

South East Asian Institute of Technology, Inc.

**National Highway, Crossing Rubber, Tupi South Cotabato**

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**FITNESS HEALTH PLAN SYSTEM**

## An IT Project and Research I presented to the College of Information and Communication Technology

**In Partial Fulfilment of the Requirement for the subject**

## IT ELECTIVE 1: OBJECT ORIENTED PROGRAMMING

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**CHAPTER I**

**INTRODUCTION**

## RATIONALE OF THE STUDY

The rise of technology has transformed how we manage information,

making its adoption crucial for our generation to improve efficiency and service quality across individuals. Now a day's health fitness is an evolving issue for the people. People have no idea about their health maintenance. People’s health, wellbeing and fitness are dependent on taking nutritious food and supplements. But they don’t have an idea about their food intake and exercise. They also have no idea about the calorie’s calculation and supplement intake. They don't know how much they must take water in a day, sleep in a day and how much their body burns calories when they do exercise, work, walk and even sleep. For users seeking to simplify and enhance fitness plan, Fitness Health Plan System offer a technological support for everyone. A Fitness Health Plan System (FHPS) is a computer-based system that ensures effectiveness in facilitating behavior change by providing personalized fitness plans, and nutritional guidance. A Fitness System aims to improve healthy life style in terms of food intake, nutritional information and educational purposes focuses on fitness. (Saif, Muhammad Jawad Ur Rehman, 2020).

In recent decades, advancements in exercise science and nutrition have further refined Fitness Health Plan Systems. The emphasis has shifted towards evidence-based approaches, personalized programming, and holistic wellness. Technology has played a significant role, with the proliferation of fitness apps, wearable devices, and online coaching platforms providing greater access to information and support. Today, Fitness Health Plan Systems encompass a comprehensive approach to optimizing health and fitness, integrating elements such as goal setting, nutrition, exercise, lifestyle modifications, and guidance. By understanding the historical context and ongoing evolution of fitness practices, individuals can develop effective strategies to achieve their health and wellness goals.

The Fitness gym faces challenges due to the traditional paper based method and face to face method, such as: (1) Instructor assistants are sometimes having trouble in understanding clients concerns; (2) Paper-based fitness records written by the instructor can be lost, or misplaced; (3) Retrieval of fitness history is challenging for the instructor as they only use logbooks for recordings which causes difficult identifying past records for a certain individuals; (4) The instructor generate monthly summaries of fitness reports manually, thus, it is time-consuming and prone to errors which leads to information duplication and possible missing information; and, (5) Manual tracking workout progress done by the instructor, due to lacks real-time data making it difficult for the instructor to anticipate.

The Fitness Health Plan System aims to address these limitations by offering a solution to make instructors more efficient and improve user/client engagement. Storing all data processes in database will simplify record for the client and instructor. This will empower the fitness gyms to provide more efficient, effective, accurate and secure information. Implementing this system is not just a technological upgrade, but a commitment to better user engagement, and data security.

**OBJECTIVES OF THE STUDY**

## General Objectives

The researchers aim to study and develop a Fitness Health Plan System, located at National Highway, Crossing Rubber, Tupi, South Cotabato 9505.

## Specific Objectives

* To be able to create a system that can store and manage information of the users
* To be able to create a system that can suggest meal plan and exercise
* To be able to create a system that hold food library
* To be able to create a system that can automate calculate BMI
* To be able to create a system that can customized fitness plan

**SCOPE AND LIMITATIONS OF THE STUDY**

## Scope of the Study

The Fitness Health Plan System is capable of the following:

## User Information Management System

## Automated Suggestion Health Diet

## Health Food Library

## Automated Calculate BMI

## Design Your Own Fitness Plan

## Limitations of the Study

The study is only intended for the users. This research project focuses only on giving fitness health plan, for a defined list of classification of weight, nutritional food library, and approximately time achievement. This system will not include functionalities for monitoring heartbeat, temperature, calories intake, tracking progress, and workout tracking. The system’s effectiveness depends on the accuracy of data entered by user. Technical issues or power outages could disrupt system access. The system will only be available on desktop computers.

## SIGNIFICANCE OF THE STUDY

The system has the potential to significantly impact the users, leading to improved fitness plan. Specifically, this study aims to benefit the following:

## Users

The Fitness Health Plan System, ensures efficient and effective fitness plan and accurate to the preferences.

**Healthcare Providers**

Healthcare professionals, including doctors, nutritionists, and personal trainers, can use the system to provide personalized health and fitness plans for their clients. This can improve patient engagement, adherence to treatment plans, and overall health outcomes.

**Fitness Professionals**

Personal trainers, fitness coaches, and nutritionists could use the system to expand their client base, deliver personalized plans remotely, and track client progress more efficiently.

## Students

The system provides access to their BMI information through the system which can promote users’ engagement and health awareness.

## Researchers

This is an opportunity for the researchers to utilize their skills and knowledge in research, putting what the researchers have learned as Information Technology students into practice.

## Future Researchers

This study will be of great help to future researchers who plan to design and develop an improved Fitness Health System as it will provide them 1) documentation that will serve as the literature, and 2) the source code of the system which will guide in the development of a new, enhanced system.

## FLOW OF THE STUDY

*Figure 1.0 Flow of the Study of Fitness Health Plan System*

|  |  |  |
| --- | --- | --- |
| **INPUT** | **PROCESS** | **OUTPUT** |
| * Add Information Users * Create BMI * Create Food Library * Create BMI * Create Fitness Plan | * Storing Users Information      * Generate Meal Plan and Exercise Suggestion * Generate Food Library      * Automate Calculate BMI * Generating Customize Fitness Plan | * Display Users Information      * Display Meal Plan and Exercise Suggestion * Display Food Library * Display Calculated BMI      * Display Customize Fitness Plan |

## DEFINITION OF TERMS

* **Assessment –** a comprehensive evaluation of the patient’s health status.
* **Automated –** reduces the tasks of the users have to do manually.
* **Suggestion –** a course of action recommend by the system based on their condition
* **Body Mass Index (BMI) –** is a tool that measure the ratio of users’ height to weight to estimate the amount of body fat.
* **Users –** a individual who can access the system.
* **Healthcare Provider –** a person who provide medical care or treatment.
* **Fitness Professionals –** a fitness trainer who excel in the field of fitness.
* **Instructor –** a person who guide clients.