Face Recognition Attendance System - Project Report

Project Title:

Face Recognition Attendance System

Role:

Back-end Developer & Logic Designer

Team Size:

3 Members

Project Type:

Desktop-based Attendance System with GUI and Real-time Face Recognition

Project Overview:

This project is a desktop application that uses facial recognition technology to automate attendance tracking. It utilizes a webcam to detect and recognize faces in real-time. When a registered face is detected, the system records the attendance in an Excel file and provides voice-based feedback.

As the back-end developer and logic designer, I was responsible for:

- Integrating facial recognition models
- Managing attendance records with Excel
- Designing backend architecture and logic flow
- Building a user-friendly GUI using Tkinter and customtkinter

Tech Stack:

Language: Python 3.8-3.10

Frameworks: Tkinter, CustomTkinter

Libraries: OpenCV, face_recognition, pandas, numpy, openpyxl, pyttsx3, uuid, datetime, os, PIL

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Python Compatibility:

This system is best run using Python 3.8 - 3.10 for stable library support. Libraries like face_recognition, pyttsx3, and openpyxl may face compatibility issues with newer Python versions.

Timeline:

November 18 - November 28, 2024 (30 Hours)

Key Features:

- Real-time face detection and recognition
- Excel-based attendance recording
- GUI for interaction and manual control
- Voice feedback on successful recognition
- Unique ID logging using UUID

Version Control:

GitHub for source control and collaboration