SMART ATTENDANCE SYSTEM WITH QR CODE

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Abstract

Attendance management is important to every single organization, it can decide whether or not an organization such as educational institutions, public or private sectors will be successful in the future. Organizations will have to keep a track of people within the organization such as employees and students to maximize their performance.
Managing student attendance during lecture periods and employees in organization has become a difficult challenge. The ability to compute the attendance percentage becomes a major task as manual computation produces errors, and wastes a lot of time. So for simplicity to maintain attendance, use QR code in this system. This QR is individual to all and store information about employeeor student. The QR code is automatically generated by system and it scanned by the admin.

Keywords: *QR code,*

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1. Introduction

Attendance management is important to every single organization, it can decide whether or not an organization such as educational institutions, public or private sectors will be
successful in the future. Organizations will have to keep a track of people within the organization such as employees or students to maximize their performance. So Theattendancesystem is plays important role to achieve desire goals.

There is a need for a semi-automated system that would eliminate all of these troubles. So The QR Attendance System will help to remove all these troubles, In QR Attendance System user just need to scan the unique QR code then the Data of user will be stored in database for further use then the attendance is properly calculated without any kind of troubles.

QR code
A Quick Response code (QR- code) is a two dimensional bar code designed by Denso Wave in 1994 in Japan. A QR code is arranged in rows and columns of black and white, and has been designed to be read by smart phone.
QR code can hide large amount of data, numeric and alphanumeric. Thus, they have be -come popular all over the world. Moreover, QR codes are widely used in telecommunication due to increased popularity of smart phones, which typically contain software that can read
QR-code images. The fig. 1 shows the sample of QR code.

Fig.1 :QR code

QR code Functionalities

1. Finder Pattern
2. Alignment Pattern
3. Timing Pattern
4. Encoded Data

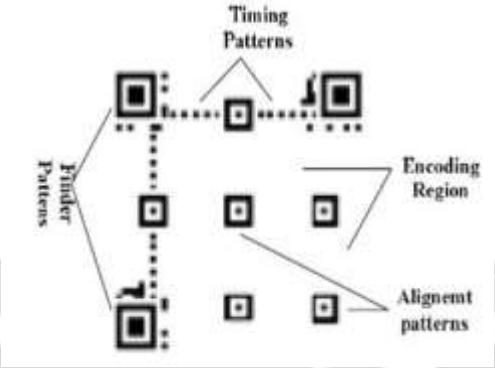

Fig.2: Structure of QR Code

The fig. 2 shows the general structure of QR code along with some QR code functionalities.

2. Related work

1.**PaperName**: Bluetooth Based Attendance Management System.
Author Name: Vishal Bhalla, TapodhanSingla, AnkitGahlot, Vijay Gupta.
The system employs heterogeneous communication protocols in its operations. Within the internal structures of the system in which the implementation is hidden from the user, Transmission Control Protocol / Internet Protocol (TCP/IP) is used. This ensures that data transmitted within the system is reliably received. Communication between phones and the multi-threaded terminal is by Bluetooth. Between the tags and the phones, NFC is Serial Bus (USB) cable. The _gure below illustrates communication architecture between the various components of the system. employed. The Fingerprint reader is directly connected to the terminal through a Universal

2.**Paper Name**: Online Attendance Management System Using RFID with Object Counter.
Author Name: AnkitaAgrawal and AshishBansal.
Since the system is based on RFID, we do have some hardware component in the app-
plication. To keep the project simple and more software based, we are not designing any hardware architecture to the software system. We are going for basic hardware used as an interfacing device to read the data from the card and store it on applications database. The task of the scanner is to read a ten-digit unique RFID tag and feed it to any display device or visible _elds on the screen. So each card has a _lm with a 10-digit unique RFID and the number is printed on the card itself for recognition purpose.

3. **Paper Name:** Fingerprint Based Student Attendance System Using GSM
Author Name: Pallavi Verma1 Namit Gupta.
The system includes terminal fingerprint acquisition module and attendance module. It can realize automatically such functions as information acquisition of fingerprint, processing, wirelesstransmission, fingerprint matching and making an attendance report. After taking
the attendance, this system sends the attendance of every student to their parents mobilethrough GSM. Attendance system facilitates access to the attendance of a particular student
in a particular class. This system eliminates the need for stationary materials and personnel
for the keeping of records.

4. Paper Name: Wireless Attendance Management System based On Iris Recognition.
Author Name: S. Kardy and M. Smaili.
There are mainly two kinds of iris recognition attendance management system . One is online iris recognition attendance management system and the other is o_-line iris recognition attendance management system. On-line system always needs to connect with a PC or workstation and all the iris recognition templates of people to be verified must stored in the database in the PC or workstation. Thereby, matching iris recognition needs the support ofthe background PC.

3.Problem Definition

In past days member mark their attendance on paper but sometimes there are chances of
losing the paper. In that case cannot calculate the attendance of students. So implement the system that will hide all student information (identity card) inside the QR Code. Each member needs to scan unique QR code to make attendance, So that when member will scan that QR Code at that time ,date and time of scanning QR Code will be stored in database.
The objectives of the proposed system

Our objective is to compute attendance using QR code. The system hides all information QR code. The information about student is stored into database and then it is used for computation.

4. Proposed Work

The QR code is used to developed smart attendance system. Individual needs to scan
unique QR code by using camera , then information is stored in the database. The fig. 3 shows the general architecture of QR code attendance system.

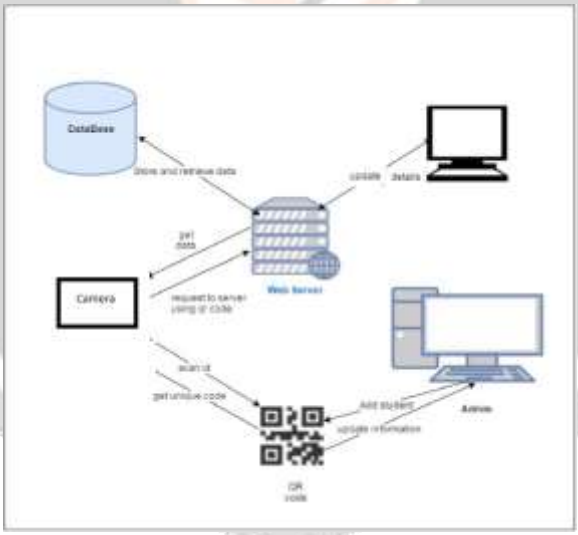

Fig.3 :System Architecture

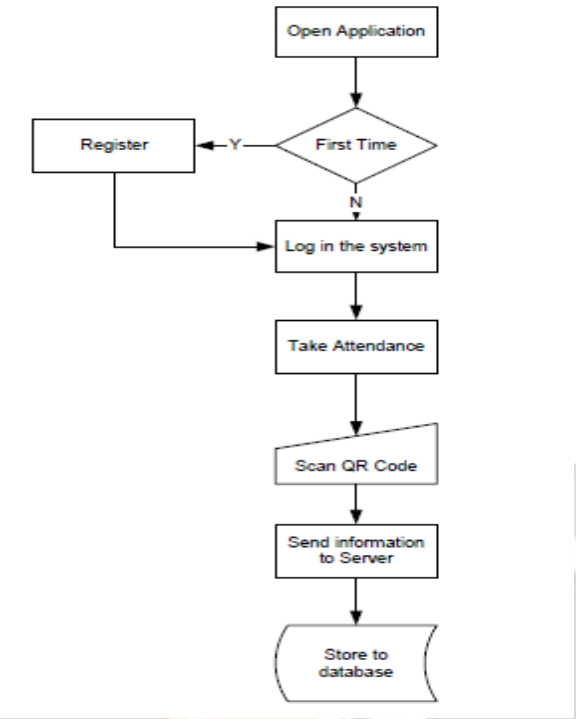

Fig.4 : Dataflow diagram

The fig. 4 shows the dataflow diagram that is general flow of system.

The steps involved in flow of the proposed system are given below:

1. Admin Login.

2. Search member to make Attendance

3. Generate QR code for specified student

4. Scan QR code generated by system.

5. Make Attendance and stored attendance at specified location.

6. Update database on day to day basis.

5. Conclusion

In recording attendance, conventional methods are still adopted in some institutions, where the instructors call out the names one by one or by taking signature from each member to determine their presence. Nowadays, better methods are also employed, i.e. by relying on a system to record the attendance in semi-auto manner, such systems are absolutely excellent as a solution to existing problems, but one obvious drawback is the additional cost of hardware i.e. need of web cam and maintenance. Hence, it was our target to develop an attendance system that will require minimal hardware cost, setup and maintenance.

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