Kod Projek :	BITU 3923

UNIVERSITI TEKNIKAL MALAYSIA MELAKA
FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

WORKSHOP 2
PROPOSAL FORM
[Incomplete form will be rejected]

A **TITLE OF PROPOSED PROJECT:** **GROUP NO:** 1
Tajuk projek yang dicadangkan :

SihatSelalu App

B **DETAILS OF STUDENT** / *MAKLUMAT PELAJAR*

B(i)

Name of Student: *Nama Pelajar:*	**Student matric no.:** *No. Matrik Pelajar :*	**E-mail Address:** *Alamat e-mel:*
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B(ii) **Course:**
Kursus:

☐ BITC ☐ BITD ☐ BITE ☐ BITI ☐ BITM ■ BITS ☐ BITZ

C **PROJECT INFORMATION /** *MAKLUMAT PROJEK*

C(i)

Executive Summary of Project Proposal (maximum 300 words)
(Please include the background of project, problem statements, objectives, scope and project significance from the project)

Ringkasan Cadangan Eksekutif Projek (maksima 300 patah perkataan)
(Meliputi latar belakang projek, penyataan masalah, objektif dan kepentingan projek)

Background

Childhood obesity has become a major public health issue, with rising rates attributed to poor dietary habits and sedentary lifestyles. The World Health Organization (WHO) reports alarming increases in overweight children, leading to serious health risks such as diabetes and cardiovascular diseases. Early intervention is vital to instill healthy habits in children, yet traditional methods for monitoring weight and Body Mass Index (BMI) often lack engagement and personalized feedback.

Parents face challenges in obtaining tailored dietary recommendations that suit their children's unique nutritional needs, while calorie counting methods can be boring and uninteresting. This project aims to develop a **Smart Weight Scale** paired with a mobile app that not only measures weight and BMI but also offers personalized dietary recommendations and calorie counting. By leveraging IoT technology and artificial intelligence, the project seeks to empower children and their families to make informed dietary choices and foster healthier lifestyles.

The Smart Weight Scale will use Bluetooth or Wi-Fi to transmit data to the mobile app, which will feature an engaging and user-friendly interface designed specifically for young users. By implementing a regression-based machine learning model, the app will analyze user data including weight, age, and activity level to generate customized dietary advice. By combining IoT technology and AI, this initiative seeks to empower children and their families to make informed dietary choices and foster healthier lifestyles.

Problem statement

Many children lack effective tools for monitoring their weight and dietary habits, while parents often find it challenging to guide their children toward healthy choices.

The increasing prevalence of childhood obesity poses significant health risks, yet existing methods for tracking children's health metrics often lack personalization and engagement. Parents struggle to find accurate dietary recommendations, and traditional calorie counting can be cumbersome for children.

This project addresses these challenges by creating a **Smart Weight Scale** that measures weight and BMI while providing real-time dietary recommendations through an interactive mobile application. By integrating calorie counting features, the app will help children, and their families track their food intake and understand nutritional values, promoting healthier eating habits. Ultimately, this initiative aims to combat childhood obesity and enhance overall well-being in children.

	Scope Smart Weight Scale - Enhancing the old weight scale that can connect to device via Bluetooth or wi-fi capable to measuring weight and BMI Mobile Application - Develop a companion application for smartphones and tablets that can connect with Smart Weight Scale and display weight data, BMI calculation and dietary recommendation. User Interface - Interface that suitable for both parents and children Project significant - By integrating AI and IoT, Calorie Count Enables real time monitoring and insights, encouraging healthier habits from a young age. It benefits not only children but also supports parents in effectively managing their children's health, leading to improved physical health outcomes and long-term wellness.
C(ii)	**Detailed proposal of project:** *Cadangan maklumat projek secara terperinci:* **(a) Project background including Introduction and Problem Statements** *Keterangan latar belakang projek termasuk pengenalan dan penyataan masalah.* *1. Introduction* The Count Calorie project aims to address this challenge by using innovative technology. It features a smart weight scale that not only measures weight but also calculates Body Mass Index (BMI). This scale can connect to mobile apps that track health metrics and offer personalized dietary recommendations for children.

2. Problem Statements

Lack of awareness

- Children and family are unaware of their children diet and to maintaining a healthy lifestyle

Dietary challenge

- children nowadays are exposed to unhealthy food options. Many families are also unable to prepare healthy food for their children due to busy schedules. It may lead to poor eating habits that contribute to weight gain.

Long-term health risk

- Obesity can lead to psychological issues including low self-esteem and anxiety

(b) Objective (s) of the Project

Objektif Projek

1. Promote healthy weight management:

   Develop a Smart Weight Scale that accurately measures weight and Body Mass Index (BMI) to help children and their families monitor and manage healthy weight. This objective aims to raise awareness about the importance of maintaining a healthy weight and encourage regular health tracking.

2. Provide personalized dietary recommendations:

   Create a mobile application that utilizes machine learning algorithms to generate tailored dietary recommendations based on individual user data, such as age, weight, activity level, and dietary preferences. This objective aims to support children in making informed food choices that align with their nutritional needs.

3. Encourage engaging calorie counting and nutrition awareness:

   Implement a user-friendly food logging system within the mobile app that simplifies calorie counting and enhances awareness of nutritional values. This objective seeks to make calorie tracking fun and educational for children, promoting healthier eating habits and lifestyle choices.

(c) Scope

Skop

1. *Module to be developed*

- Login and register form for user
- Collect height and weight using IOT hardware
- Calculate BMI using data collected.
- Finding a suitable calorie for child
- Suggestion of nutrient and calorie take by child using AI application
- History of calorie take for each set of food taken.

2. *Target User*

- parents
- healthcare professional

The SihatSelalu application offers a promising tool for improving child healthcare by helping parents and healthcare providers manage nutritional needs effectively. The app aims to address issues such as healthy weight gain, optimal dietary diversity, and tailored nutrition support for various chronic conditions. Its adaptive algorithms allow for precise and responsive nutrition recommendations. This project targets improvements in food health guidance, advancing children's well-being through more accurate nutrition tracking and aligning with broader public health goals.

(d) Project Significance

Kepentingan projek

1. *Motivation and inspiration for the project.*

A significant public health concern is the rising incidence of obesity in children, and conventional approaches to its treatment frequently fail to involve kids and offer individualized care. The need to make health management enjoyable, accessible, and successful for kids and their families is what inspired this project. The initiative intends to offer real-time, individualized feedback that promotes active lives and healthy eating habits from a young age by utilizing smart technologies like AI and IoT.

The Calorie Count Initiative was inspired by the goal of giving families the tools they need to take charge of their kids' health in a simple, understandable manner. The goal is to provide a solution that is both practical and inspiring for young users by bridging the gap between conventional

health monitoring tools and contemporary, captivating technologies. In order to ensure long-term wellness, the initiative aims to make managing children's health both entertaining and informative by including real-time data and individualized advice.

2. *Auto connect with weight scale*

The Smart Weight Scale's automatic Bluetooth or Wi-Fi connection to the mobile application is one of its primary features. The app will automatically synchronize data each time the child uses the scale after it has related to a smartphone, removing the need for frequent re- pairing or human data entry. Parents and kids may promptly check weight and BMI without any technological difficulties thanks to this auto-connect technology, which guarantees a seamless user experience.

In order to guarantee data consistency, the auto-connect capability is also essential. It will enable the app to collect data in real time, guaranteeing that calorie counting and dietary advice are founded on the most recent data. Users who might lack the time or technical expertise to manage manual connections will find this automation more appealing because it streamlines the procedure.

(e) Gantt Chart of Project Activities

Carta Gantt Aktiviti Projek

GANTT CHART

Task No.	Task Description	Month	October				November				December				January			
		Week	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4
1	PROJECT PROPOSAL																	
2	PROGRESS I																	
3	PROGRESS II																	
4	VIDEO & POSTER																	
5	PROGRESS III																	
6	SUBMISSION OF FINAL REPORT DRAFT																	
7	WORKSHOP II EXHIBITION																	
8	FINAL REPORT AND LOG BOOK SUBMISSION																	

D	**ACCESS TO EQUIPMENT AND MATERIAL (PLEASE LIST IN DETAIL) /** *KEMUDAHAN SEDIA ADA UNTUK KEGUNAAN BAGI PROJEK INI (SILA SENARAIKAN DENGAN TERPERINCI)*	
	University *Universiti*	**Other Sources or Places** *Lain-lain tempat/sumber*
	Software: Android Studio, Xampp, Visual Code, Figma, **Hardware:** Xiaomi Smart Scale	

E	**Declaration by student/** *Akuan Pelajar*
	Date : 27/10/2024 **Student's Signature :** *Tarikh :* *Tandatangan Pelajar :* Nazid
F	**Recommended by the Supervisor** *Perakuan oleh Penyelia*
	Please tick (√) in the appropriate box *Sila tandakan (√) dalam kotak yang berkenaan* **Recommended:** *Diperakukan:* ✓ ***A.*** **Highly Recommended** *Sangat Disokong* ***B.*** **Recommended** *Disokong* ***C.*** **Not Recommended (Please specify reason)** *Tidak Disokong (Sila Nyatakan Sebab)*

General Comments:

Ulasan umum:

Student has discussed with SV for the proposed topic

Supervisor's Name:

Nama Penyelia: Ts. DR. NOORREZAM BIN YUSOP **Signature:**

Tandatangan: 

Date: 27/10/2024

Tarikh:

G	**Comments/ Feedbacks from the Committee of Workshop 2** *Komen/ Maklumbalas daripada Ahli Jawantankuasa Bengkel 2*