



## Department of Computer Science & Engineering and Information Technology

### Major Project Proposal (2024-25)

Group No.

99

1. **Project Title:** Health Monitoring App

2. **Team Members**

S. No.	Roll No.	Name	Mobile No.	Proficiency
1.	211383	Pranav Bhardwaj	9318018309	Data Science
2.	211291	Manav Lukar	9015035373	Cloud Computing
3.	211189	Yashashvi Agnihotri	8178437828	Cloud Computing

3. **Name of Supervisor:** Prof. Pardeep Kumar

4. **Work Distribution** (*clearly state the distribution of work among team members.*)

S. No.	Roll No.	Work Distribution
1.	211383	<ul style="list-style-type: none"><li>Backend Development (Data Analysis &amp; Integration)</li><li>Implementing Google Fit API</li><li>Data Science &amp; Heart Rate Analytics</li><li>Literature review and Documentation</li></ul>
2.	211291	<ul style="list-style-type: none"><li>Frontend Design and User Interface Using Flutter</li><li>API integration in mobile application</li><li>Firebase for backend and database functionality</li><li>DevOps implementation and Ci/Cd Pipeline</li></ul>
3.	211189	<ul style="list-style-type: none"><li>Cloud Infrastructure Setup</li><li>Server and Database Management</li><li>Testing and Debugging</li><li>Frontend Design and User Interface</li></ul>



## 5. Problem Statement

In today's fast-paced world, maintaining good health and fitness has become increasingly challenging. Many individuals struggle to keep track of vital health metrics such as heart rate, daily step count, and calorie consumption, which are crucial for monitoring overall health and wellness. Despite the availability of health devices and applications, there is often a gap in providing a seamless, user-friendly experience that can offer real-time, actionable insights. Moreover, most users require a centralized platform that not only tracks these metrics but also provides personalized recommendations to help them maintain or improve their health.

The proposed Health Monitoring App aims to address these challenges by integrating Google Fit's extensive health-tracking capabilities into an easy-to-use mobile application. By continuously tracking users' activity levels, heart rate, and calories burned, the app will provide real-time feedback and detailed analytics that help users understand their health patterns over time. It will cater to individuals looking to monitor their fitness, those with specific health conditions who need to keep a close eye on their vitals, and anyone interested in proactive health management.

Additionally, the app will be designed to deliver personalized insights based on user data, offering tailored advice for lifestyle improvements, fitness goals, and health maintenance. By bridging the gap between data collection and meaningful interpretation, the Health Monitoring App aspires to be a comprehensive health companion that empowers users to make informed decisions about their well-being.



**6. Main Objectives** (*mention at least three objectives*)

- 1) To develop a real-time health monitoring system using Google Fit API that tracks steps, heart rate, and calories.
- 2) To analyse the gathered health data and provide personalized insights and recommendations.
- 3) To design a user-friendly interface that allows seamless interaction and real-time updates on health metrics.

**7. Resources Required** (*mention software, hardware, and other resources*)

Category	Description	
Software Resources	<ul style="list-style-type: none"><li>• FLUTTER SDK, DART</li><li>• FIREBASE</li><li>• PYTHON</li><li>• VSCODE</li></ul>	<p>Version: 3.22</p> <p>Version: 13.8.0</p> <p>Version: 3.9.0 or later</p> <p>Version: 1.90 or later</p>
Hardware Resources	<ul style="list-style-type: none"><li>• MEMS inertial sensors</li><li>• Smart Phone</li></ul>	
Others	<ul style="list-style-type: none"><li>• Google Fit API</li><li>• Tensorflow</li></ul>	



8. **Project Plan** (please update the provided Gantt Chart according to your project work plan, breaking down the proposed work into phases and tasks along with their timelines for the entire academic year 2024-25.)

Activity	Year 2024					Year 2025				
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Literature Review										
Analysis and Requirements										
Project Design and Architecture										
Implementation										
Testing and Validation										
Documentation and Write-up										

**Signatures** (please also mention the name of team members and supervisor (s) with date)

Pranav Bhardwaj

Manav Lukar

Yashashvi Agnihotri

(Name of Member 1)

(Name of Member 2)

(Name of Member 3)

**Prof. Pardeep Kumar**

(Name of Supervisor)

(Name of Co-Supervisor, if any)

**Date of Submission:** 21st August 2024