

1.1. Background

Indonesia faces pressing nutritional challenges that demand immediate attention, largely due to insufficient public understanding of how to improve nutritional well-being. Health Ministry data reveals a rise in both over nutrition and obesity rates. Among adults over the age of 18, 10.78% of males and 15.13% of females are over nourished, while obesity affects 12.94% of males and a significant 34.05% of females, as measured by a Body Mass Index (BMI) exceeding 27. These issues by a lifestyle and diets high in sugar, salt, and fats, increasing the risk of degenerative diseases.

In urban areas, people often lead fast-paced and demanding lives that leave little room for planning and preparing healthy meals. Long working hours, commuting, and high mobility make it difficult for individuals especially young professionals and students to maintain a balanced diet. As a result, they tend to rely heavily on convenience foods, such as fast food or processed meals, which are often high in calories, sugar, and unhealthy fats. This pattern of eating is usually driven by time constraints and the lack of accessible, practical nutrition education. Moreover, many urban residents do not monitor their food intake or understand their body's specific nutritional needs, which vary depending on age, physical activity level, and overall health. The problem becomes more critical when we consider that cities often offer both unhealthy food options and limited access to affordable, nutritious alternatives. Additionally, the abundance of misleading information online and the influence of diet trends on social media can further confuse individuals and lead to poor decision making regarding nutrition. This lack of awareness and understanding contributes to a rise in diet related health problems, such as obesity, type 2 diabetes, high blood pressure, and other chronic diseases. Despite these risks, many individuals still find it difficult to stay informed and consistent with healthy eating habits.

Time constraints and lack of accessible, culturally relevant tools exacerbate this problem data from the Indonesian Central Bureau of Statistics highlight a rising trend in online food purchases, reflecting a preference for convenience but also indicating limited time for preparing balanced meals (Badan Pusat Statistik, 2020).

Food tracking serves several essential functions that can significantly benefit individuals aiming to improve their dietary habits and overall health. Firstly, it allows users to monitor their calorie intake by recording the foods they consume, which helps in understanding their nutritional consumption patterns. This monitoring can facilitate weight management by enabling users to set specific dietary goals, such as weight loss etc. Additionally, food tracking apps often provide recommendations for healthy food choices to individual nutritional needs, making it easier for users to maintain a balanced diet. Features such as reminders for water intake and consultations with nutrition experts further enhance the user experience and support healthier eating habits (Diah, 2023). Research by Koeryaman et al. (2023) demonstrated the effectiveness of web-based applications in improving dietary diversity and nutrient intake among Indonesian pregnant women, underscoring the potential benefits of well-designed digital tools in promoting healthy eating habits. Furthermore, Fanani et al. (2023) emphasized the importance of user experience design in nutrition information applications, suggesting that incorporating intuitive interfaces can enhance user engagement and satisfaction. This raises a core research problem how might a mobile food tracking application be designed with a user interface and experience that not only supports effective meal monitoring and goal setting, but also presents nutritional information in a visually engaging, personalized, and locally appropriate manner for health-conscious users in Indonesia aged 18-40.

The similar applications like "Lifesum" primarily revolve around their subscription fees, which can deter users from fully exploring the app's features. Lifesum offers a free version with limited functionalities, while the premium subscription, which unlocks additional features such as personalized diet plans and detailed nutritional insights, comes at a cost. Existing applications often rely heavily on numeric data and less on intuitive visuals, which may not appeal to the local audience or effectively guide their dietary choices. For instance, a study by Agustina et al. (2022) highlighted the need for user-friendly applications that provide simple menu recommendations and nutritional information tailored to the Indonesian context.

Due to the widespread issue of inadequate nutrition knowledge and unhealthy eating habits, it would be highly beneficial to develop a mobile application that provides personalized nutrition information in an accessible and user-friendly way. Studies show that about 59% of smartphone users have downloaded health-related

apps, including nutrition and fitness applications, indicating a strong potential user base for such tools. Furthermore, research has demonstrated a significant positive correlation between the use of mobile health apps and improvements in nutrition knowledge, healthy eating self-efficacy, and even positive body image among users. For example, increased use of nutrition apps has been linked to better awareness and motivation to adopt healthier diets, which can help address public health challenges like obesity and malnutrition. Given these findings, creating a nutrition-focused mobile app could effectively support individuals in making informed dietary choices and maintaining healthier lifestyles.

1.2. Problem Identification

1. They tend to rely heavily on convenience foods, such as fast food or processed meals
2. It is difficult for individuals especially young professionals and students to maintain a balanced diet and misleading information online and the influence of diet trends.
3. The existing applications have relatively high costs

1.3. Problem Formulation

Based on problem identification and this is the specific formulas

“How can effectively UI/UX design a food tracking application enhance user awareness of nutritional needs?”

1.4. Problem Scope

1. What:

The core deliverable of this project is the complete design and development of a mobile application specifically tailored for food tracking purposes, which necessitates the creation of a visually appealing and intuitive UI, the implementation of essential features such as Meal logging, insightful progress tracking, personalized goal setting, creation of a comprehensive visual style guide for brand consistency, and development of a functional prototype to demonstrate the app’s behavior and user experience.

2. Why:

This project is undertaken due to the demonstrable lack of effective and engaging food tracking solutions currently available to consumers, long working hours, commuting, and high mobility make it difficult for individuals especially young professionals and students to maintain a balanced diet, with the intention of providing a user-friendly that addresses the shortcomings of existing options to individuals achieve better dietary.

3. Where:

The finished mobile application will be strategically designed to operate seamlessly on platforms, targeting an initial user base within Indonesia, emphasizing the critical importance of incorporating the appropriate local language support and cultural adaptations to maximize user adoption and satisfaction within the target demographic.

4. When:

The project timeline will be finished in June 2025.

5. Who:

The intended audience for this mobile application is a group comprised of health-conscious individuals actively seeking to improve their dietary habits, individuals currently engaged in weight loss or weight maintenance programs, with 18-40 years old audiences.

1.5. Research Goals

The objective of designing effective food tracking applications is to promote healthier eating habits, to achieve this, the design must prioritize intuitive and engaging User Interface (UI) and User Experience (UX). that allows individuals to easily log their food intake, there by reducing psychological barriers that hinder consistent use. Incorporating motivational features, such as personalized feedback, can help keep users engaged and encourage regular tracking of their dietary habits. Additionally, providing accessible nutritional education on the application is crucial for helping users understand the impact of their food choices on their health. The application should also be highly accessible on mobile devices, allowing users Keep a record of their eating habits anytime, anywhere. which is especially important for

families with busy schedules. Furthermore, Implementing community-based support can feature foster a sense of belonging among users, enabling them to share experiences and motivate each other in their health journeys. Finally, implementing feedback system enables users to communicate their experiences, guiding continuous enhancements and updates to better address their needs. By focusing on these objectives, the design of food tracking applications can significantly enhance user engagement and contribute to improved public health outcomes in Indonesia.

1.6. Benefit of Planning

Research on health issues in Indonesia, reveals several significant outcomes that highlight the challenges and areas for improvement in healthcare services. implementing educational initiatives about nutrition, hygiene, Planning food intake using tracking applications offers numerous advantages that can significantly enhance users dietary habits and overall health. One of the primary benefits is increased awareness of eating habits. as it encourages moderation and prevents overeating by helping users control portion sizes, promoting mindful eating, and providing reminders to eat slowly and stay aware of their hunger cues. Additionally, tracking intake can help identify logging and clear nutritional information display.

1.7. Design Methodology

The design methodology for developing an effective food tracking application in Indonesia involves a systematic approach to ensure that the final product meets the needs of Indonesian users. In this study, quantitative data was collected through the distribution of structured questionnaires to the target users. The questionnaires consisted questions designed to measure user behaviors, preferences, and challenges related to food tracking. The collected data was then analyzed statistically to identify patterns and trends that informed the application design.

1.7.1. Collecting Data

In this research, a mixed-method approach is used to collect data, combining both qualitative and quantitative techniques to gain a comprehensive understanding of user

behavior and preferences related to food tracking. Surveys are employed to gather measurable data on users' habits, frequency of meal logging, and feature preferences. Meanwhile, interviews are conducted to explore deeper insights into users' motivations, challenges, and expectations. This combination allows for a more well-rounded perspective, ensuring that the design process is informed by both statistical trends and personal experiences.

1.7.2. Data Analysis

Qualitative data obtained from interviews and focus groups will be coded and organized to identify common themes related to user needs, preferences, and challenges. This thematic analysis helps uncover deeper understanding of user experiences. Meanwhile, quantitative data from questionnaires will be statistically analyzed to identify patterns, trends, and general user behaviors. Descriptive statistics such as frequencies, percentages, and averages will be used to summarize the data.

1.8. Design Framework

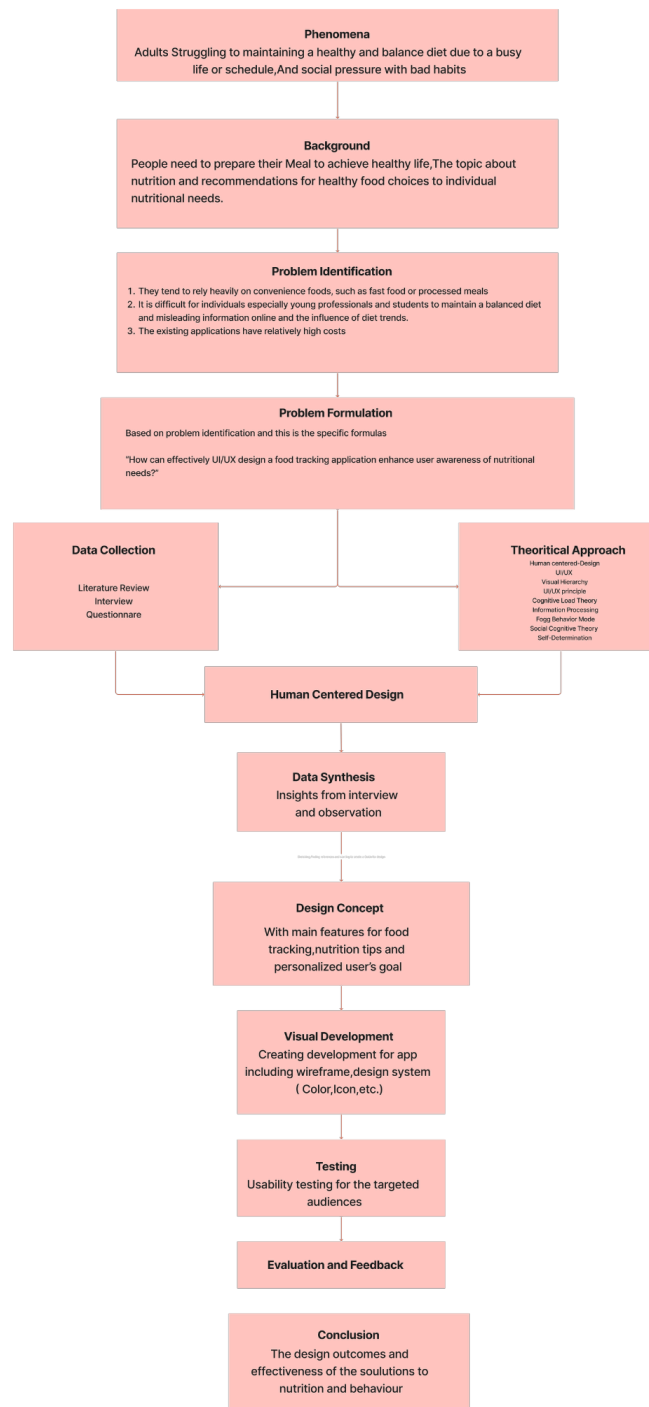


Figure 1.1 Design Framework
(Source: Personal Document)

The Expected Outcomes On this research are

The primary outcome of this research is to improve the UI/UX design of food tracking applications. By analyzing user feedback and reviews, this study aims to identify usability problems and challenges that users face when interacting with existing apps. Based on these insights, the research will provide practical recommendations for designing more intuitive, simple, and user-friendly interfaces. These include features such as clear navigation, easy food logging, personalized feedback, and motivational elements that encourage consistent use. Additionally, the study will emphasize presenting nutritional information in an accessible and easy-to-understand way to help users make healthier choices. Ultimately, by focusing on enhancing the UI/UX, this research hopes to create food tracking applications that not only function effectively but also offer a pleasant and engaging experience, thereby supporting users in adopting healthier eating habits and improving public health outcomes.

For The Topic Identification:

Research shows that when food tracking apps incorporate behavior strategies aligned, they can enhance user engagement and promote better dietary choices. Features such as goal-setting, personalized feedback, and educational resources about nutrition are vital for motivating users to log their food intake regularly.

1.9. Writing Systematic

CHAPTER I : INTRODUCTION

The first chapter discussed about the main problem, and discussed about the background from the problem, explaining about the identification, the benefits, how to collecting data, analysis and formulations.

CHAPTER II : THEORITICAL FOUNDATION

Discussing about theories related to Visual Communication Design and related to Human centered-Design to gain more knowledges and it contains the foundations

CHAPTER III :

This chapter discusses the research methods used to collect data that supports the design of the proposed food tracking application. The study uses both qualitative and quantitative approaches, focusing on interviews and questionnaires. Interviews were conducted with selected individuals within the target demographic, aged 18 to 40 years old, to gather deeper insights into their daily eating habits, challenges in maintaining balanced nutrition, and their experiences with existing food tracking apps. In addition to interviews, a questionnaire was distributed online to a broader audience to obtain quantitative data related to user preferences, behavior patterns, and expectations. The results from these data collection methods were analyzed to understand the key problems users face and to identify opportunities for improvement in existing solutions. These findings serve as the foundation for designing a mobile application that meets the users' nutritional and usability needs.

CHAPTER IV :

The design process includes creating wireframes, developing the user interface, and prototyping the overall experience. The application features meal logging, nutritional progress tracking, personalized dietary goal setting, and daily reminders all tailored to suit the needs of Indonesian users. Attention was given to visual consistency by creating a comprehensive visual style guide that includes layout, typography, iconography, and color schemes. The prototype was tested by a sample of users to gain feedback regarding usability and visual appeal. These results were used to refine the design and ensure the application effectively supports the goal of helping users improve their dietary habits.

CHAPTER V :

This chapter provides a summary of the research and design work conducted throughout the project. The study identified several key issues, including a lack of nutritional awareness, difficulty in maintaining healthy eating habits, and limitations in current food tracking applications, especially in terms of cost and cultural relevance. Based on these findings, a mobile application was designed to address these challenges by offering an intuitive and visually engaging user experience, specifically designed for Indonesian users between 18 and 40 years old. The application integrates essential food tracking features with a culturally appropriate visual design, making it more accessible and relevant to the target users. The research and design outcomes demonstrate that well-designed digital tools can have a meaningful impact on improving dietary awareness and health outcomes. Future developments of the application may include expanding its food database, enhancing personalization features, and integrating the app with wearable devices for better health tracking.