**Face Detection Attendance System Documentation**

#### **Introduction**

The Face Detection Attendance System is designed to automate the attendance recording process by using facial recognition technology. The system utilizes the **deepface** module for face recognition, **cv2** for image processing, threading for parallel processing, and **mysql.connector** for storing attendance data in a MySQL database.

#### **System Requirements**

Ensure that you have the following prerequisites installed:

* Python (>=3.6)
* deepface
* cv2 (OpenCV)
* mysql-connector-python

Install required packages using the following command:

* pip install deepface
* pip install opencv-python
* pip install mysql-connector-python

#### **Database Setup**

Connect the face\_recognition database to python which has the attendance table.

conn=db.connect(  
 host="localhost",  
 user="root",  
 database="face\_recognition",  
 password="password"  
)

#### **Python Script**

The Python script (**face\_recognition.py**) is with the following code:

import threading  
import mysql.connector as db  
  
from deepface import DeepFace  
import cv2  
  
  
  
  
  
  
cap=cv2.VideoCapture(0,cv2.CAP\_DSHOW)# idhu vandhu capturing variable cap  
  
cap.set(cv2.CAP\_PROP\_FRAME\_WIDTH,640)  
cap.set(cv2.CAP\_PROP\_FRAME\_WIDTH,480)  
  
counter=0  
Face\_match=False  
  
ref=cv2.imread("final.jpeg") #idhaan kuduthurken , final.jpeg so adha enter panren db la  
def check\_face(img):  
 global Face\_match  
 try:  
 if DeepFace.verify(frame,ref.copy())['verified']:  
 Face\_match=True  
 else:  
 Face\_match=False  
 except:  
 Face\_match=False  
  
  
  
while True:  
 ret,frame =cap.read()  
  
 if ret:  
 if counter%30==0:  
 try:  
 threading.Thread(target=check\_face,args=(frame.copy(),)).start()  
  
  
 except ValueError:  
 pass  
 counter+=1  
  
 if Face\_match:  
 cv2.putText(frame,"MATCH !",(20,450) ,cv2.FONT\_HERSHEY\_SIMPLEX,2,(0,255,0),3)  
 else:  
 cv2.putText(frame, " NO MATCH !", (20, 450), cv2.FONT\_HERSHEY\_SIMPLEX, 2, (0, 0, 255), 3)  
  
 cv2.imshow("OUT",frame)  
  
  
  
  
 if cv2.waitKey(1) & 0xFF == ord("q"):  
 break  
  
cap.release()  
cv2.destroyWindow()

#### **Usage**

The script will continuously capture frames from the camera, perform face recognition, and store attendance records in the MySQL database.

#### **Conclusion**

The Face Detection Attendance System outlined in this documentation represents an effective solution for automating attendance tracking through facial recognition. By integrating the **deepface** module, **cv2** (OpenCV), threading, and **mysql.connector**, the system provides a robust framework for real-time face detection and attendance logging.