Project Initialization and Planning Phase

Date	20 June 2024
Team ID	739793
Project Title	Estimating Presence or Absence of Smoking Through Bio Signals
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report

Project Overview	
Objective	Develop algorithms to analyze biosignals for patterns indicative of smoking behavior. Implement a real-time monitoring system using wearable devices.
Scope	Gather biosignal data from volunteers in controlled environments. Include biosignals such as heart rate variability (HRV), respiratory patterns, and potentially other relevant physiological signals.
Problem Statement	
Description	The problem addressed by this project is the need for an accurate and non-invasive method to estimate the presence or absence of smoking behavior using biosignals obtained from wearable devices.
Impact	By developing a reliable and non-invasive system for estimating smoking behavior, it has the potential to revolutionize how smoking is monitored and managed, leading to improved public health outcomes, advancements in research, and societal benefits.
Proposed Solution	
Approach	The proposed solution not only addresses current challenges in monitoring smoking behavior but also offers potential advancements in healthcare technologies and public health initiatives.
Key Features	The project's key features aim to develop a robust and reliable system for estimating smoking presence or absence using biosignals.

This proposal outlines a comprehensive plan for developing a system to estimate the presence or absence of smoking using biosignals. Adjustments to specific methodologies and timelines may be necessary based on further research and initial findings during the project implementation phase.

	Obtain necessary ethical approvals for data collection and participant consent.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	T4 GPU
Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	scikit-learn, pandas, numpy, matplotlib, seaborn
Development Environment	IDE	Jupyter Notebook, pycharm
Data		
Data	Source, size, format	Kaggle dataset, 614, csv UCI dataset, 690, csv