SDM College of Engineering and Technology Dharwad

AI Based Attendance Management System

Project Guide:
Prof. Anand Vaidya

Team Members:

G Shreyas	2SD19CS036
Puttayya S H	2SD19CS082
Suman Basava	2SD19CS112
Anushka	2SD19CS022

Contents

Problem Statement

" To real-world student attendance system that can identify a student's face and automatically register that student's presence on an excel sheet."

Introduction

- One of the common security tasks nowadays is the identification procedure to establish whether a person is present in a space like a room or a building.

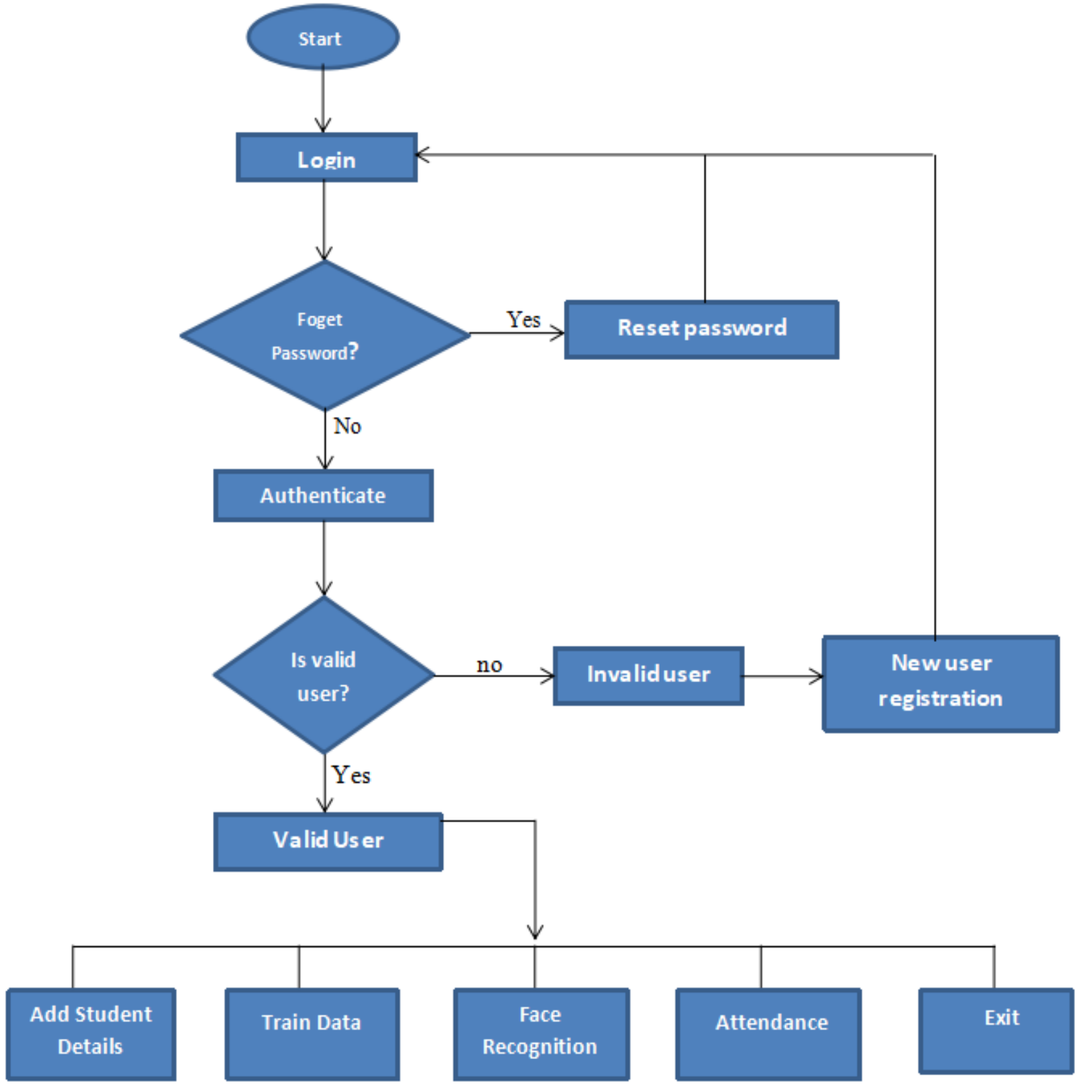
- The goal of the facial recognition-based attendance monitoring system is to simplify the labor-intensive and time-consuming attendance procedure.

- Every individual who enters a room or building must first go through multiple authentication steps so that later on, for security reasons, these information's may be utilized to monitor every single action in the room.

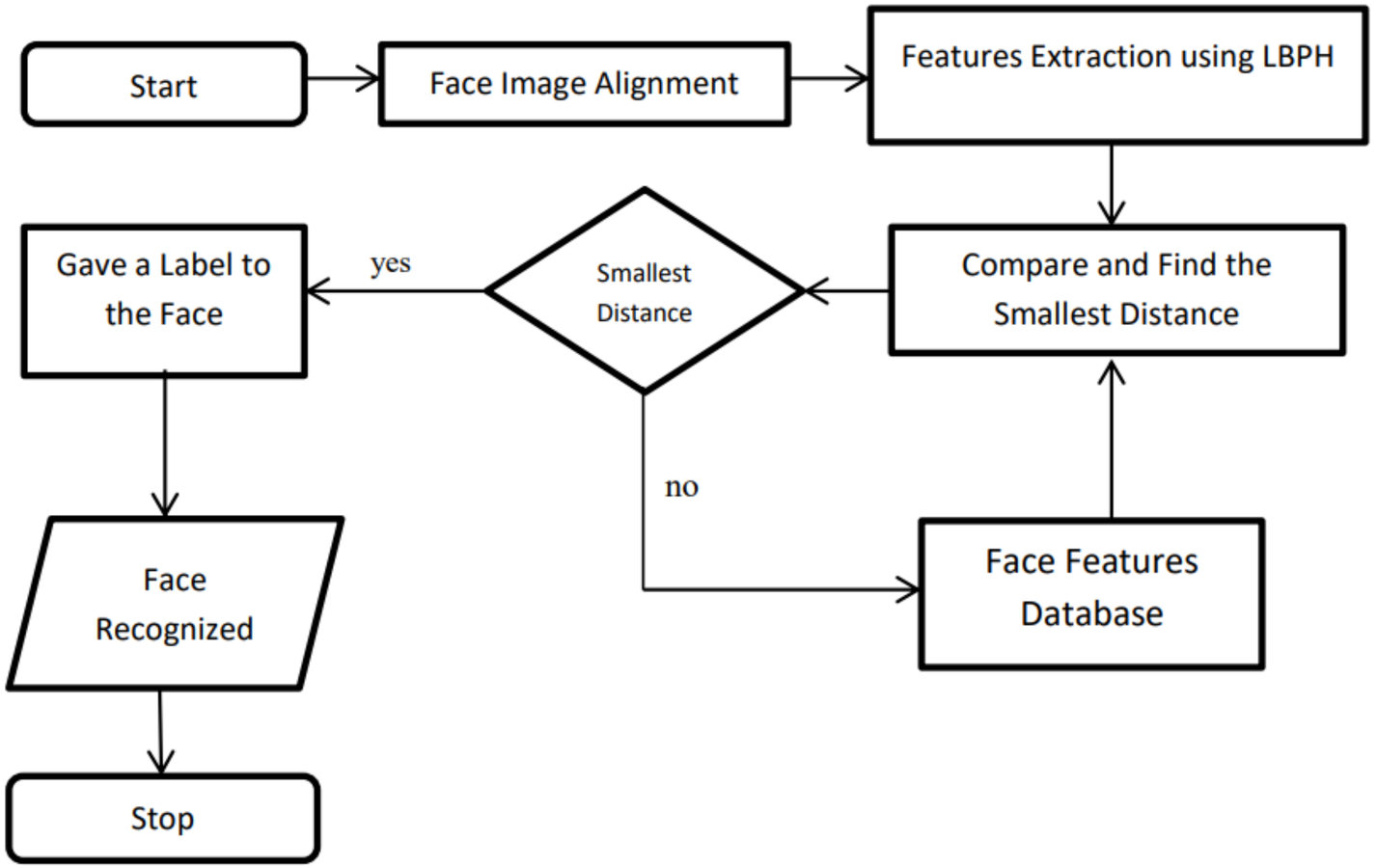
Project Objective

- Managing student information.
- Capturing images as a dataset to train LBPH Model
- Training the Model using the captured dataset.
- Updating the dataset based on existing information.
- Recognizing the face and recording the attendance in a CSV-type file.

System Design



Face alignment and feature extraction



Python libraries and Algorithms used

- Haar Cascade Algorithm
- LBPH(Local Binary Pattern Histogram) Algorithm
- Tkinter
- Pillow
- Numpy
- Os - Operating Systm
- Re - Regular Expression
- MySQL
- Datetime
- Time

System Requirements

Software Requirements

- Operating System : Windows OS
- Platform : Visual Studio Code
- Programming Language : Python

Hardware Requirements

- Processor : INTEL Pentium 4 Processor Core
- Hard Disk : 40GB (min)
- RAM : 256MB or Higher

Project Outcomes

- A software for maintaining the attendance of all the students.

- The real-time face recognition with periodical updates of the attendance info determines the presence of students throughout the total lecture period.

Future Work

- Camera quality improvement enhancing the effectiveness of face recognition and face detection. Future implementations will change to incorporate external camera source identification functionality.
- Managing the attendance of the student.
- Importing and Exporting Existing attendance CSV Files to avoid re-entry of student information.

Thank You