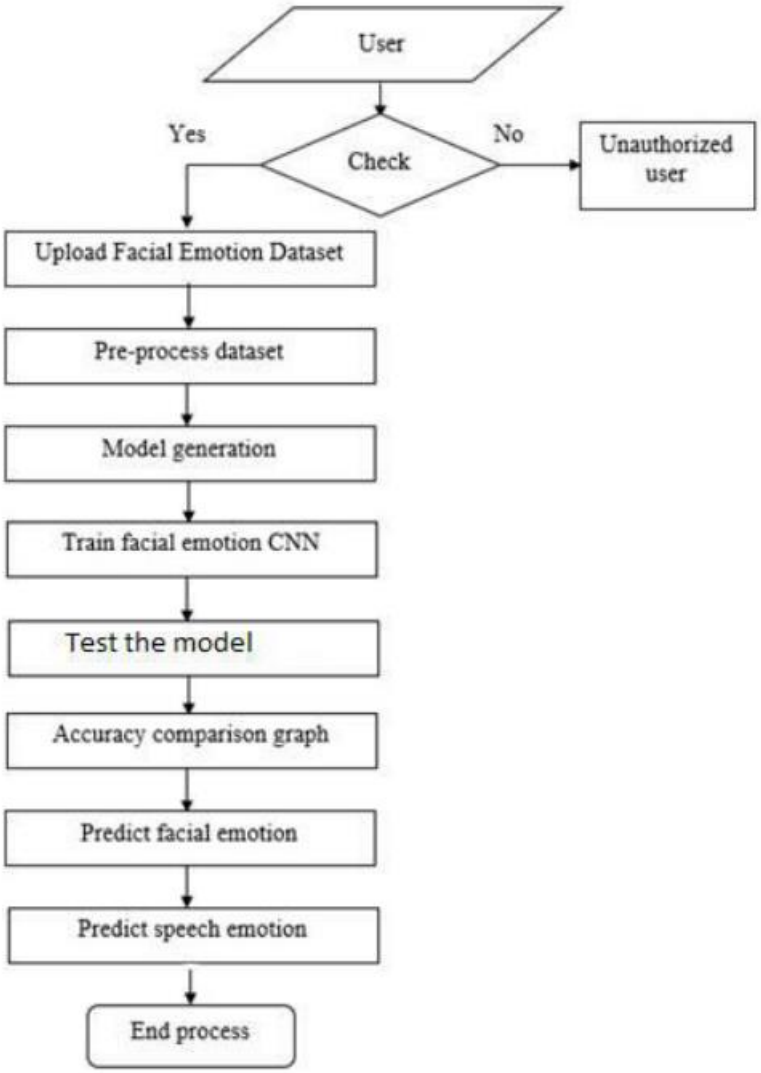
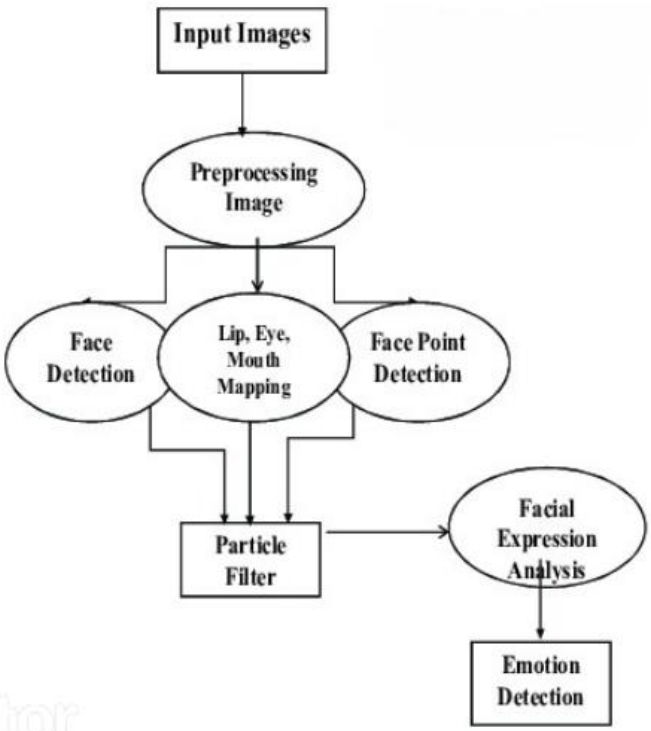
Project Design Phase-III
Data Flow Diagram & User Stories

Date	15 November 2023
Team ID	Team-592536
Project Name	AI Body Language Detector Using Mediapipe
Maximum Marks	4 Marks

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.





User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
AI System Integrators	Project Setup & Infrastructure	USN-1	Set up the development environment with the required tools and frameworks to start the AI body language detection project for emotion recognition (e.g., detecting sadness, anger).	The development environment is successfully configured with all necessary tools and frameworks required for AI body language detection through Mediapipe.	High	Sprint-1
Dataset Curators	Development Environment	USN-2	Gather a diverse dataset of images containing different body language expressions for training the AI body language detection model, specifically focusing on emotions like sadness and anger.	Successfully gathered a diverse dataset of images depicting various body language expressions with a focus on sadness and anger.	High	Sprint-1

Individual Contributors	Data Collection	USN-3	Preprocess the collected dataset by resizing images, normalizing pixel values, and splitting it into training and validation sets for AI body language detection.	The dataset is successfully pre-processed for AI body language detection.	High	Sprint-2
Research Scientists	Data Preprocessing	USN-4	Explore and evaluate different AI body language detection architectures within Mediapipe (e.g., pose estimation models) to select the most suitable model for emotion recognition (e.g., sadness and anger).	Explored various AI body language detection models within Mediapipe for emotion recognition.	High	Sprint-2
Non-Profit Organizations	Model Development	USN-5	Train the selected AI body language detection model using the pre-processed dataset and monitor its performance on the validation set, specifically focusing on recognizing emotions like sadness and anger.	Conducted validation of the trained AI body language detection model for recognizing emotions.	High	Sprint-3
Educational Institutions	Training	USN-6	Implement data augmentation techniques (e.g., rotation, flipping) to improve the AI body language detection model's robustness and accuracy in recognizing emotions such as sadness and anger.	Tested data augmentation techniques to enhance the model's robustness in emotion recognition.	Medium	Sprint-3
IT System Managers	Model Deployment & Integration	USN-7	Deploy the trained AI body language detection model, integrating it into an API or web service to make it accessible for emotion recognition, particularly for emotions like sadness and anger. Integrate the model's API into a user-friendly web interface for users to upload images and receive emotion classification results.	Checked the scalability of the deployed model's API for emotion recognition.	Medium	Sprint-4
Quality Assurance Analysts	Testing & Quality Assurance	USN-8	Conduct thorough testing of the AI body language detection model and web interface to identify and report any issues or bugs. Fine-tune the model hyperparameters and optimize its performance based on user feedback and testing results for emotion recognition.	Created a web application for testing purposes.	Medium	Sprint-5