MULTIMEDIA UNIVERSITY | FACULTY OF COMPUTING & INFORMATICS

Final Year Project Proposal Form

Project Title	AI-Driven Personalized Fitness Tracker & Smart Workout Planner Mobile Application
Supervisor Name	
Co-Supervisor Name (if any)	
Project Status	Student-Proposed
Industry Collaboration	No
Company Name, Contact Name, Contact Phone (if the answer to Industry Collaboration is Yes)	-
Project Type	Application-Based
Project Specialization (Project Specialisation and Student Specialisation should match)	Software Engineering
Project Category (Pls. refer at the end of document for the selection of category based on the specialisation)	Application Software

Project Focus/Contribution (Pls. refer at the end of document for the selection of focus/contribution based on the specialisation)	Product Development
Project Description (Discuss Background, Problem Statement, Methodology, Expected Output/Significance in summary form)	In recent years, fitness applications have grown in popularity, but many still rely on generic workout plans that do not adapt to user capability or progress. This leads to reduced motivation and ineffective exercise outcomes. This project aims to develop a mobile fitness application that **tracks user activity** and **generates personalized workout plans** using **AI-based adaptive recommendation models**. The system will monitor user performance (e.g., duration, calories burned, consistency), evaluate progress trends, and automatically adjust workout routines to match the user's improving or declining fitness levels. **Methodology:** • Requirement Analysis & System Design (UML, User Flow) • Mobile App Development using **Flutter** • Backend API using **Django REST or Node.js** • AI Recommendation Engine using TensorFlow Lite / Scikit-learn • Data storage using Firebase or PostgreSQL • Iterative testing and user evaluation with sample fitness participants **Expected Output / Significance:** A cross-platform mobile app able to generate **dynamic workout recommendations** based on personal performance data, improving consistency, motivation, and fitness outcomes.

Project Objectives (Focused and precise list of statements that can imply the goals to be achieved, Majority of the Project Objectives – using SMART objectives)	• To develop a mobile fitness tracking application that records workout activity, performance metrics, and progress. • To design and implement an AI recommendation module that creates **personalized workout plans** based on user history and behavior. • To evaluate the model's effectiveness by comparing user progress before and after adaptive recommendations. • To ensure intuitive UI/UX that encourages continuous engagement and habit formation.

Project Outcomes (Outcomes are in line with the Project and Student specialisation)	• A functioning cross-platform fitness app with integrated progress tracking. • An operable AI-based personalized workout planner system. • Evaluation results demonstrating improved workout effectiveness and user engagement. • Documentation, source code, testing reports, and technical presentation.
Project Scope (Focus/Expected Output/ Deliverables with the limits and constraints of the study can be described and implies enough scope for the two-trimester project)	**Included:** • User registration & profile setup • Activity logging & workout progress visualization • AI-based adaptive workout recommendation feature • Cross-platform support (Android/iOS) **Not Included / Constraints:** • No IoT hardware sensor integration (e.g., smartwatch) in Phase 1 • User testing limited to small controlled sample size • AI recommendations limited to **bodyweight & basic equipment workouts**

Number of Students (If it is two-students project, subtitles and work distribution must be clearly specified and differentiated for each student)	One
Student 1 Subtitle (Pls. fill up if the number of students is two)	-
Student 1 Work Distribution (Pls. fill up if the number of students is two)	-
Student 2 Subtitle (Pls. fill up if the number of students is two)	-
Student 2 Work Distribution (Pls. fill up if the number of students is two)	-

Student 1 Details (Student Name, Student ID, Specialisation, Handphone number, E-mail address)	Name: Adam Fikri bin Mohd Lotfi ID: 1211111950 Specialisation: Software Engineering Handphone Number: +60193385802 E-mail (personal): adamlotfi2004@gmail.com E-mail (student): 1211111950@student.mmu.edu.my
Student 2 Details (if it is a two-student project) (Student Name, Student ID, Specialisation, Handphone Number, E-mail address)	

Select one Project Category based on Specialisation:

Software Engineering:

Critical System

Application Software

Software Tools & Utilities

Service Oriented Computing

Data Science:

Data Engineering

Data Analytics

Cybersecurity:

Cryptography and Data Security

Investigation and Analysis

Security and Defence

Game Development:

Game Software Development (GSD)

Game Algorithm Research (GAR)

Game Design Prototyping (GDP)

Information Systems:

IT Infrastructure

Transaction Processing Systems

Intelligent Systems

Select one Focus/Contribution based on Specialisation:

Software Engineering:

Product Development

Prototype/Proof of Concept

Software Engineering Methodologies

Others (Pls. specify)

Data Science:

Data Management

IoT

Optimisation of Technologies

Analysis of data (texts, videos, images, numerical digit)

Others (Pls. specify)

Cybersecurity:

Cryptography

Database Security

Blockchain

Malware analysis

Forensics

Ethical hacking

Network and Cloud Security

Others (Pls. specify)

Game Development:

Game Software Development (GSD): Development and implementation of a complete game from design, programming to production of a complete game installation package

Game Algorithm Research (GAR): Thorough investigation and analysis of specific algorithms used in games

Game Design Prototyping (GDP): Proof of concept of novel specific game design concepts or game mechanics via development of complete prototypes

Information Systems:

Data & Information Management

User Experience

System Analysis & Design

IS Project Management

Business Processes

Technology Evaluation

Others (Pls. specify)