

AUTOMATIC ATTENDANCE MANAGEMENT SYSTEM USING QR CODE AND GPS

Sachin Saurabh, Rakul Kumar, Jackee Sharma, Prof. Bhavani Veeramani
ACT's Alard College of Engineering & Management Pune

Abstract: -In several establishment and Organization the attending may be a vital issue to keep up the record of lectures, wage and work hours etc. Most of the institutes and organizations follow the manual methodology mistreatment previous paper and file methodology and a few of them have shifted to biometric technique. This methodology that schools use is that the academic passes a sheet or build roll calls and mark the attending of the scholars and this sheet any goes to the admin department with updates the ultimate surpass sheet. This method is kind of feverish and time overwhelming. Also, for professors or workers at institutes or organizations the biometric system serves one at a time. So, why not shift to an automatic attending system that works on face recognition technique? Be it a category area or entry gates it'll mark the attending of the scholars, professors, employees, etc. this method uses Viola and Jones rule for police investigation and recognizing the faces. The most parts of this technology area unit as follows:

Keywords: GPS, KNN Algorithm, Haversine formula, QR-Code

Introduction:

Maintenance of student attending is that the foremost powerful task in varied establishments. Each establishment has its own technique of taking attending like exploitation attending sheet or by exploitation some biometric ways in which. But these ways in which Consumes a great deal of some time. For the foremost half student attending is loving the assistance of attending sheet given to the varsity members. This consumes a great deal of labor and time. We have a tendency to don't understand whether or not or not or not the every student is responding or not. Calculation of consolidated attending is another major task which could cause manual errors. In another cases the

attending sheet could become lost or taken by form of the scholars. To beat such troubles we have a tendency to tend to tend to stand live in want of automatic attending management system. There unit several biometric ways that } that } on the market throughout which the elemental construct is same. One of them is that the finger print identification and GPS system. Throughout this technique initial the finger prints of the individuals are collected and hold on within the info of finger print detector. For this 1st we've visit gather the finger print of each individual. This might be done only one time or once a spanking new entry have to be compelled to be a great deal of within the info. Then the obtained finger prints are compared with the images in data. If the 2 finger prints ar same the attending is marked as gift. However this technique includes a spread of the disadvantages. They're for this technique the scholars have to be compelled to be compelled to attend in queue that ultimately consumes tons of labor. If once the finger isn't unbroken properly or if the finger print is not recognized properly then the attending ar marked as absent. So this system isn't best. the other biometric methodology out there is eye ball detection. Throughout this system eyeball detector is used. It senses the blinking rate of eye ball and it along senses true of iris. Throughout this system 1st the attention ball or iris of every individual is hold on within the info. Usually the attention ball is not same for all persons. It's some distinction. The obtained image of eye ball is then compared with the attention ball within the info. If it's same then the attending is marked. However superabundant it's out of the question. As there unit massive form of students within the category eye ball detection of every individual isn't doable. These disadvantages unit overcome with the assistance of automatic attending management that doesn't consumes time and so the info isn't

lost till we've a bent to erase the data. This system is best in recently.

Literature Survey:-

Paper1. Algorithm for Efficient Attendance Management:

Face Recognition based approach Author Name: Naveed Khan Balcoh, M. Haroon Yousaf, Waqar Ahma nd M.IramBaig

Description: Students attendance in the classroom is very important task and if taken manually wastes a lot of time. There are many automatic methods available for this purpose i.e. biometric attendance. All these methods also waste time because students have to make a queue to touch their thumb on the scanning device. This work describes the efficient algorithm that automatically marks the attendance without human intervention. This attendance is recorded by using a camera attached in front of classroom that is continuously capturing images of students, detect the faces in images and compare the detected faces with the database and mark the attendance. The paper review the related work in the field of attendance system then describes the system architecture, software algorithm and results.

Paper 2. Study of implementing Automated Attendance

System using Implementing Automated Attendance System Using face recognition Technique

Author Name: Nirmalaya Kar, Mrinal Kanti Debbarma, AshimSaha, and Dwijen Rudra Pal,

Description: Authentication is a significant issue in system control in computer based communication. Human face recognition is an important branch of biometric verification and has been widely used in many applications, such as video monitor system, human-computer interaction, and door control system and network security. This paper describes a method for Student's Attendance System which will integrate with the face recognition technology using Personal Component Analysis (PCA) algorithm. The system will record the attendance of the students in class room environment automatically and it will provide the facilities to the faculty to access the information of the students easily by maintaining a log for clock-in and clock-out time.

Paper 3. Development of Attendance Management System using Biometrics

Author Name: O. Shoewn

Description: In this paper, the development of an attendance management system using biometrics is proposed. Managing student attendance during lecture periods has become a difficult challenge. The ability to compute the attendance percentage becomes a major task as manual computation produces errors, and also wastes a lot of time. For the stated reason, an efficient attendance management system using biometrics is designed. This system takes attendance electronically with the help of a finger print device and the records of the attendance are stored in a database. Attendance is marked after student identification.

Paper 4. Face recognition using Eigen faces

Author Name: M. Turk and A. Pentland

Description: We present an approach to the detection and identification of human faces and describe a working, near-real-time face recognition system which tracks a subject's head and then recognizes the person by comparing characteristics of the face to those of known individuals. Our approach treats face recognition as a two-dimensional recognition problem, taking advantage of the fact that faces are normally upright and thus may be described by a small set of 2-D characteristic views. Face images are projected onto a feature space ("face space") that best encodes the variation among known face images. The face space is defined by the "eigenfaces", which are the eigenvectors of the set of faces; they do not necessarily correspond to isolated features such as eyes, ears, and noses. The framework provides the ability to learn to recognize new faces in an unsupervised manner.

Paper 5. Face Recognition: A Literature Survey

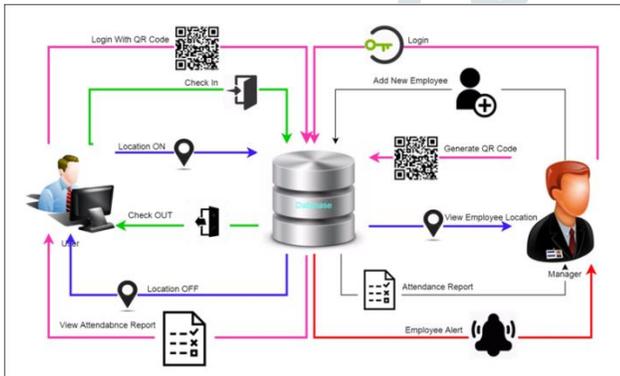
Author Name: W.Zhao, R. Chellapa, P.J.Phillips and A.Rosenfld

Description: This paper provides an up-to-date critical survey of still- and video-based face recognition research. There are two underlying motivations for us to write this survey paper: the first is to provide an up-to-date review of the existing literature, and the second is to offer some insights into the studies of machine recognition of faces. To provide a comprehensive survey, we not only categorize existing recognition techniques

but also present detailed descriptions of representative methods within each category. In addition, relevant topics such as psychophysical studies, system evaluation, and issues of illumination and pose variation are covered.

Proposed System:-

In this System we implement Automated Attendance System based on Android and web Application using QR code and GPS location on employee. In This System Administrator department or HR create employee Account from web Application and send the username and Password to respected user register mobile number. And Also administrator generated the QR Code and this generated QR code scan employee at Check In and Check Out Time. And stored record Check IN and check out in Database, also if employee Check IN administration department access the employee Location and Calculate the Distance using Haversine Formula add Attendance in Database based on GPS.



Math module:-

Formula:

$$a = \sin(B) + \cos(A) \cos(C)$$

$$c = 2 \tan^{-1} \left(\frac{a}{1+a} \right)$$

$$d = R \cdot c$$

Consider Sisa System:

$$S = I; P; O$$

Where

I = input;

P = Procedure

O = Output

Input

EMP = No of Employees

Emp = emp1; emp2; emp3;:: empnth

QRCode = QuickResponseCode

Procedure

Process1: Empreg

EmployeeRegistrationwithpersonal
InformationandEmpID;

Process2: GenQRCodeEveryEmployee

ProvidetheirownQRCode

Process3: ScanQRCode

EveryEmployeeScanQRcodeatlogin

AndLogout Time:

Output:

O = Generate the report every Employee with
many frauds with Illegal Attendance:

► Input

- Emp=No of Employees
- Emp=emp1, emp2, emp3, ..., empnth
- QR Code=Quick Response Code

► Procedure

- Process1 Emp_reg- Employee Registration with personal information and Emp ID,
- Process2 Gen QR Code- Every Employee Provide their own QR Code
- Process3 Scan QR Code- Every Employee Scan QR code at login and Logout Time.
- Process4 After Scanning QR Code Every Employee Get Their Attendance Detail With Their Current Location With The Help Of GPS.
- Process5 Creating a WEB Application For High Rank Officer/Manager.
- Process6 From WEB App The Manager Can Track Every Employee Attendance And Their Working.

► Output:

- O=Generate the report every Employee with many frauds with Illegal Attendance.

Screen Shots:-

The screen shot in the below fig1 shows the employee attendance page where the employee will enter the in Current time, Check IN time, Check OUT time.

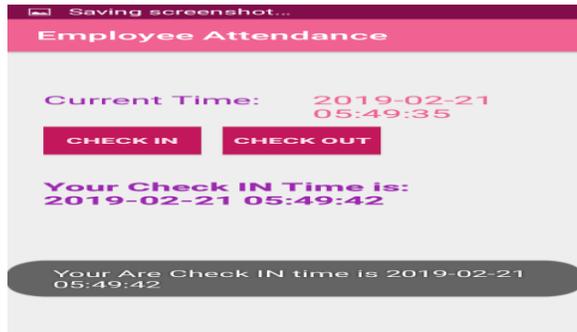


Fig1-employee login detail

The QR generation is shown in the fig2 below. Which will be used by the employee to mark their attendance.



Fig3-scanning QR code

The Employee will do the login with the help of Email and password that is shown in the screen fig4 below.

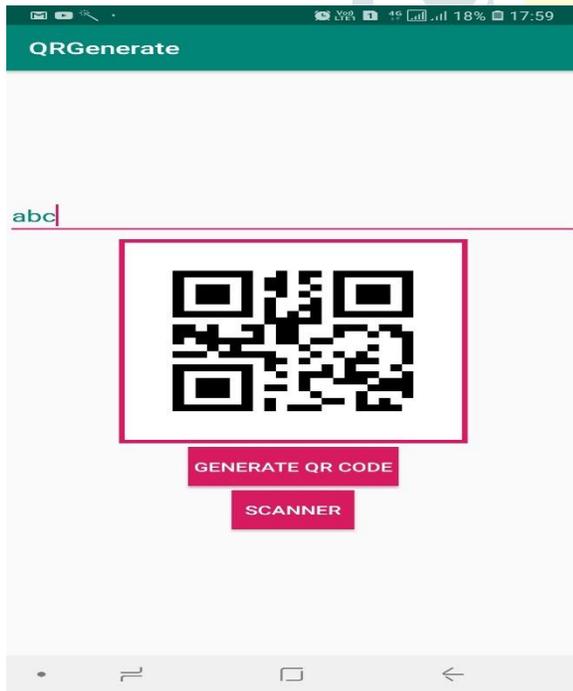


Fig2- Generating Qr code

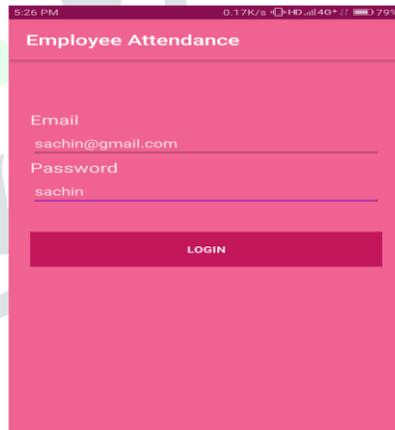


Fig4-Employee login

The fig3 shows the OR code scan page here the employee will scan the OR code to mark the attendance.

Conclusion:-

Using this method we tend to face live able to replace all the recent ways that. Economical and automatic attending management is introduced in paper. this method needs entirely easy hardware for installation. The management of attending throughout this technique is any easy and therefore the attending is taken any accurately. One powerful task throughout this method is face recognition and GPS. We've got associate inclination to face live operative towards it.

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