Project Initialization and Planning Phase

Date	21 JULY 2024
Team ID	739717
Project Title	Unlocking Silent Signals :Decoding the Body Language with Mediapipe
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

Project Overview	
Objective	To leverage MediaPipe's advanced computer vision technology to accurately decode human body language in real-time, enhancing non-verbal communication understanding across various fields.
Scope	This project involves implementing MediaPipe to detect and analyze body movements, collecting and annotating diverse datasets, training machine learning models for accurate body language interpretation, and developing a user-friendly application for real-time use in various scenarios. Extensive testing and user feedback will ensure reliability and continuous improvement.
Problem Statement	
Description	Despite the critical role of body language in human communication, there is a lack of reliable, real-time tools to interpret these non-verbal cues accurately. Existing solutions are often limited by their complexity and inaccessibility. This project seeks to address this gap by leveraging MediaPipe's technology to create an intuitive system for decoding body language.

Impact	This project will enhance real-time non-verbal communication understanding, improving interactions in virtual meetings, therapy, and other fields. It paves the way for advanced human-computer interaction technologies.

Proposed Solution

Approach	Utilize MediaPipe to detect and analyze body language in real-time, and train machine learning models on diverse datasets for accurate interpretation and practical application. Develop a user-friendly application for practical use in enhancing non-verbal communication.

Key Features	Real-time body language detection using MediaPipe, accurate interpretation through advanced machine learning models, and a user-friendly application interface for seamless integration into various scenarios. The system also includes customizable settings and feedback mechanisms for enhanced usability.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	e.g., 2 x NVIDIA V100 GPUs
Memory	RAM specifications	e.g., 8 GB
Storage	Disk space for data, models, and logs	e.g., 1 TB SSD
Software		
Frameworks	Python frameworks	e.g., MediaPipe, TensorFlow or PyTorch, OpenCV
Libraries	Additional libraries	e.g., scikit-learn, pandas, numpy

Development Environment	IDE, version control	e.g., Jupyter Notebook, Git , Google colab
Data		
Data	Source, size, format	e.g., Git Hub dataset, video data, trianing data , CSV