|| Volume 5 || Issue 3 || March 2020 || ISSN (Online) 2456-0774
INTERNATIONAL JOURNAL OF ADVANCE SCIENTIFIC RESEARCH
AND ENGINEERING TRENDS

ANDROID BASED SMART ATTENDANCE SYSTEM USING QR CODE

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Abstract: The main scope of this project is to report an automatic activity monitoring system, it can be used in a schools and colleges. This project main implement on developing an application using QR code. This process speed up the process and it saves the valuable reaching time. This is to help students and avoid the poor attendance and it takes the penalty and sitting the final examination and generate the attendance report.

Keywords:-*QR Code, ER*

I INTRODUCTION

Regular attendance system are mainly imposed in schools, colleges. Taking attendance by university instructors it's a time killing process when they are classes are big. Students are responsible, integrity etc. Student attendance gives positive report with the academic performances. Students are mainly commitment, respect, responsibility and they must be on time in classes. Students who miss the classes prepare the report well academically.

Students attendance systems are implemented in many colleges. Old method is students sign the attendance and pass the attendance sheet around the classroom. This method can cheat about their attendance. Attendance can misplaced in easy way. It prevents studies can cheat in easy way about the attendance and it calls the individual names and it can verify single student and present or not and it is such process can time consuming. This type of attendance kills time and unable to complete the syllabus on time. A new way to capture attendance system by using QR code. Smartphone play a major role in educational sector. There are so many technologies to take students attendance. A few are QR, biometrics, Face recognition etc. we focused mainly QR code implementation. Subsequently the data is recorded to database for retrieval purposes. If students is absent for below 80% a warning message will be sent to students, parents.

II RELATED WORK

There are various methods for monitoring system in a market. Most of methods can be install on the device, whether a smartphones. Their exist in various modes of training in schools or institutions.

a) Attendance system using Google Sheets: Students data which was recorded is stored in Google sheets. Analysing and verification of records is difficult because of using Google sheets.

b) Smart Attendance System: Each class is provided with an unique key. It is used to mark attendance of students. To analyse a particular student data we need to take whole data of that section, so it leads to more time taking.

A Learning Management system proposed with the real time application using the face detection which automatic detects the student's attendance.

A system which uses fingerprint method which automate the process of attendance taking.

Facial method to detects the students face and taken the attendance stored in a database.

III PROPOSED SYSTEM

It is an online process of marking attendance. It reduces time and malpractice. It increases the lecture time and keeps record of student's attendance. It is

useful in giving better results than compared to normal process.

Every student is provided with an QR code on their Id card, which was registered already in database by the management. Student should scan their ID card to mark their presence. If any student faces issue regarding scanning, they have to consult the respective department to get their issue addressed. Student with more number of absents in a month will face issues with login. Management can keep track of attendance.

IV RESEARCH APPROACH

As represented this paper mainly focus on inserting, retrieving the information and deleting the information, and it scans QR code and produce the database reports.

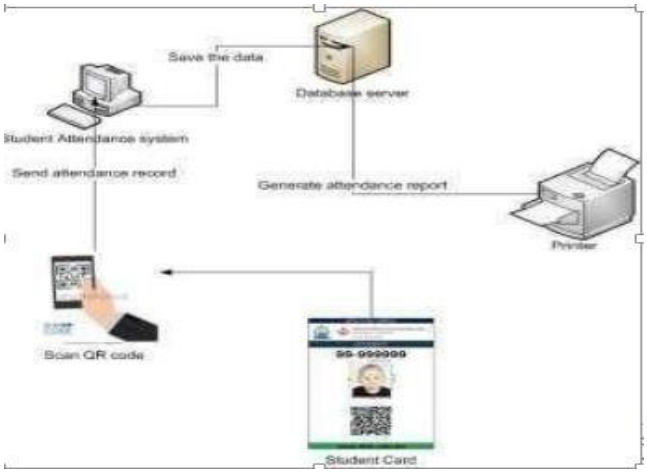

Figure 1: Architecture

A. (QR) Code

A QR code is have a thousand of characters and numbers in a small image. The QR code will be arranged in rows and columns of white and black colours and it be read by smartphone users.

B. ECC

Regarding the process of the error correction code they have some error values. Barcode which will be different from QR code and it's not provide appropriate results.

This method which is used in to correct the error connections. Error correction is easy to encode and detect the errors. More error correction and error detection performed very fast and it allows the barcode and even the damage it and it's the reason barcode symbol cannot recognize barcode symbol.

This method algorithm show the background of the QR code and by using this method background QR code will be created.

There are four mainly error correction levels used in QR code.

TABLE I

QR CODE ERROR CORRECTION LEVEL

Error Rectifying Level	Damage (%)
L1	6
L2	13
L3	21
L4	38

C. Building

Building is the method to avoid the features and it may be sometimes confuse a scan and it looks a blank areas. Building certain modules black becomes the white and white becomes white.

Figure 2: Building transformation

Anti- clockwise are upper-left pattern. 0 are represent white and 1 represent black ones in a binary code representation.

V DESIGN PROCESS

A. Flowchart

The flowchart clearly defines step by step process and how to execute the method and data will be stored in a database and it can one of the main method of the software developers. Software development technique is a very preferred technique and it is used in software developers also.

Once registration is completed we want to login the systems. After the login we want to scan the QR code. First we assure registration, that must be completed as users wants to login into the system. Once scanning process, gets executed with whole process, the database acquire storage and gets accessed. Once Scanning whole path with specific process gets tuned to be said, complete and gets stored into database.

Now the data is easy way and can be performed analysis to find the number of absents made by individual student and appropriate reports will be generated for every student in a database.

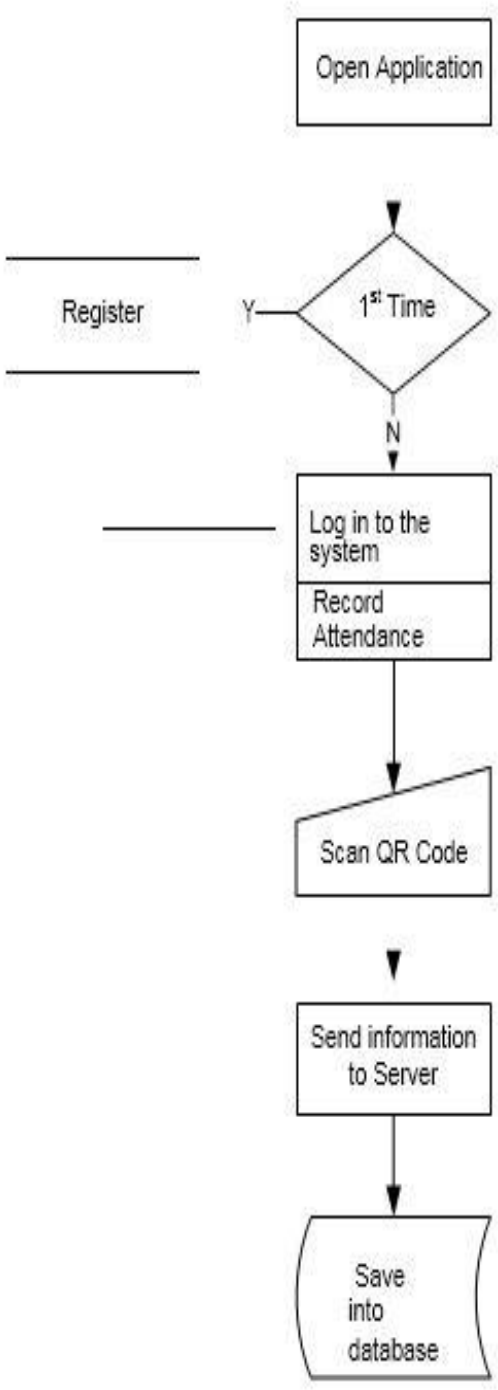

Figure 3: Flowchart

B. Entity Relationship Diagram (ERD)

The Entity relationship have various that relationships, attributes and the entities for the attendance system. The Entity Relationship System is easily to identified.

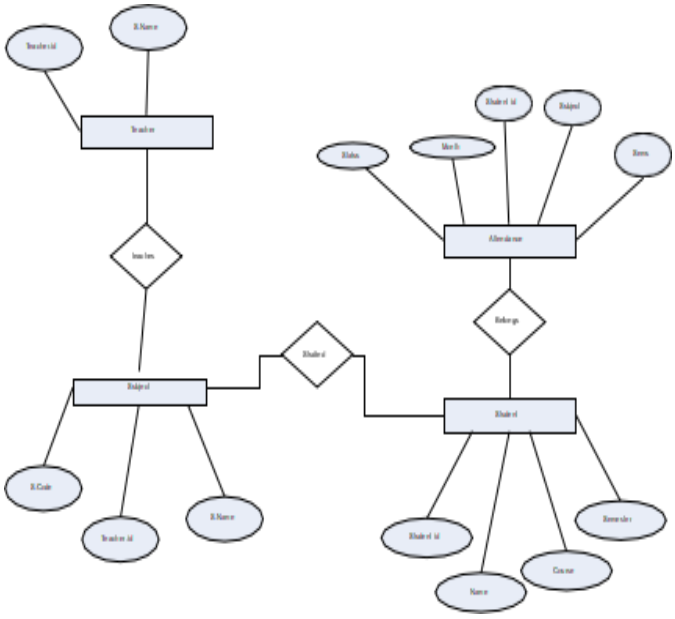

Figure 4:ER Diagram

VI SYSTEM IMPLEMENTATION

The mainly purpose of attendance system mainly require some specification of i5 processor and with Ram of 2GB. This system mainly requires I5 processor and the 2 GB RAM size and minimum capacity of 500 Gb.

The requires an some software to implement a QR code scan and operating system. And it has additional QR code scanner application.

The masking method is very easy to implement and using some operations. The masking operation is easy way to remove the various operations.

VII RESULTS AND DISCUSSIONS

The manual attendance system average execution time for five (5) students is approximately 7.83 seconds as against 3.79 seconds for the QR system. Reports generation for the attendance system takes approximately 10s. It can be seen that the QR system using QR is better and faster than the use sheets of paper.

VIII CONCLUSION

This paper has mainly focus on utilize the purpose of QR code. It protects database management system and utilizes the QR code.

The attendance system is simple to track the students attendance reports and easy way to identify those students who not have minimum attendance system and easy way to track college head to don't have those students minimum attendance in schools or colleges.

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