SOMAIYA VIDYAVIHAR UNIVERSITY

K. J. Somaiya School of Engineering

Department of Computer Engineering

Batch:	**C1**	**Roll No.:**	**16010122316**

Experiment No 1

Group No: 4

Title: Introduction of Mini Project

Objective: Compose Chapter No.1 of Mini Project Report Problem definition, Motivation, Scope objectives

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Expected Outcome of Experiment:

	At the end of successful completion of the course the student will be able to
CO1	Define the problem statement and scope of problem
CO2	Identify various hardware and software requirements for problem solution
CO5	Prepare a technical report based on the Mini project.

Books/ Journals/ Websites referred:

1. "Nutrition and Dietetics" by Shubhangini A. Joshi – For understanding the fundamentals of nutrition and dietary planning.
2. Research Articles from PubMed – For insights on personalized nutrition, dietary recommendations, and health tracking.
3. Official Documentation of Nutritionix API and Edamam API – For implementing food and nutritional information retrieval.

This write will expect students to prepare chapter no 1 in the format given below

Chapter 1

Introduction

This chapter presents a brief idea about basics of Sentiments and Opinions. It deals with the purpose of taking up the project with certain motivation, scope and objectives to fulfill it.

1.1 Introduction

In today's fast-paced world, maintaining a healthy lifestyle is a challenge due to busy schedules, lack of nutritional awareness, and inconsistent eating habits. Poor diet choices lead to various health issues, including obesity, diabetes, and cardiovascular diseases. The rise in lifestyle-related health problems highlights the need for a systematic approach to diet management.

The Diet Recommendation and Tracking App aims to promote healthier eating habits by offering personalized diet plans, tracking nutritional intake, and providing insights into users' dietary patterns. By leveraging advanced technologies like Artificial Intelligence (AI) and data analytics, the app delivers tailored recommendations to meet individual health goals. It empowers users to make informed dietary choices, enhancing their overall well-being.

This project explores the integration of nutrition science with modern technology, contributing to digital health solutions that support sustainable and healthy lifestyles.

1.2 Motivation

The motivation behind developing this app stems from the growing awareness of nutrition's impact on health and the increasing demand for personalized health solutions. Key driving factors include:

- **Practical Significance:** Addressing the gap in accessible, reliable, and personalized dietary guidance. Existing apps often provide generic plans that do not cater to individual needs.
- **Health Awareness:** The rising prevalence of lifestyle diseases due to poor dietary choices has highlighted the need for effective diet management tools.
- **Technological Advancement:** The potential of AI and data analytics to offer accurate, data-driven diet recommendations.
- **User Convenience:** Empowering users with an easy-to-use platform that helps them track their food intake, understand nutritional values, and maintain consistency in their diet plans.
- **Industry Relevance:** Aligning with the growing trend of digital health and fitness solutions, catering to a market that increasingly relies on mobile applications for health management.

1.3 Scope

The project aims to develop a comprehensive mobile application that provides personalized diet recommendations, tracks daily nutritional intake, and helps users achieve their health goals. The scope is defined as follows:

Inclusions:

- Personalized diet plans based on user-specific health metrics (age, weight, height, activity level, dietary preferences, and health goals).
- Nutritional tracking with detailed insights into daily calorie intake and nutrient consumption.
- AI-driven recommendations for meal planning and healthier food choices.
- Recommendations based on allergies and diseases, providing a list of ingredients to avoid and suitable alternatives.
- Progress monitoring with visual charts and goal-setting functionalities.
- Multilingual support and community features for social engagement.

Exclusions:

- **Extended Features:** Advanced fitness tracking beyond basic activity monitoring, such as detailed workout plans or exercise tracking.
- **Unrelated Functionalities:** Direct integration with healthcare professionals or telemedicine services, as the app focuses solely on dietary recommendations and tracking.
- **Non-essential Integrations:** Social media integration for sharing progress or meal logs outside the app's community features.
- **Constraints:** Due to limitations in time and resources, the project will not include complex AI models requiring extensive training data or premium APIs for nutritional databases. Additionally, integration with wearable devices will not be implemented in this version.

1.4 Objectives

The primary and secondary objectives of the project are as follows:

- **Primary Objectives:**
    1. To develop a mobile application that provides personalized diet recommendations tailored to individual health metrics.
    2. To enable users to track their daily food intake with detailed nutritional information.
    3. To facilitate progress monitoring through data analytics and visualization tools.
    4. To enhance user engagement with features like meal reminders, goal achievements,etc.
- **Secondary Objectives:**
    1. To provide AI-driven meal planning suggestions based on users' dietary preferences and health goals.
    2. To ensure data security and user privacy through robust authentication and encryption mechanisms.

3. To incorporate a user-friendly interface for seamless navigation and interaction.

1.5 Organization of the report

The report is organized as follows:

- Chapter 2: A brief literature survey
- Chapter 3: It describes the proposed system, workflow of the project, and modules involved in the system.
- Chapter 4: This covers the detailed implementation of the proposed model, and its technical requirements.
- Chapter 5: Conclusion and Future work.