Project Report
On
REAL TIME ATTENDANCE SYSTEM

Submitted to

Savitribai Phule Pune University,Pune
For partial fulfillment of the

Third Year(5th sem) in Computer Engineering

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Under the Guidance of
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2019-2020

CERTIFICATE

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This is to certify that the Project Report on

R E A L T I M E A T T E N D A N C E S Y S T E M

Is a bonafide work and it is submitted to

Savitribai Phule Pune University, Pune

By

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Guide

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Broad Topic

Now a days, two types of attendance system are available,

- Manual
- Real time Automated

Manual time attendance systems use paper time cards and time sheets that students fill out and teachers over see for accuracy.

Real time Automated attendance systems can use different techniques to identify students and record their attendance as they enter or leave the classroom area. The recorded information is then ideally automatically transferred to a computer for processing although some systems require an operator to physically transfer data from the clocking point to the computer using a portable memory device.

An automated system reduces the risk of errors that are common in a manual system, and allows the workforce to be more productive instead of wasting time on tedious administrative tasks.

Subject Topic

The management of the attendance can be a great burden on the teachers if it is done by hand. To resolve this problem, smart and auto attendance management system is being utilized. But authentication is an important issue in this system. The smart attendance system is generally executed with the help of biometrics. Face recognition is one of the biometric methods to improve this system. Being a prime feature of biometric verification, facial recognition is being used enormously in several such applications, like video monitoring and CCTV footage system, an interaction between computer & humans and access systems present indoors and network security. By utilizing this framework, the problem of proxies and students being marked present even though they are not physically present can easily be solved. The main implementation steps used in this type of system are face detection and recognizing the detected face. This system proposes a model for implementing an automated attendance management system for students of a class by making use of face recognition technique, in mobile based application. After these, the connection of recognized faces ought to be conceivable by comparing with the database containing student's faces. This model will be a successful technique to manage the attendance and records of students.

Title

Real Time Attendance System

Objectives

1. To make attendance system transparent
2. To avoid proxy
3. To make record keeping easy and manageable
4. Minimal paper work
5. To analyze performance of student in terms of attendance
6. Reduce the cost of system

Project Domain

Image recognition for verification and authentication on mobile based application.

Technology

1) Language

Java, XML(Extended Markup Language)

2) Database

SQLite

Project Description:

This system involves two types of users

- Admin
- Teacher
- Student

Our proposed system is divided into four distinct modules described as follows:

A. <u>User Authentication :</u>

Initially, when the professor runs the application for the first time, a login screen will be displayed that will prompt the professor to enter the username and password required for authentication. The professor will be provided with a unique username. Only when the professor enters the correct username and password, a "success" message will be displayed and the professor will get authenticated and directed to the next screen.

B. <u>Image Recognition :</u>

One of the flaws in the traditional system is that there is no means to know whether the student marking his attendance is actually present. For that, any unique biological specimen is needed which would prove the students' identity. The best and most convenient way is to use image recognition. Teacher will capture picture of students and verification is done by splitting obtained image into different parts depending on number of faces present in the image matching each part with the individual image of each student stored in the database. The image processing can be done in android studio using openCV library.

C. <u>Marking Attendance :</u>

All parts of splitted image will be compared with each images present in the database. If the part of image matched with one of the image present in database then the respective student will be notified with success message and others will not be notified at all.

Usecase Diagram:
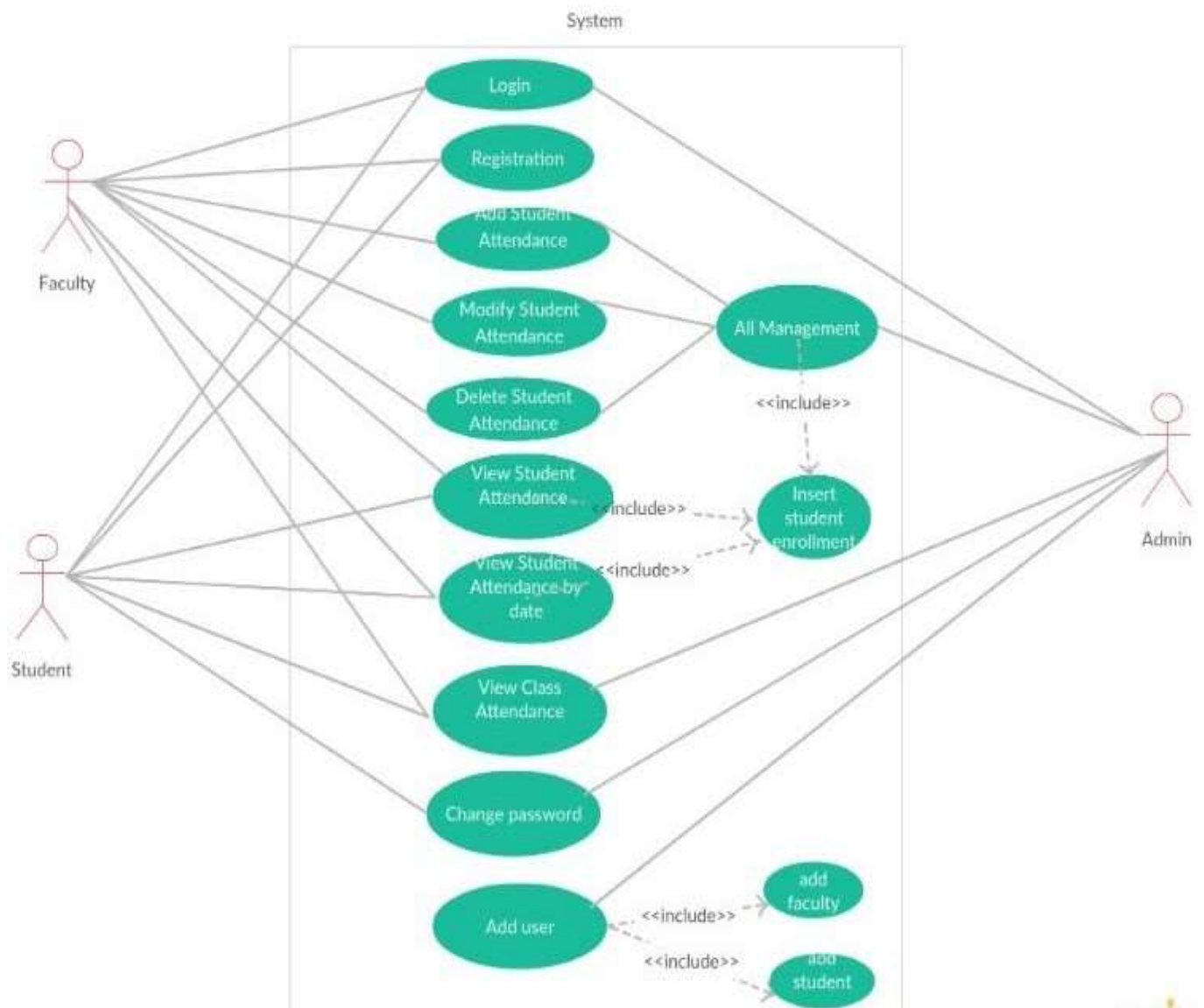
Conclusion

In this system an Android based mobile application for Attendance Monitoring is presented. The application offers reliability, time saving and easy control. It can be used as a base for creating similar applications for tracking attendance in offices or any workplace.

Future Scope

In future our system plans on including a SMS notification feature whereby every student will be periodically notified regarding his/her attendance record for a specific duration. We can also represent recorded attendance in the form of graph in order to give visual understanding. Another noticeable feature of the entire application is to give options to the user such as feedback provision, attendance retrieval in a very convenient way, messaging between user and professor and campus notifications like low attendance reminder.The scope of the system can be expanded & it can be used as a base for creating similar applications for tracking attendance in offices or any workplace.

References

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- S. Lukas, A. R. Mitra, R. I. Desanti, D. Krisnadi, "Student Attendance System in Classroom Using Face Recognition Technique", *ICTC 2016*, 2016.