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Attendance Management System Using Face Recognition

INTRODUCTION

A web application for the attendance management system using face recognition and automatically updating the database of the system. Maintenance and monitoring of attendance records play a vital role in the analysis of the performance of any organization. The purpose of developing an attendance management system is to computerize the traditional way of taking attendance. Automated Attendance Management System performs the daily activities of attendance marking and analysis with reduced human intervention.

TOOL AND TECHNOLOGY:

- Python
- Django/Flask framework for web application
- HTML, CSS, Bootstrap for implementing the frontend
- MySQL/Sqlite
- Machine Learning

Libraries Used:

Numpy, Pandas, Face recognition, OpenCV

Features:

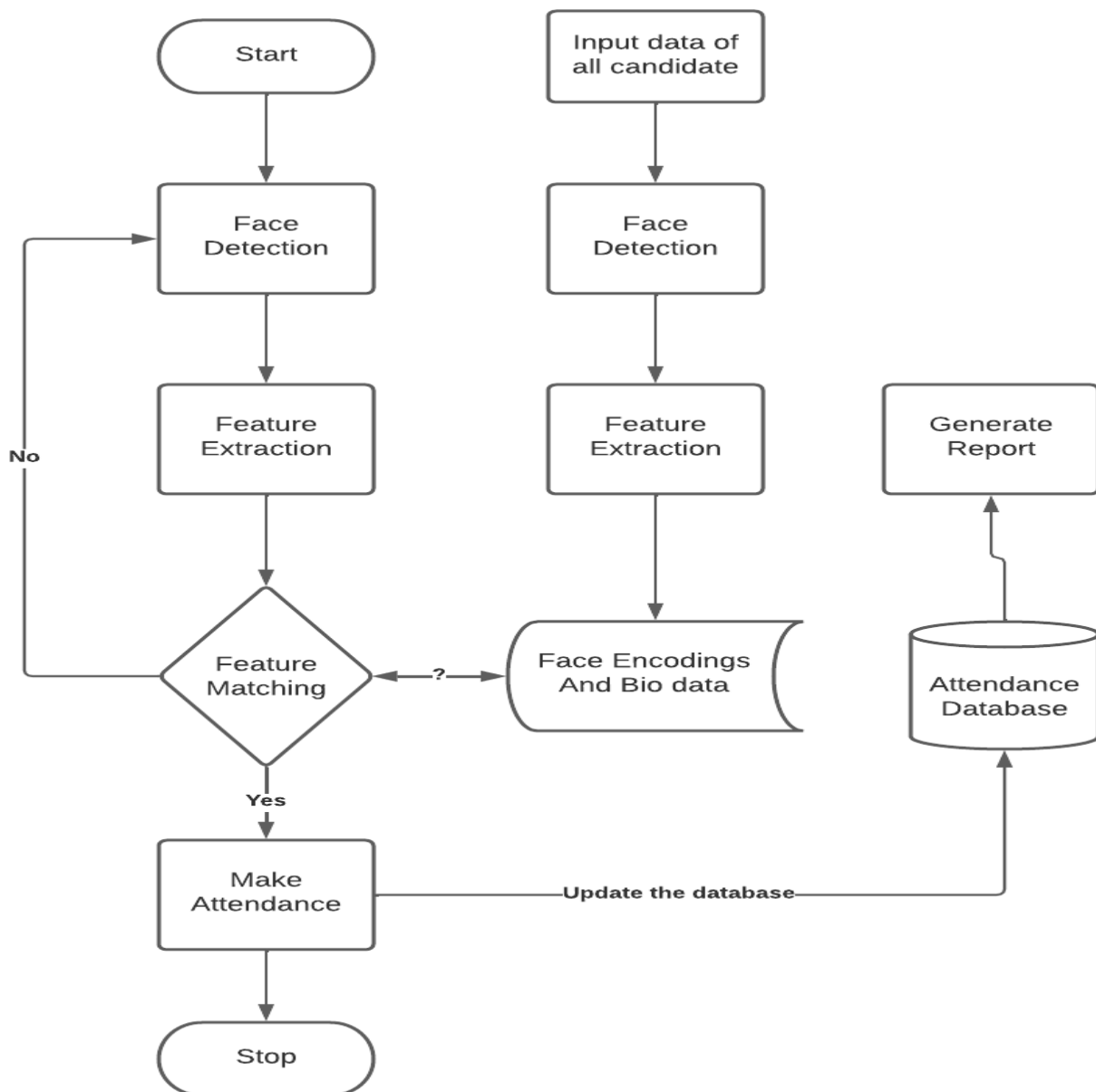
- Candidate registration and login page
- Automated facial attendance
- Entry and exit time record
- Analysis of attendance
- Generate a report of attendance
- Email notifications to candidates of attendance performance

Technologies Cover in technical(stage wise):

- **Stage:1**
Object-Oriented Programming
- **Stage:2**
DBMS
Structure quarry language (SQLite3)
- **Stage:3**
Python3
- **Stage:4**
HTML
CSS
Bootstrap

- **Stage:5**
Javascript
- **Stage:6**
(this stage is not covered because if we used Reactjs then we cant use Django)
- **Stage:7**
Machine Learning
Data science
- **Stage:8**
Django/Flask backend
- **Stage:9**
Docker / Git

Flow Diagram:



Software Requirements Specification - SRS

We have 2 types of users of the system.

1. Employee
2. Admin

Following functionalities are performed by the admin:

- Login
- Register new employees to the system
- Add employee profile photo
- Extract the facial features
- View attendance reports of all employees. Attendance can be filtered by date or employee id.

Following functionalities are performed by the employee:

- Login
- Mark his/her time-in and time-out by scanning their face
- View attendance report of self

