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MONITORING STAFF PRESENCE THROUGH QR CODE SCANNING

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ABSTRACT

This project proposes a system for efficiently monitoring staff presence using QR code scanning technology. Traditional attendance tracking methods often suffer from inefficiencies and inaccuracies, leading to challenges in workforce management. The proposed solution leverages the simplicity and speed of QR code scanning to enhance the accuracy and convenience of staff presence monitoring. The system involves the generation of unique QR codes for each staff member, which are displayed prominently at their respective workstations. Staff members use a dedicated mobile application equipped with a QR code scanner to register their presence by scanning the code upon arrival. The scanned data is then transmitted in real-time to a centralized database, providing instant and accurate attendance information.

Keywords: Cloud storage, Data deletion, Data transfer, Counting Bloom filter, Public verifiability

I. INTRODUCTION

It is necessary to improve the efficiency of the organization, and in light of the conditions that the world is suffering from due to Covid-19, in addition to the traditional means used by institutions at present, such as fingerprint devices and paper, which were causing congestion

when completing Regular attendance in all organizations, whether educational or at the corporate level, is attendance processes. This process takes a long time, especially when the numbers are large, and in light of the current circumstances and with the spread of Covid-19 and the need to achieve social distancing, it was necessary to have an easy solution that ensures the 2 accuracy and speed of the processes of attendance and departure of employees while maintaining their safety and saving time and effort to complete this process. It is calculating the traditional method for recording attendance and providing an efficient and secure method for tracking attendance in organizations. Both the employee and the student will get a free mobile application that they use to take attendance and leave. The main objective of the Automated Attendance System is to computerize the traditional way of recording attendance and provide an efficient and automated way to track attendance in organizations.

The project rises to avoid the role of paperwork permanently and to automate all procedures equally in all organizations, whether educational or at the corporate level, and thus: (i) Saving time and effort spent in attendance and departure processes in the country. (ii) Achieving social distancing and privacy for people

working under the current global conditions and Covid-19. The professor can very easily monitor and follow the absence, and it is more secure so that no student can be able to register his colleagues and allows the student to follow his absence at any time and easily and know the number of lectures that have been attended. Thus, providing the paper on which the absence was written, and most importantly, preventing hands touching between students to protect against Covid-19.

II. LITERATURE SURVEY

The procedure of recording attendance at any organization, including polytechnics and other institutions, is crucial to demonstrating why a particular employee is exceptional. Traditional attendance management systems, which use attendance sheets and signatures, have shown to have some associated issues, including time wastage, impersonation, and attendance sheet misplacement, making the system wasteful and unproductive. Appraising Non-academic staff in Yaba College of Technology has been a great challenge due to the aforementioned problem confronting the management to properly monitored the attendance system put in place with the traditional methods. To solve these problems, the study developed a computerized attendance system that implements face recognition and QR-code was designed and implemented using python programming language, MySQL server database, Tkinter framework was used to build the interface and Open Camera Vision (OpenCV) library. The algorithms for face detection and recognition include Haar cascade

algorithm and Local Binary Pattern Histogram (LBPH) algorithm respectively. The system is equipped with the capability to send instant email attendance reports to the management on daily, weekly or monthly basis. The result findings shows that there was 98.8% detection and recognition rates and 0.12% errors encountered for both face and QR-code. The highest read time was also measured to be 210.30ms. The result finding from our test shows the efficiency and effectiveness of the attendance system and it is therefore recommended for use in Yaba College of Technology for attendance monitoring of Non-academic staff for onward appraisal by the HOD, Dean and the college management.

A QR-based attendance system is a modern way of tracking attendance in schools, universities, and other organizations. It uses QR codes to identify students, teachers, and other staff members, making it a fast and efficient way to keep track of attendance. The system consists of two main components: the backend and the frontend. The backend is responsible for managing the database of users, classes, and attendance records. The frontend is the user interface that allows teachers and students to interact with the system. Another advantage of the system is its accuracy. Because it relies on individual scanning of unique QR codes, it eliminates the possibility of proxy attendance, where students mark each other as present even if they are absent. QR-based attendance systems are also highly customizable. Administrators can easily add new users, classes, and attendance parameters as needed. The system can also be integrated with other software tools, such as student

information systems, to provide a seamless experience for users. This system uses QR codes to mark attendance for students, employees, or any group of individuals. The system involves generating unique QR codes for each individual and scanning them using a mobile device or a webcam. The QR code contains information about the individual, including their name, ID number, and any other relevant details. The system eliminates the need for traditional attendance methods such as manual sign-in sheets, roll-calls, or swipe cards. It ensures accuracy, eliminates errors, and saves time. The attendance data is immediately available, making it easy for teachers, supervisors, or administrators to monitor attendance in real-time. The QR code-based attendance system is highly secure as each QR code is unique and can only be used once. The system ensures that only authorized individuals can mark attendance, reducing the risk of fraud or misuse. Moreover, the system is cost-effective and requires minimal infrastructure or maintenance.

The existing approach has a lot of uncertainty, which makes attendance taking incorrect and wasteful. Whenever the authority is unable to enforce the previous system's regulations, a slew of issues occur. The difficulty with this strategy is that it takes time, and the manual procedure has the potential to produce mistakes in the majority of situations. To address this issue, a QR code was used to track student attendance during lecture hour. The website will mark and check attendance without the need for human interaction by scanning individual QR codes supplied to students with a Smartphone. The scanned QR code will

take you to a page where you can fill out the student's details and save it to a database. The database is available for attendance verification and mobile viewing. Faculty members can use their smartphones to view the attendance list. It is possible to view the attendance sheet that is kept in the database. The major goal of this study is to implement a QR code-based attendance system at the Department of Computer Science and Engineering at Ambalika Institute of Management and Technology (AIMT) in Lucknow, Uttar Pradesh, India, with the goal of improving performance and accuracy.

III. SYSTEM ANALYSIS

EXISTING SYSTEM

In existing system have seen over the years that the process of manual attendance has been carried out across almost all educational institutions. The process is not only time consuming but also sometimes inefficient resulting in the false marking of attendance. Today, we need not maintain pen and paper based attendance registers.

DISADVANTAGES

- More man power.
- Time consuming.
- Consumes large volume of paper work.
- Needs manual calculations.
- No direct role for the higher officials.
- Damage of machines due to lack of attention

PROPOSED SYSTEM

Why an Automated Employee Attendance System using QR Code?

- Almost 60% of today's attendance information is still paper based.

- 30% of all office time is spent finding documents.
- The average time to manage a single document is 12 minutes, 9 minutes to re-file and 3 minutes to process.

Hence the requirement is to develop a system that minimizes all these overheads . The basis for the project is to develop a employee attendance using QR Code id cards .This helps admin to maintain attendance information.

ADVANTAGES

- Employees will be more regular as the system notes down the time along with the attendance.
- Since now no attendance sheet signature is required, so no other person can make an attendance on behalf of others as QR Code are unique for every employee.
- No need to maintain attendance sheet as the attendance are electronically stored in database.
- The system helps the admin to easily find out latecomers.
- Admin can easily get attendance history of a particular employee.
- It saves time, cost, efforts and organization resources

IV. IMPLEMENTATION MODULE DESCRIPTION

ADMIN

In this application admin is the main module, here admin can login with the specified username and password after successful login he can add employees, can view employees, can generate QRCode to each Employee for their regular attendance, view all verification requests which are sent by the user and

verify those request and view all employees attendance and logout

EMPLOYEE

Here employee is a module, if employee wants to get his/her QRCode they must be verify their mobile number by the admin, for that need to send verification request to the admin after verified by the admin employee can login into home page to get QR Code.

Employee need to take a picture of QR code and run QRCodeScan.java file manually to scan QRCode for register attendance.And also employee can view his attendance at last he/her can logout.

V. RESULTS



HOME SCREEN



VIEW EMPLOYEE DETAILS



EMPLOYEE ATTENDANCE

VI. CONCLUSION

Given current global conditions and COVID-19, introducing a new system to reduce time and effort in attendance and

leave operations in the country, as well as to achieve social distancing and privacy for working people. Furthermore, in our daily lives, the attendance and monitoring system is critical. An easy-to-use and smart system based on (Face recognition - Fingerprint - QR code) has been developed to track leave attendance processes for all students and employees, as well as integrating an Android device with databases to store attendance results, as well as attendance analysis on a weekly and monthly basis. The main goal of the Automated Attendance System is to computerize the traditional way of recording attendance and provide an efficient and secure way of recording attendance. Among other scan code technologies, the QR code-based smart attendance system is the most accurate

provenance.

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