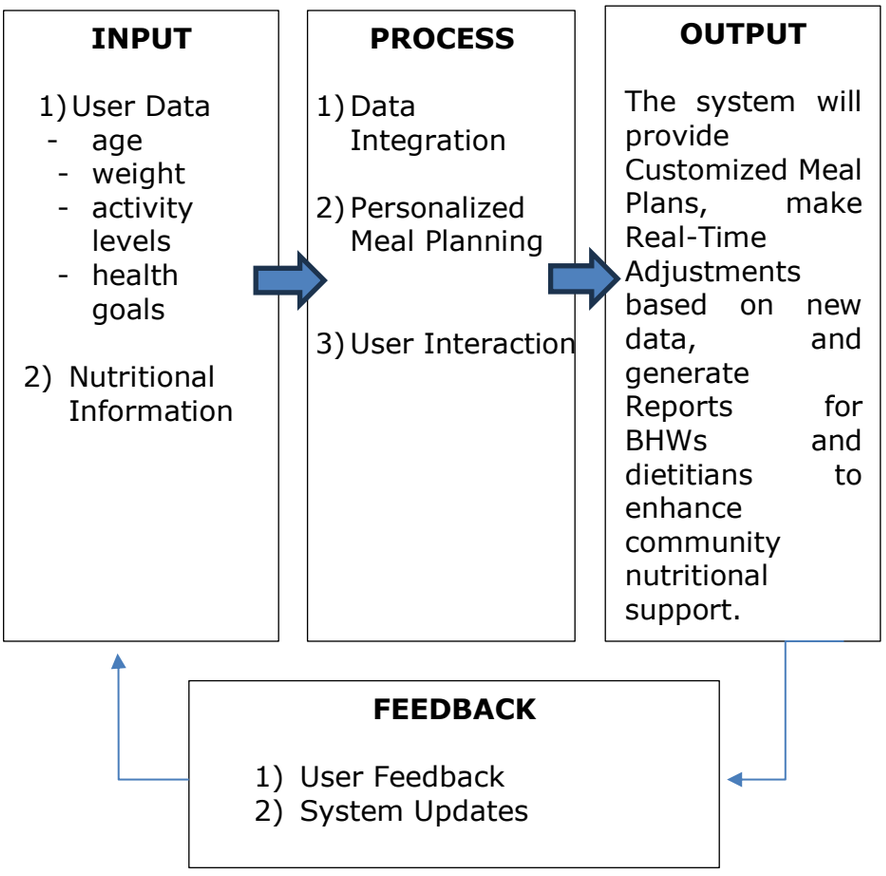
Introduction	In recent years, addressing the nutritional needs of children has become a critical focus in community health care. Barangay Health Workers (BHW), nutritionists, and dietitians play a vital role in ensuring that children receive proper nutrition, which is essential for their growth and development. However, the lack of accessible tools for tracking and personalizing meal plans based on individual health data creates a challenge in providing effective nutrition management. This study aims to design and implement a web-based nutrition tracking platform tailored to the needs of the Barangay Clinic in Comunal. Aligned with the goals of improving community health, this platform will enable health workers to create personalized diet plans for children, ensuring that their nutritional requirements are met efficiently and accurately.
Statement of the Problem	Despite the efforts of Barangay Health Workers (BHW), nutritionists, and dietitians in the Barangay Clinic of Comunal, there is a lack of an efficient system to track and personalize the dietary needs of children. Current practices rely heavily on manual processes, making it difficult to monitor individual health data and provide tailored meal plans that address the specific nutritional requirements of each child. This gap results in inconsistent nutrition management and hampers the clinic's ability to deliver targeted interventions. Therefore, there is a need for a web-based platform that can streamline this process by offering personalized diet planning based on real-time health data.
Objectives of the Study	1. To design and implement a web-based platform that allows Barangay Health Workers (BHW), nutritionists, and dietitians to monitor individual dietary intake and create personalized meal plans for children. 2. To integrate features that enable BHWs, nutritionists, and dietitians to input personal health data, including age,

	weight, activity levels, and health goals of children. 3. To develop an intuitive user interface that facilitates easy navigation for both health professionals and non-specialists. 4. To provide real-time updates to dietary recommendations based on changes in the health data and progress of children.
Scope and Limitation of the Study	The study entitled "Design and Implementation of a Web-Based Nutrition Tracking Platform for Personalized Diet Planning for the Barangay Clinic in Comunal" focuses on creating a system to efficiently track and manage the dietary needs of children within the community. The platform will enable Barangay Health Workers (BHW), nutritionists, and dietitians to input and monitor personal health data, such as age, weight, activity levels, and health goals, to generate personalized meal plans. It will feature an intuitive user interface to facilitate ease of use for both health professionals and non-specialists and will offer real-time adjustments to dietary recommendations based on updated health information and progress. However, the study is limited in scope. The platform will be specifically designed for tracking the nutritional needs of children and will not address the dietary requirements of other age groups or include advanced medical diagnostics beyond basic health data. The implementation and testing of the system will be confined to the Barangay Clinic in Comunal, which may limit its adaptability to other settings. Additionally, the platform will only include the functionalities outlined in the design, with no provisions for additional features or integrations beyond those specified.
Review of Related Literatures and System	The development of web-based platforms for personalized nutrition is significantly informed by advancements in digital health tools and nutritional science. Research indicates that tailored dietary recommendations can lead to improved health outcomes by addressing individual needs more precisely. Badu and Ameyaw (2021) provide a comprehensive overview of current trends in web-based nutritional tracking systems, emphasizing the necessity for platforms that offer customized dietary plans based on individual health metrics. Their work underscores the importance of integrating user-specific data into nutrition management systems. Ferreira and Meier (2021) explore innovations in digital tools for dietary assessment and nutrition education, highlighting how these technologies can enhance user engagement and effectiveness in dietary interventions. They suggest that incorporating real-time data processing and user-friendly interfaces are crucial for improving the utility of such platforms. This aligns with the need for systems that can dynamically adjust recommendations based on ongoing health data. Jiang and Zhang (2023) present a detailed case study of a web-based system designed to offer personalized nutrition recommendations. Their system's focus on real-time updates

	and individual health data processing aligns closely with the objectives of our study, aiming to fill gaps left by more generalized tools like MyFitnessPal. Furthermore, Gupta and Kumar (2020) discuss the broader impact of digital health interventions on chronic disease management in rural settings, suggesting that similar approaches could be applied to pediatric nutrition management. This study reinforces the potential benefits of digital platforms in community health settings, particularly for managing and improving child nutrition. This research aims to build upon these findings by developing a specialized web-based platform for the Barangay Clinic in Comunal, designed to enhance personalized diet planning for children. By integrating insights from current literature and existing systems, the platform will address specific community needs through a user-centric and adaptable approach.
Conceptual Framework	

	The conceptual framework for the "Web-Based Nutrition Tracking Platform for Personalized Diet Planning" illustrates the systematic approach to developing and implementing the proposed system. The framework is designed to address the specific needs of Barangay Health Workers (BHWs), nutritionists, and dietitians at the Barangay Clinic in Comunal, focusing on personalized nutrition for children.
References	Badu, C. S., & Ameyaw, E. E. (2021). Developing a web-based nutritional tracking system: Current trends and future directions. *Journal of Nutrition Education and Behavior, 53*(6), 482-491. https://doi.org/10.1016/j.jneb.2020.11.008 Bapna, M., & Bansal, S. K. (2022). Web-based platforms for chronic disease management: A systematic review. *Journal of Medical Internet Research, 24*(7), e30391. https://doi.org/10.2196/30391 Ferreira, T. S., & Meier, M. (2021). Digital tools for dietary assessment and nutrition education: A review of innovations and impact. *Nutrition Reviews, 79*(6), 661-674. https://doi.org/10.1093/nutrit/nuaa09 Jiang, L., & Zhang, M. (2023). A web-based system for personalized nutrition: Development, evaluation, and implementation. *Journal of Biomedical Informatics, 135*, 104110. https://doi.org/10.1016/j.jbi.2022.104110

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