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Wi-Fi based Attendance System

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Abstract: ***This project presents a design and framework for taking attendance in an educational institution at the beginning or the end of every class within the classroom itself, making the troublesome process of compilation of attendance simple and efficient, so that the lecturers can concentrate on teaching and don't have to invest their time on classroom attendance collection. In this system, during every class, the respective incharge generates a Wi-Fi hotspot to which a student can connect their mobile phone with the help of an android application. Here, the teacher will generate a QR code and students are required to scan the code and enter their details so as to be marked as present during the lecture.***
Keywords: QR code, Wi-Fi hotspot, android application.

I. INTRODUCTION

In recent times, educational institutions are concerned about the irregularity of student attendance. The conventional attendance system which is taking attendance by calling names is heavily time consuming and inaccurate. This project automates the conventional attendance system in an efficient manner. In this system, during every class, the respective teacher generates a Wi-Fi hotspot to which a student must connect their mobile phone with the help of an android application. Here the teacher will generate a QR code and the students are required to scan the generated code and they need to enter their details to get their attendance marked. The android application designed will compare the data of the students with its background mobile database and finally the list of absentees in the class is displayed in the android application. This system, with a few changes can also be used for the maintenance of employees/workers attendance in an organization.

II. LITERATURE SURVEY

The Attendance Management System is used to manage student attendance in schools, colleges and institutes. It helps in managing the attendance details of a particular student in a particular class. the names of the students one by one or anything Using the application software development is view knowledge as this project progresses.

In olden days generally, the attendance is taken by using the pen and paper to sign the attendance register or timesheet, or the faculty needs to call out the student's names to get the attendance of the student to get their presence. By using the smart phone, it saves more time and consumes less energy and also helps to reduce the wastage of the paper.

In each period teacher will generate a QR code and every student has to scan the QR code with their mobile with the help of android application and after that student will enter their details like Year, Section, Roll no. in the page which will appear after the scan procedure. After entering their details this data is stored in the database and absentee list will be obtained by comparing data of the students who entered their details with the static data of total students in a class, so that faculty can take down the list of Absentees in an efficient manner.

III. PROPOSED SYSTEM

As the manual attendance system has several drawbacks, a better solution is provided in this proposed system. The system concept is made with a smart phone application, Wi-Fi router and database like XAMPP server for making the attendance for the students. First all the student details are stored in the database, using the application designed for both the faculty to generate QR code and students to mark their attendance.

This proposed system has a few conditions such as: a student's attendance will be valid if and only if their mobile phone is connected to a particular Wi-Fi signal provided by the faculty, and the QR code generated by the professor in the class expires after certain time making it difficult for the students to export the QR code out of the class, and the MAC address of each mobile phone connected the Wi-Fi is stored, hence no student can enter the details twice. So only the students that are actually present in the class will have access to both WiFi and QR code making it difficult for students outside the class to mark their attendance. Absentees list can be viewed by both the staff and the students. This system is reliable and also saves time for the staff and students for marking the attendance instead by calling else.

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IV. IMPLEMENTATION

Smart phones and Wi-Fi being a basic need nowadays, this proposed system works with the help of an application designed for android smart phones, a local server and Wi-Fi router. The application designed has 3 blocks. First block is for the professor to generate QR code, second for the students to mark their attendance, and third for both professor and students to view the absentee's list.

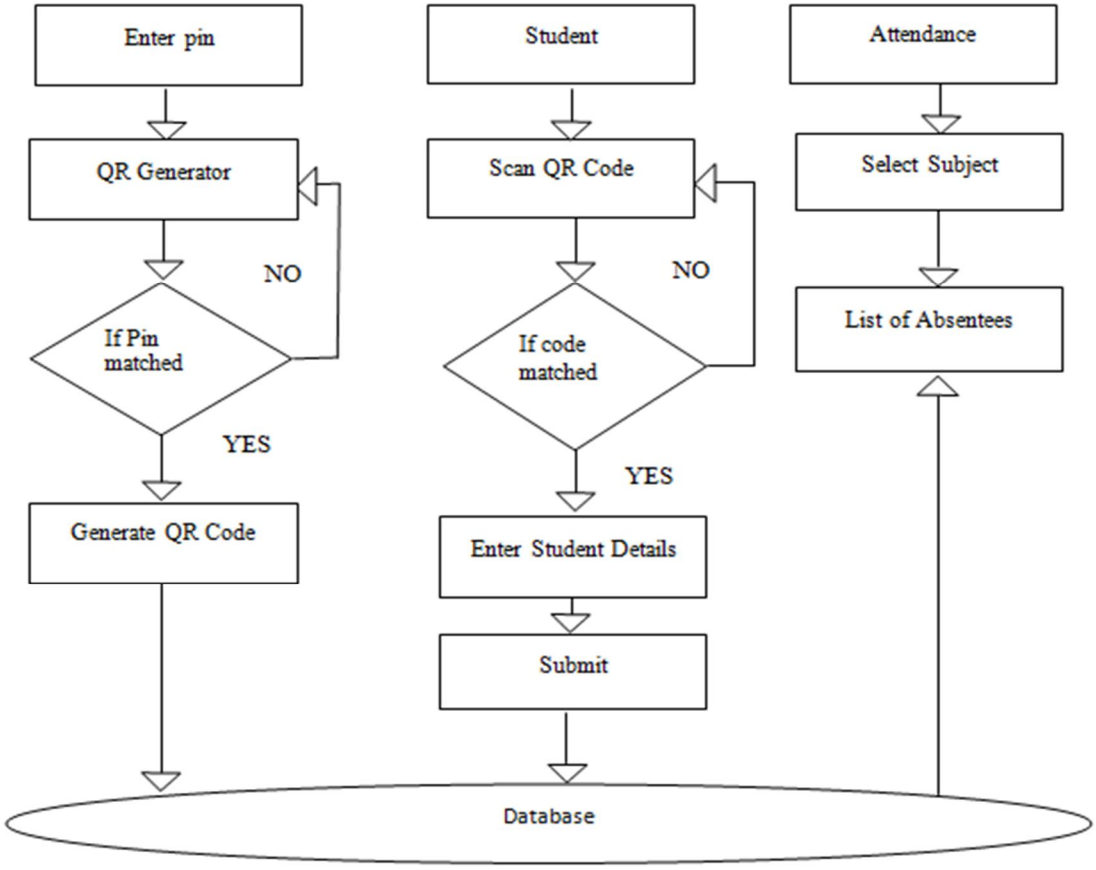


Fig.1: Flowchart of Designed Application

In the first block, the professor with his/her mobile phone connected the Wi-Fi signal generated a QR code where the generated QR code is stored in the database. To limit the access of this page to only professors, it is secured with a password which will be given to the professors so that no student will have access to this page. If the entered password is wrong, it displays an error message and asks again to enter the password. In the second block, the students with his/her mobile phone connected to the Wi-Fi signal generated will scan the QR that is displayed on the projector. The scanned QR code is now compared with QR code stored in the database when generated. If the code matches, a new page is displayed where the student will enter his details like the current class, year, section, and roll number. After entering all the details and when clicked on submit button, all the entered details will be stored to the database. Along with these details, the submitted time, date and the phone's MAC Id will be stored to the database. In the third block, which is accessible to both professors and students will have a pop up button to select the subject. When the required subject is selected the absentes data is retrieved from the database by comparing the data submitted by the students with the static data of the class already stored in the database. A Wi-Fi router is used to provide the Wi-Fi signal for the professor and students to connect their smart phones in the class room. Wi-Fi router is placed in the class room and the students connected to this router with their smart phones are only provided the attendance. This router is connected to the local server and this router sends the data to the database that is submitted by the students. The database server is developed with the help of Xampp server for storing the student static data, QR generated by the professor, and the data submitted by the student in the class. When submitting data MAC Id of the students smart phone is stored as unique key so that no student can submit details twice. The data like the student roll number, section, year, subject, date, time, and MAC Id of the student mobile are stored in the database.

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V. SOFTWARE USED

1) *Application:* Kodular software.
2) *Database:* Xampp server.

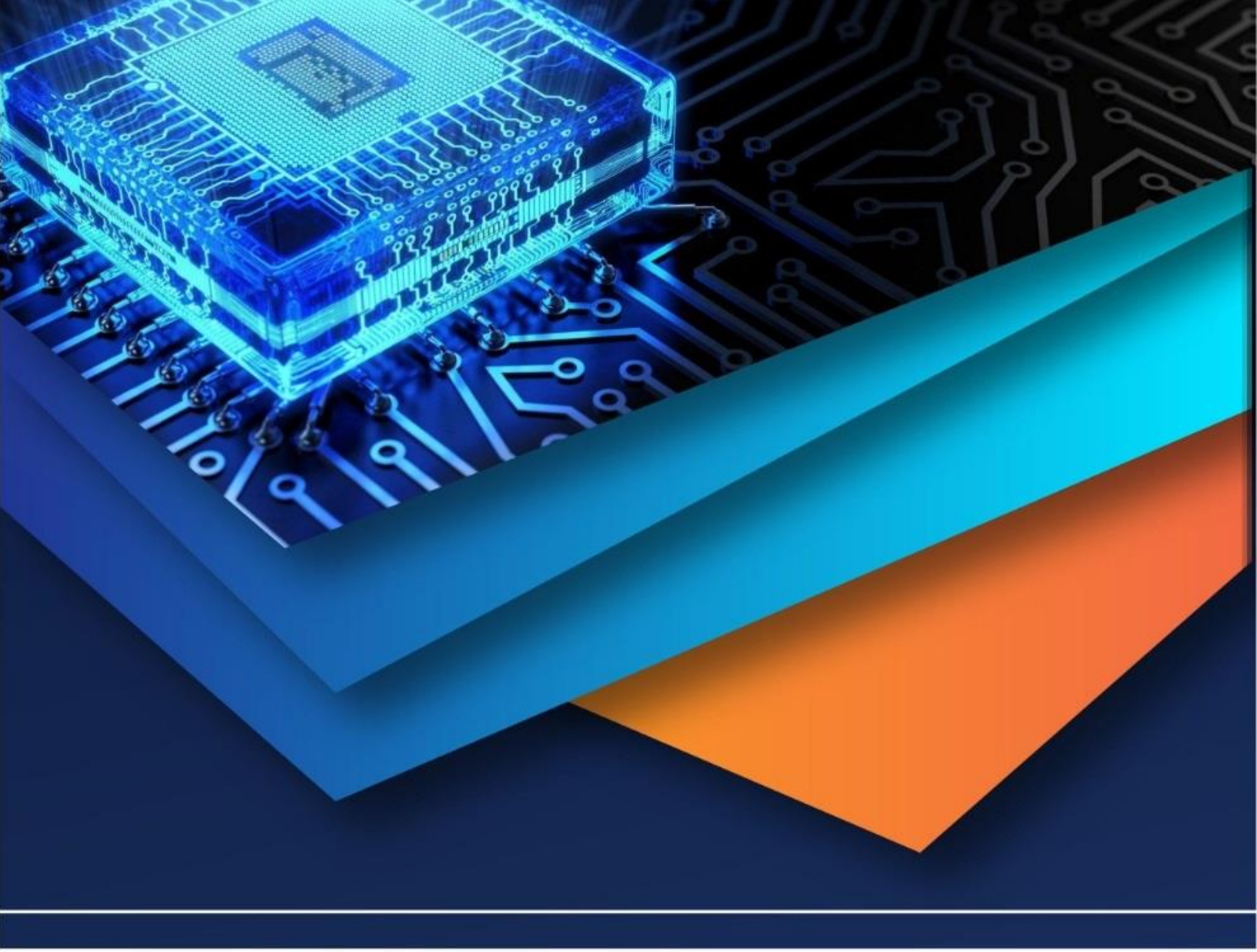
VI. CONCLUSION

This work is done with the help of Xampp server, Kodular software and Android mobile. It‘s aim is to detect Students within the classroom and mark their attendance. It displays the students roll numbers who were not present in the classroom i.e. Absentees. Thus, it automatically mark the attendance of the students within the classroom. It can also be extended for implementation in Schools, Organization with few modifications etc. In this world of Automation, This automatic attendance management system plays a major role in various fields.

VII. REFERENCES

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