# Project Initialization and Planning Phase

| Date | 20 June 2024 |
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| Team ID | 739680 |
| Project Title | Estimating Presence or Absence of Smoking Through Bio Signals |
| Maximum Marks | 3 Marks |

**Project Proposal (Proposed Solution) report**

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

| **Project Overview** | |
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| 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. |

phase.

| | Obtain necessary ethical approvals for data collection and participant consent. |
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**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 |