Article title: Comprehensive Study Between Different Attendance Administration Systems

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Comprehensive Study Between Different Attendance Administration Systems

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1. Abstract

Participation method has a troublesome job in the homeroom since it includes appropriate tagging of participation for every person against their own roll call. The time and assets to be consumed for the total interaction is additionally the principle examining thought for participation marking in study halls. A ton of exploration has been done to work on the method utilizing various innovations, for example, RFID labels, standardized tag examining, biometric scanners, face recognition, and so on This paper gives the inside and out investigation of the writing for the diverse verifiably applied frameworks and dissects everyone's weaknesses to consider the high level framework's sending suitability. The examination distinguishes the biometric highlights as a norm for verification. Unique mark, face and iris acknowledgment are far predominant than different methods in presence.

2. Introduction

Paper-based attendance management is utilized to keep up participation logs in many scholastic organizations in undeveloped nations. The advantages of advance innovations have been various, developing the execution of those frameworks progressively significant. This innovative development is certainly helpful for enhancing the financial management in the schooling and industrial areas of our nation. Satisfactory participation and administration are necessary on earth today. The attendance management framework should in this way be normalized to figure the performance of the organization.

Inside the academic department, appearance observing and the administration will assist with stretching out the will to go to on schedule, increasing the improvement inside the degree of schooling. A few drawbacks have broadcasted utilizing paper-based attendance management system like additional time utilization, and when they are not present their participation may be labeled by their fellows. The attendance of people in each space, like schools, colleges, working areas, and so forth, has now become a significant part of judgment.

In many countries participation is being patent using many innovations such as RFID, biometric, barcode scanning etc. This research paper gives you a broad study and research of these different technologies for attendance marking. A comprehensive study of advantages provided by each technology and their limitations are also discussed in this paper. The paper is arranged in following sections. Section 3 discusses the literature review associated with these different technologies. Section 4 deals with the comparison of these innovations and their methods.

3. Literature review

3.1 Barcode

A barcode is a mechanism of reading computer-readable text. The attendance management systems which are dependent on barcode scanning, a barcode or machine-readable text is on the other side of the identification card of the user. The barcode is usually created using the specific details of individual; those details may include that person's roll number, year, rank, date-of-birth, etc. To scan their attendance in school, an individual should verify their barcode engraved identification card. Y. K.Saheed, have shown an attendance system based on barcode which is imprinted on the student's identification

cards. By scanning their cards in the application, the participant's participation is adjusted, that decreases attention on handwritten work and prevents wastage valuable time [1]. K. Lakshmi Sudha, introduced a participant's participation control as he came in the lecture room employing the use of a barcode scanner to assist lecturer to keep an attendance register [2].

Barcode based innovation eliminates the chance of incorrect participation. The worker time will be decreased with the help of this system. The layout of barcodes and their composition is not expensive. Barcodes are extremely adaptable and improve inventory management. Barcodes provide better information and quick accessibility of barcode information. The barcode should be horizontally increased with possible extra vertical lines and spaces to stock huge quantity of information. However, the barcode cannot be spotted correctly if tarnished.

3.2 Biometric Technology

The biometric organization framework is based on thumbprints, optical, facial recognition and so forth, which are unique for every person and are gathered in the database. When an individual sweeps his or her thumbprint on or put his or her face before the biometric machine, he or she analyze with the database to verify the person's identification. The individual's attendance will turn out to be recognized quickly if the fingerprint or face matches with any record in the database. Gupta et al., built a compact participation system utilizing the "Global System For Mobile Communication" Network with thumbprint technology to supervise and observe a student attendance in the lecture room and to provide a duplicate to the student's parent through the GSM mobile network [3]. Yadav et al., presented and implemented a fingerprint recognition system as a primary part of a simple handheld attendance marker framework [4].

Biometric frameworks give a lot of accurate credentials, minimizing the threat of undesired breaches. With this type of safety system, access is given by biological attributes. The environment and consistent using will affect the results. These systems are not always ideal and require extra equipment as well as setting them up. When undermined, the machine can't be fixed.

3.3 QR CODE TECHNOLOGY

A QR code acts basically similar to a barcode scanning technology available in market. It's a readable machine picture that you will explore with a Smartphone camera right away. Each QR code contains some dark squares and dots which carry some information items. Jacob et al., Using the NFC handheld attendance system [5], constructed participation administration system for university students. Nath & Mukhopadhyay recommended an electronic attendance system that is mobile-enabled [6].

QR code is perfectly useful for clients and industry. You should use a camera of the phone in addition to a proper reader kit to examine the QR code document. Not every person has a smart phone, an inadequate familiarity and knowledge in between individuals and QR code. The QR code could or could not be debased. Possible-planted bugs, pages that are not good for use by cell phones, application exploitation

3.4 Bluetooth technology

Bluetooth is utilized to associate a gadget with your cell phone, smart phone or PC by utilizing radio waves rather lining wire or cords. In numerous items which uses normal wireless Bluetooth just as

earphones, tablets, PCs and wireless speakers could be a developing remote designing result. The Group Action Program is used to follow this framework. Vishal Bhalla et al. Presented a wireless-based participation framework that utilizes the cell phone of the teacher to help. It's paperless, fast, and it can verify student attendance [7]. Riya Lodhaa et al., proposed a framework that uses microprocessor innovation and radio pace to establish a safe system that can be utilized to identify, follow and oversee inventories of museum pieces. The advantages of the machine are low power utilization and high information transmission rates [8]. It is conveniently enhanced with less energy consumption.

TABLE 1

COMPARISON IN BETWEEN DIFFERENT ATTENDANCE ADMINISTRATION FRAMEWORKS

Ref. no.	Technology	information	Applications
1	Barcode	An entire administration framework utilizing the bar code information of every student.	Educational institution
2	Barcode	Substituting for lab access register utilizing barcode tag	Educational institution
3	Biometric-GSM	Convenient participation framework utilizing a thumbprint and GSM organization to observe and record student's participation in the lecture room and to send a report to the parents by means of a GSM portable network	Educational institution
4	Biometric	Biometric participation administration, checking and following by thumbprinting innovation to diminish the danger of bogus participation recording	Educational institution
5	Android-based	An application based attendance logger using NFC medium of communication	Educational institution
6	Android-based	Mobile enabled online attendance system	Educational institution
7	Bluetooth	Technique for observing participation utilizing teacher's cell phone. It is paperless, fast, and the student's attendance can be affirmed	Educational institution
8	Bluetooth	Uses micro-processor advancement and radio pacing to make a protected framework which can be utilized for credentials, checking and for improvement of object inventories	Educational institution

4. Discussions

Numerous biometric verification ideas can be presented in cell phones with the increase of mobile communications and cell phones. In any case, as far as equipment limitation, computing energy, there are a few flaws in the cell phone. Nevertheless, cell phones are supposed to be harmed because of the availability of mobile phone correspondence signals, so the dependability of the biometric verification technique ought to be strongly considered. We can see that the comprehensive representation of static verification frameworks, particularly thumbprint verification frameworks, is moderately high. Across our

day by day lives, thumbprint confirmation and authentication ideas have been established everywhere. The biometric verification frameworks present serious dangers for security and protection dangers. As biometric verification dependent on a powerful capacity can accomplish high functionality and safety, it has energizing potential since such frameworks can conveniently be utilized by clients. There is as yet a need to improve the achievement of bio authentication frameworks. The efficiency of different sorts of frameworks (for example biometric voiceprint and facial recognition) can be expanded, aside from the broadly executed fingerprint verification technique. Our research recommends or assesses the biometric frameworks as having more efficiency in contrary to conventional techniques for verification.

5. Conclusion

This study shows the utilization of various barcode-based innovations, identification revolves on “Radio Frequency Identification” and finger print scanning or face recognition, which shows a tiny advantage and does not have a lot of restrictions/disadvantages. Numerous ongoing writing ideas recommended a program compelling extra apparatus to accomplish the ideal outcome. Moreover, the framework doesn't give a proficient working model that don't need any additional equipment. Hence, it requires a competent framework that not only lessens the representation time, yet in addition saves paper and furthermore makes it extra competent.

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