**Project Progress Documentation: Attendance Marking System Using Face Recognition**

1. What We Have Completed So Far

So far, the project has moved from concept to foundational backend implementation. We have finalized the project idea and laid out the core objectives and features, which include automating attendance tracking using facial recognition. The initial backend setup has been established, including the creation of a registration process for capturing students' personal details and images via webcam. This functionality allows us to collect necessary data, storing both personal information and facial images securely in a cloud-based database for efficient processing and retrieval during attendance marking.

2. Plans for Next Week

The primary focus for the coming week is to complete the model development for face detection, which will allow the system to recognize students based on their stored images accurately. This model will be trained to detect faces in real time and cross-reference them with existing records, enabling the attendance system to mark attendance with date and time stamps automatically. Additionally, we plan to start designing the frontend of the web application, ensuring it is intuitive and user-friendly. The frontend will provide an accessible interface for users to interact with the attendance marking system, facilitating seamless navigation and smooth data entry and display.

3. Challenges

We have encountered several challenges so far:

- Unsupported Python Version: The project requires certain libraries and dependencies that are not supported on the current Python version, which has caused delays and compatibility issues.

- Lack of Knowledge and Experience: Limited experience with face recognition and real-time image processing has made parts of the development process more challenging, particularly in setting up the model for accurate facial recognition.

- Runtime Errors: During backend implementation, runtime errors have been frequent, affecting both the data processing pipeline and the registration process.

These challenges are being actively addressed, with efforts to update Python versions, expand technical knowledge on facial recognition, and debug errors to ensure the system’s smooth performance.