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A NOVEL IDEA FOR QR BASED SMART ADMIT CARDS

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Abstract

Admit card also sometimes referred to as a Hall Ticket, is an essential document for students to enter the examination hall. Every candidate is provided with a card containing a unique barcode instead of paper printed hall tickets. It will display the exam hall plan of an individual and the information in the QR code along with row and column number which defines the seating arrangement of an individual. Candidates just have to scan their cards during the examination time. The conventional method for recording understudy participation is that an educator calls understudy names individually what's more, records their nonappearance or nearness status. It generally expends much of the time and some of the time causes blunders. Accordingly, a few educators may decide not to record understudy participation, and this could influence scholastic learning and result. Albeit numerous Self Identification strategies have been investigated, the whole preparing time is like the customary one. A framework that brings down understudies participation utilizing QR code. Each understudy is furnished with a card containing an extraordinary QR code. Understudies simply need to examine their cards before webcam and the framework notes down their participation according to dates. Each QR code contains an extraordinary id for understudies. Framework at that point stores all the understudies' participation records and creates a defaulter list. It additionally creates a general report to exceed expectations sheet for the administrator. Such kind of use is exceptionally helpful in school just as in school for day by day participation.

Keywords—*Secured Admit Cards, Attendance Cards, QR code, QR ID Cards*

I. INTRODUCTION

A QUICK Response Code (QR code) is a two-dimensional barcode, consisting of black and white squares, called modules. It encodes information such as a URL or a text message. By scanning a QR Code using a mobile phone, a user can get immediate access to its content. QR codes have been widely used in numerous applications such as advertising and digital payments, as they are easy to create and scan. A QR code can encode only a single message. However, encoding two or more messages is useful in many scenarios. For example, a store may provide alternative payment methods, an app may need different download links for different operating systems, and an exhibition item may have descriptions in multiple languages. While previous work has considered combining two messages in one QR code, they target particular applications.

The former targets separate public and private messages, and requires a specialized reader for the latter. The second

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uses device characteristics (such as its operating system) to determine which alternative message to retrieve; the user is not involved in selecting which alternative message is desired. Such specific usages do not encompass all applications of QR codes needing multiple messages. Various kinds of art exhibit different effects when viewed or illuminated from different angles or distances, such as lenticular images which can change the displayed image depending on the viewing angle, hybrid images which have different interpretations depending on the viewing distance, and shadow art sculpture which cast different meaningful shadows under different lighting directions. Inspired by such work, we present a variant of QR code called two-layer QR code, in which two messages are stored and can be retrieved separately from two different viewing directions. It is a specially designed two-layer structure, with a top layer and a bottom layer. Each layer contains a matrix of modules. The bottom layer modules are black or white, while the top layer modules may be transparent, allowing the code to appear differently from different viewing directions.

The two-layer QR code can thus display two valid QR codes, encoding two different messages, by changing the view. Our method is thus more generally applicable than and could be used in almost any real-world scenarios where two messages are needed.

These might include providing alternative payment methods, giving different app download links for different operating systems, providing explanatory text in different languages, or giving multiple stories for an exhibit in a museum. Another possible use is in gaming, where two or more people sit at a table opposite each other. A two-layer QR code on the table would naturally be scanned from different directions. For e.g., to provide separate messages to a card dealer and other card players. For puzzle games, scanning from the left could show puzzle questions, and scanning from the right could give the answers. Using a single code ensures that the questions will always be correctly associated with the answers, which may not always occur if two separate QR codes are used (one may get lost, become defaced, etc.).

For speed, we have developed a two-step optimization scheme and merge and reduce operators to reduce the solution space. The optimization problem is then solved by simulated annealing in just a few seconds. We also show how to physically fabricate a two-layer QR code.

II. LITERATURE SURVEY

A. Identification Technologies

Identification means to verify that a person who claims to be is that person. Typically, he/she needs to provide some unique data. At present, there are several ways to authenticate identity as follows [2]:

Shared Secret is a way of proving users in a manner that only a user and system know the information. The information usually is in the form of username/password or answers to secret questions.

Secure Token is a portable device, such as a mobile phone or some security token. The information is sent in the form of SMS or OTP so that users can verify their identities correctly [3].QR code is a two-dimensional barcode: multiple blacklines with different thicknesses [4]. QR code allows encoding of over 4000 characters in a compact square image that can be scanned in any direction. This advantage enables developers to adopt QR code for many kinds of uses, e.g., [5] demonstrates that QR code is an empirical marker for the real-world applications which achieves the low error rate from marker retrieval. Motivated by earlier works, [6] utilized QR code as a marker for 3D furniture models of a room design application. These furniture models can be moved around on a device's screen as if they were physically moved around in the real-world. Lastly, [7] presents a

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notion of contextual QR codes that combine a QR code and individual information to protect specific context.

RFID is used to identify information automatically. When the RFID tag arrives, the signal is sent back along with the data stored in the RFID tag [8].

Biometric can be used to identify both individual physical or behavioural of a person such as fingertips, palms, iris, or face. The electrostatic sensor, temperature sensor, and light sensor can be used to get the biometric values [9].

III. IMPLEMENTATION OF QR CARD

The main aim of implementing this QR card to avoid late coming to the examinations. This process has two types of mechanisms for generating attendance. One is the security process and attendance process. Once the security process is activated. The time slot will be running in the background. Once the security and attendance finished properly within the given timeslot. Finally the attendance will be uploaded in the database.

This system is a step from traditional education systems towards online or blended learning systems to provide a systematic way of attendance.

IV. EXISTING SYSTEM

Traditionally, student attendance is taken manually by using a list of names provided by the university. The traditional and normal way of taking attendance is by using pen and paper manually which seems to be unproductive, repetitive and tedious processes.

With a manual system, there are some problems faced by the invigilator because they have to find their names and sign the attendance of students in the list of names that have been given by them. This can cause them to be overlooked due to the size of the paper that is printed quite small. Invigilators will also face the problem of error checking student attendance if no name or id is almost the same student. So as an invigilator, they should be careful when signing the attendance of students.

V. PROPOSED SYSTEM

In this system, we have introduced a new method for attendance generation by providing a time slot mechanism. From the conventional method for recording understudy participation, aside from tallying and stamping with a pen on a paper; a few teachers may utilize the accompanying techniques: A teacher gives an agenda paper to understudies for them to self-check. Be that as it may, a few understudies may cheat for their companions. A teacher gives understudies a test or a task to submit in the class. Be that as it may, this occasion probably won't be ready to be done in each exercise.

A teacher arbitrarily gets out understudies to reply in a class and checks their appearances. Notwithstanding, this can lessen just a limited quantity of time for checking participation.

VI. SOFTWARE REQUIREMENTS

Operating System: Windows 7

Front End Languages: Java/HTML/CSS

Back end programming: My SQL

Frameworks: NetBeans

(A) Register Module

This module is User Registration; all the new users have to register. Each user is given a unique password with their username. To access their account they have to give their valid username and password i.e. authentication and security is provided for their account.

(B) Login Module

The login module is the very first and the most common module in all applications. In the suggested system only registered users will be allowed to login the system the unauthorized users will be unable to login. Registered users with their username and password only being correct will move on to the next page. Or else they will be unable to login.

(C) QR Generator Module

The high resolution of the QR codes and the powerful design options make it one of the best free QR code generators on the web that can be used for commercial and print purposes.

(D) QR Reader Module

To use QR codes conveniently you must have a Smartphone equipped with a camera and a QR code reader/scanner application feature. Luckily, the newer smartphones models available today often have an app pre-installed on them.

(E) Logout Module

Logging out means to end access to a computer system or a website. *Logging out* informs the computer or website that the current user wishes to end the login session. Log out is also known as *log off*, sign off or *sign out*.

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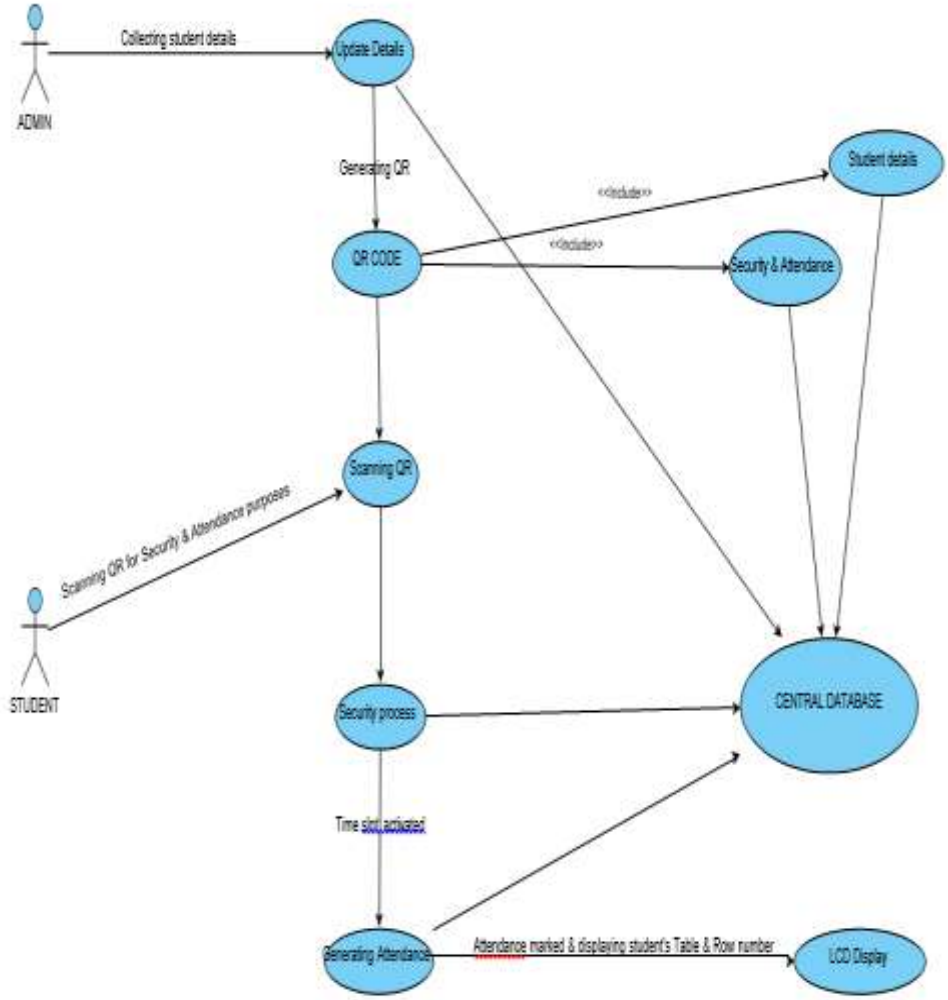

Fig 1: Proposed Use case Module

VII. SYSTEM ARCHITECTURE

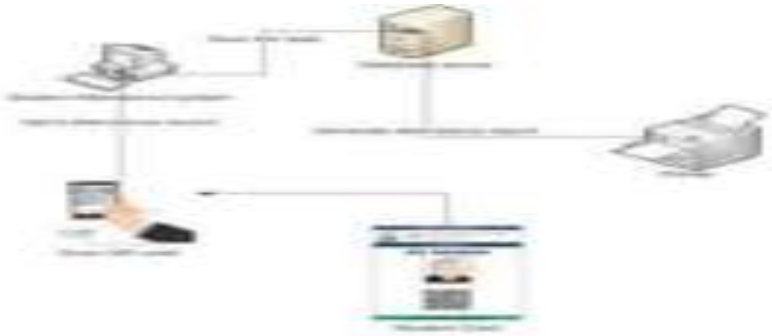

Fig 2: System Architecture of QR Attendance Processing

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VIII. TESTING RESULTS

Fig 3: Login and Attendance Status

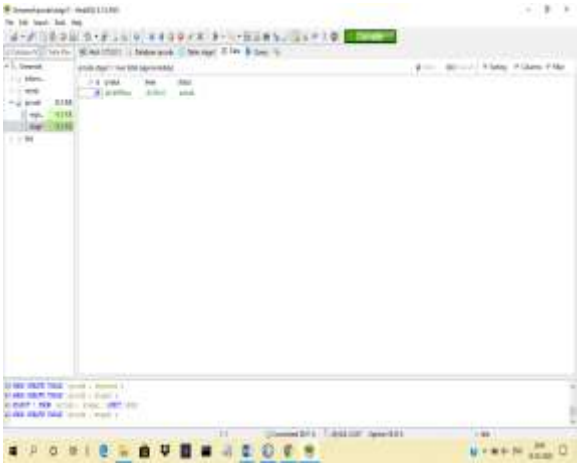

Fig 4: Processing status of QR in database view

IX. CONCLUSIONS

This has presented an attendance system that utilizes the use of QR code. The proposed system stores all data repository in a database in a secure and protected database management system (DBMS). The core of the attendance system is to provide a reliable and functional attendance tracking and reporting system which enables administrators to identify and rectify those students who do not follow the academic regulations of the college/universities. In addition, the attendance system will ultimately reduce manually and minimize paper usage. It also reduces human errors and mistakes. In this paper, versatility of QR code has been utilized in implementing functionality and providing the exam hall plan details in an efficient manner. This helps the user to know the exam details of the respective subjects in a less time and faster. We can add more details about the respective individuals in the future.

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X. FUTURE WORKS

In the future, the system will improve the UI with the feedback from test users and develop the system to be more compatible. The implementation of QR Code in business and government services to make similar processes more efficient can also be attempted in a similar way.

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