# Smart Attendance System

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***Abstract***

*Mobilephones are now more better partner to users than personal computersand books. Knowing that Mobilephones are very well liked with people at the age 20 to 30 , using mobilephones to fasten up the procedure of locking the presence of student by university professor will save time of any lecture and alsomodify the teaching procedure. This paper suggest the structure that is construct on a QR code, then it will be show for studentafter or at the starting of each class. The studentthen scan the QR code to attest their presence. It also discuss how this structure verifies tutee identity to removethe wrongattendance.*

**Keywords-** *Mobile Phones, QR Code, Attendance*

## I. Introduction

It is very time absorbing to take the attendance of every student in the given period of time when faculty is suppose to teach especially when classes are big. The main person to perform this task in almost every situation is the instructor. From the complete hours that are allocate to a given class which is almost fifty hours and out of fifty hours, upto 10 hours they lost to take the attendance. Statistics shows that upto 45% of mobile phones customer have an mid age of twenty to twenty five years. So with the increase of the mobile phones in this age of students or we can say that in the university' students, this manual address and the difficulty of such a crap of time can be minimize by 85%. This model is the solution which provide a QR code for the tutee to scan it from their mobilephones application. The passcodeaccompanying the tutee's specificationgrasp by the exercise which willaccept the tutee's attendance. From this procedure, the structure will keep the time as well asendeavor that isputting by the professor at each and every lecture. This will fasten up the procedure of marking the attendance and leaves huge time of the class to be given properly. The discussed structure also take care of put a stop to markunsanctioned attendance using multi-factor validation. So it contemplate "thing that an entity realize "thing that en entity own", and "thing that an entity is" to attest the tutee's identity.

## II. Approaches/Work

There are lots of schemes for mechanized attendance structure in the market which focus on the applications that should be installed in the faculty's device where device can be a mobile phone or laptop. In this part, we will mention some of those schemes.

***Approach 1:***

The first approach is about the software that is to be run in the faculty's system. It enables it to question thetutee's system through a Bluetooth link and, by the shift of tutee'structure'sMACmarked to the professor's mobile phone then the appearance of the tutee can be confirmed.

***Approach 2:***

Using real time face spottingbonanza or algorithm combine onlive LMS which is also known as Learning Management System. It instinctively spot and listTutees presence on a class. This structureshow a additional instrument for the professors, integrated bonanzas used inML with flexibletricks used to note feature changes on a long time.

***Approach 3*:**

By using thumb imprint confirmation strategy. The machine or systems where these fingerprints confirmationis happened, it is happened by extracting the minutiae technique which is the structure that mechanized the complete procedure of taking the attendance.Seeing that statistics is anxious from quantificationof anthropoid'scorporal or detectablefeatures, so this mechanics is operate to substantiate some specification of the humans. It is flatteringvery censoriousskillfullytrack the presence of the validate user throughout a lecture.

## III. QR Code

QR code which is also known as Quick Response code is representation for a type of an array or two dimensionalbarcode .It was planned in 1994 for the automotive industry in Japan. A QR code is a type of code which allow us to interact with the world using with the help of a mobile phone. It has an array of

black and white squares. QR code can be used in storing URLs or nay other information for reading by the camera on a Mobile phone.

Fig. 1 QR Code design

There are various types of QR code which are as follows:

### *A. Micro QR code:*

This is similar to the normal QR code but in the smaller version, it is used where symbol size is limited and can hold 35 numeric characters.

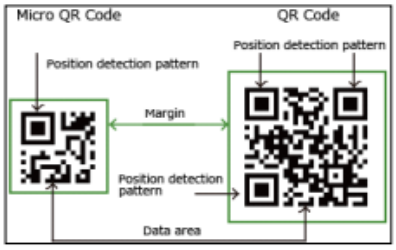



**Fig. 2** Micro QR Code

### *B. I QR Code:*

I QR is a type of QR code which is different in the shape. This is more appropriate for the situation which is applied for the different shape, e.g. cylindrical objects.

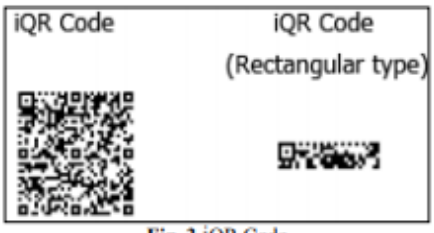



**Fig. 3** iQR Code

### *C. SQRC Code:*

SQRC is also known as Secure Quick Response Code, this type of QR code is use to stock some private data and it can be used to store the privatestatistics and to lead any institute's private data.

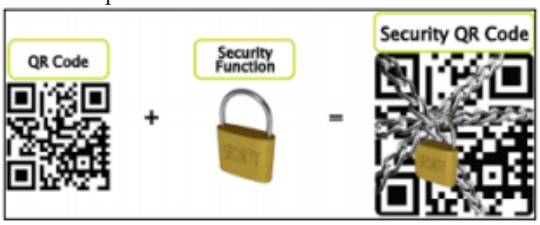



**Fig. 4** SQRC Code

## IV. Feasibility

- Economic: The proposed system takes very lesstime and it is time effective as presence of tutee is marked automatically. It is also very cost effective and eco-friendly because of no use of paperwork.

- Technical: The system is economic and it does not use any other integrated Hardware and software.

- Behavioral: The system is very user friendly.

## V. Preferred System

The main aim of this structure is to enriches the time of each lecture so that we can utilize the time of the class in a better ways and giving tutees some subject related material. Because it is recline between connected education and conventional education.

This structure needs an easy login procedures by the class's professor through theHostclass to give a rise tothekey based QR code with some particular data. This procedure can be done at any momentwhenever the professor feels to do it,in between the lecture, or at its beginning or in the end of the lecture. The professor will show the key based QR code to the tutees. Thetutees will then scan the QR code which is shown by the professor using the structure user class, this application will be available in the college app market and can be downloaded from there only. Besides the tutee's face image seize by the mobile application before scanning the code showed by the professor, the user class will then convey thesedetails amassed to the host class to confirm the attendance. This whole procedure will take few seconds for any tutee as well as class for the complete class to finishthe attendance proof.Mobile class or we can say that the user class can communicate with theirhost class by the Wi-Fi connectionin the university or through the mobile internet.

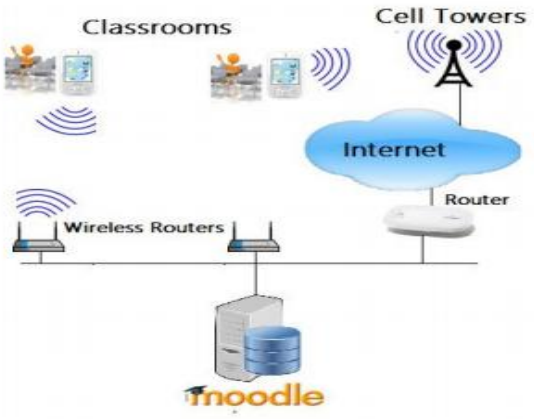
This model consist of two class

***A. Host Class***

This classwill be designed as an alliance class to LMS. When the tutees sends their details through the user class to the host class, the host class then address tutee ID, date of the class and time of the class, the attendance position, and a tinypicture of the tutee's face clicked by the phone's front camera by userclass to the LMS platform. To give a rise to the QR code, the professor will access the host class or the LMS structure to give the detailsrequired from the structure into the QR code. The main aim of server class are:

- Grant thetutee's attendance requests
- make a QR code
- check identity


snapshot




**The proposed system**

Then the professor can select to key this code turn onsome quality of shielding needed. Then this QR codecomprises of these following details:

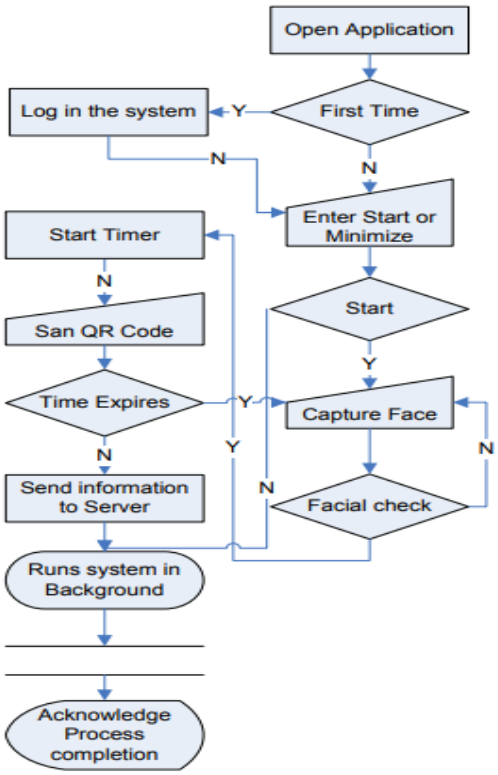
- Subject name
- Section name
- Date of the lecture
- Time of the beginning of the lecture
- Professor's name
- Some random code

**Course: 1301120**
**Section: 1**
**Instructor: Prof. Nael Hirzallah**
**Date: 1/1/2014**
**BeginTime: 10:00AM**
**Passcode: 6FgT4E**

Text extraction from QR code

***B. User class***

This User class being on the mobile side work on the tutees portal. This will be in the addition with phone's part of the LMS structure, or a solo software that will convey with the hostclass. As we already bring up that thelinks will be via Wi-Fi network provided by the university, or it could be through the tutee's internet. Once the tutee sees the QR in front of them ,then the tutee willstart the Mobile applicationon their own mobile phones. If it is the first time after rebooting their mobile phone, the structure will make a request the tutee to give a username and password. So when the tutee log in the application, the structure promote the tutee to touch the ready option . The structure will then click the picture of the face of tutee from the front camera. This photo of the tutee face will be inspected from the saved quality face conditions, such as pin pointing the nose and other features. Once the photo is taken by the front camera the structure seek the tutee to scan a QR code.The time within which the tutee has to scan the QR code will be give by professor with the help of some timer.When the QR code is scanned by the tutees, the structure sends the details to the host part of the application and complete the process inframework. With that, the procedure is reviewed as completed. Then the host class will convey back some message that the procedure is done.




Mobile module flow chart

## VI. Conclusion

This structure is prefer to maintain the attendance data. The main objectiveto develop this structure is to decrease all the downsides which were connected with the attendance marking system which is done by the professor on any register. The disadvantages variety like from decimation of quality hours and paper to thefalse registration of attendance of a tutee from a fellow tutee. Hence, the results with fool proof and adaptive alliance is anticipated in the future, from this structure of taking attendance. The effectiveness can be increase of this system by additional steps and techniques in the future developing phases of the system.

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