

Face recognition for a mobile application attendance system for the MID day-meal programme

Aviraj Singh, Abhishek Mahajan, Rasika Satpute

Department of Computer Science & Engineering, MIT School of Engineering

Abstract—The facial recognition mobile application attendance system for the government's MID-MEAL programme is presented in this paper. Identity enrollment and data storage are used to gather personal information for the purpose of producing reports and monitoring the process. The suggested project is an intelligent Android application to track the government of India-funded Mid-Day Meal Scheme. The Area In-charge can use this application to maintain tabs on the quantity and calibre of meals provided as part of the Scheme. The application's School In-Charge portal is used to register students and is in charge of recording attendance when meals are served to students. Two login options are in-charge and a server are included in the main module. Most biometric systems require the user or analyst to do some action, such as spending money on the scanner to configure the biometric or the hand geometry detection. Compared to other biometric methods, the facial recognition method has a number of advantages on the outside since it can be used without intentional action since the face image can be taken by the camera from a distance.

Index Terms— Attendance System, Face recognition, Encryption, MID-DAY meal, Report generating system.

1. Introduction

In today's day a proper system without corruption is impossible without the help of technology. Thus, the government system needs a perfect and strong attendance solution for various fields, which can be achieved using facial recognition and mobile apps as it is handy. Facial recognition is difficult in day-to-day life in order to identify family, friends or someone we are familiar/same facial cut. We might not have taken several steps in order to analyze the human face. We get information through the image reflected into our eyes, by specific retina in the form of light. The analyzed information will be compared to other objects/faces that have existence in our brain storage to recognize. It is a challenge to build an artificial system to have the exact replica as a human to recognize faces. We can, but we need a huge memory to recognize different faces. Example, in the colleges spread around Asia, there are many students with different colors, caste and gender, it is not possible to remember every face of the individual without any mistakes. In order to overcome human limitations, computers with almost limitless memory, high processing speed and power are used in face recognition systems.

The human face is a unique key to individual identity. Thus, face recognition is defined as a biometric method in which a person's unique id is captured by performing a comparison of real-time capture images with stored images in the database of that person.

2.1. REGISTERING OF USER

First the area in charge has to load his/her Smartphone with the application. When the app is run at the start, the registration procedure in the app starts by adding user details such as name, mobile number, age and other details. They are then sent to the attendance portal with the device's unique ID. (Fig1.) The framework use firebase

RTD (real time database) for storing data. Same process is done for students and the helper or school in charge portal. We have all the people on the app as a particular unique user.^{[1][7][6]}

The area in charge has to keep an eye on verification of the details submitted and that application is being used by the authenticated user. Firebase database and push notification are used. The attendance application also produces a unique server ID for each registered user through firebase. This ID will be used while daily meal serving and attendance of students and school in charge.^{[2][4]}

Figure 1

2. PROPOSED METHOD

2.2. FACE IMAGE RECOGNITION