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QR- Based Advance Attendance System

Prof. Gaykar.R.H, Thange Aditi Bhanudas, Sathe Gayatri Machindra, Wadhavane Pragati Babaji

Department of Computer Engineering, Samarth Polytechnic, Belhe, India

ABSTRACT: Academic achievement in higher education institutions is directly impacted by students' involvement in the classroom. The majority of student attendance registration is still completed the old-fashioned way, which is laborious and time-consuming, particularly for classes with a large student body. Historically, most institutions have managed attendance control by hand. In order to address the manual attendance problems, this study aims to promote the possible use of the Quick Response (QR) code as a future attendance management system to track and record student attendance in lectures and exercises for all relevant courses. To do this, we suggested and put into place a sophisticated attendance system.

KEYWORDS: QR Code, attendance, system, professor, student.

I. INTRODUCTION

These days, it's critical to finish jobs fast, learn new abilities, and provide superior outcomes as soon as possible. In order to properly control and manage the development of learning or work, every sector—especially the business world and the educational process—needs management systems. After considering all of these advantages, we came to the conclusion that an online system to monitor student attendance is essential for the university education process in particular. One of the most essential and fundamental needs in the educational system is regular attendance.

Therefore, the student may lose the opportunity to take a test if the attendance criterion is not met. Additionally, students run the risk of not being able to take the final exams if they take more absences than allowed. Because of this, the current manual method has more potential for calculating errors. We proposed and developed an improved web-based solution to these issues. It is easily used by users of various computer systems, tablets, and mobile devices. The recommended method provides data security, enables fast and simple access to attendance information for the class as a whole or for individual students, and automatically creates reports for the instructor.

The internet-based attendance system aims to computerize the traditional technique of recording attendance and provide a more straightforward and sophisticated way to track institutions' attendance today. Each professor and student will receive a unique code known as a QR code. In order to confirm their attendance, users (teachers and students) must use QR reading devices in the classroom at the beginning of each course to scan the unique QR code that was given to them during or at the beginning of each lecture. In light of this, the lecture and student attendance records, along with other crucial data, will be documented. The strategy will significantly increase student attendance in required courses while saving a ton of time.

II. PROJECT OBJECTIVE:

- To show an examination of the various technologies utilized in the attendance system.
- To create automated systems for tracking attendance.
- This approach can be used to improve management attendance results.
- The administration will have less work to complete and save time thanks to this technology.
- This system is flexible, reasonably priced, easy to use, and able to integrate with the future growth of an educational institution.

III. MOTIVATION

The majority of student attendance is still recorded using the antiquated system, which is challenging and time-consuming, particularly for classes with a sizable student body.

IV. PROBLEM STATEMENT

The software known as the Attendance Management System was created to track students' everyday attendance at educational institutions. It allows access to a specific student's attendance data in a certain class. This system will also help in evaluating attendance eligibility criteria of a student. By just a click on the mouse the system will be able to produce the students attendance report thus reducing the need for manual labour which is prone to human errors and time consuming.

V. REVIEW OF LITERATURE

Muhammad AyatHidayat, MarisiSimalango, Holong: In this paper, we need a student attendance tracking system that can efficiently collect data quickly. This student attendance system is achieved by data collection, analysis, design, and implementation. This system was built using the programming languages PHP and Android. This project's objective is to create student-facing IBEACON-based applications for class notification and attendance tracking.

Dr.Nkolika O. Nwazor and Mumuni M. Olusolape: This work designs a cloud-based attendance management and information system using the University of Port Harcourt's Centre for Information and Telecommunication Engineering as a case study. Staff and student attendance data can be gathered through the use of a radio frequency identification tag reader and tag. Once the data from the tags was processed, it was saved via a cloud-based information system application.

FawazAlassery: In this work, we introduce a WSN-based time attendance system that incorporates sensor nodes into advanced chairs. We create a smart classroom with twenty 50 kg load sensors and five HX711 amplifiers.

In this study, NandgopalDevnath and Nitin Pasi discuss a successfully built and tested system. The student's attendance data will be analyzed and exported. The attendance monitoring system is essential to our day-to-day existence. The QR Code Based Smart Attendance System is the most precise code scanning technology on the market, which is an incredible benefit.

VasutanTunbunheng Because the DroidScript software in this paper uses Google's speech recognition service to gather attendance, it requires an internet connection. In order to send data later when you connect to the internet, it may be better to register data when you're not connected. The gathering of student grades for exams administered on paper could be included to this project. Having the pupils read their own codes and record their own sounds to confirm their identity is another way to extend this practice.

Dongmei Feng, Peng Wang, and Lei Zu: This system creates a fingerprint instrument, upper computer, and lower computer-based class attendance system while meeting the demands of college instructors. Students can complete permanent fingerprint attendance after their fingerprints are recorded.

Jaehoon (Paul) Jeong, Minho Kim, Yeonghyeon Lee, and Patrick Lingga: This paper proposes an Automatic Attendance System (IAAS) based on the Internet of Things. Our goal is to provide more reliable and superior facial recognition technology for automated attendance verification. In order to do this, a better system structure is constructed utilizing suitable face recognition technologies, and training data and the Haar-cascade method are used to extract user face data.

Frans Richard Kodong and Jack FebrianRusdiThis system, which can be used as the main system or as a support system for an existing system, is based on facial recognition for recording education systems for institutions.

VI. PROPOSED SYSTEM

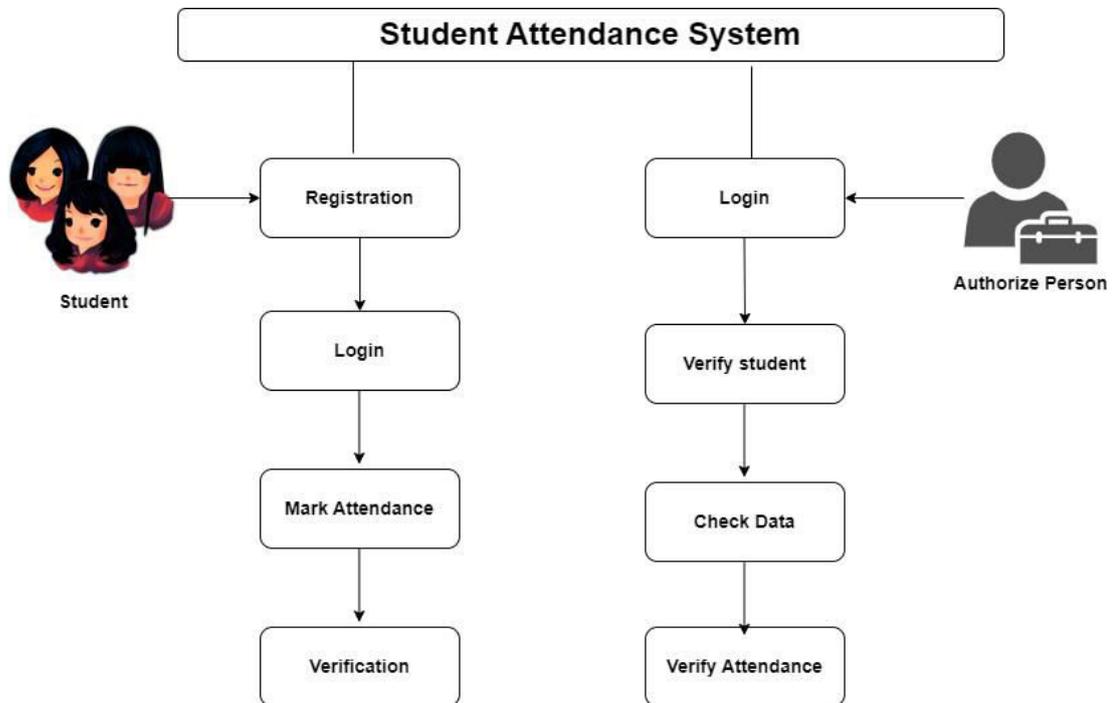
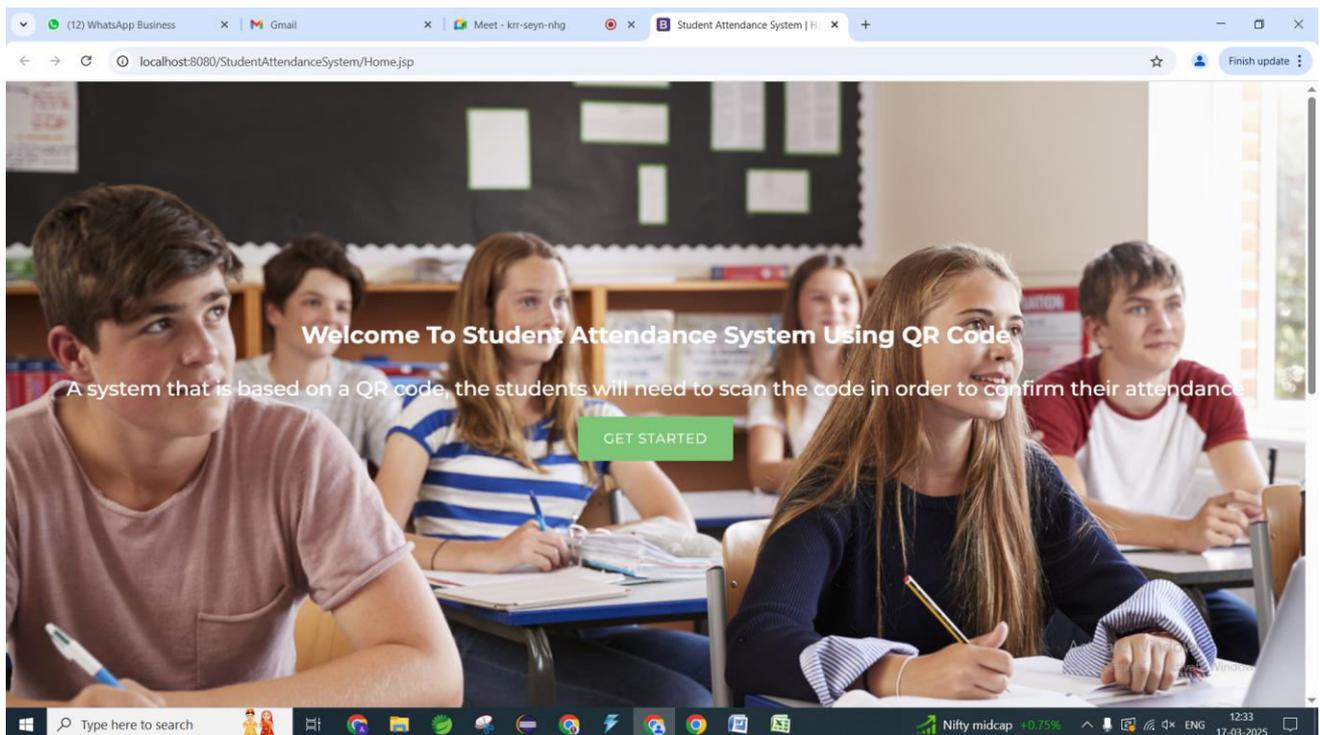
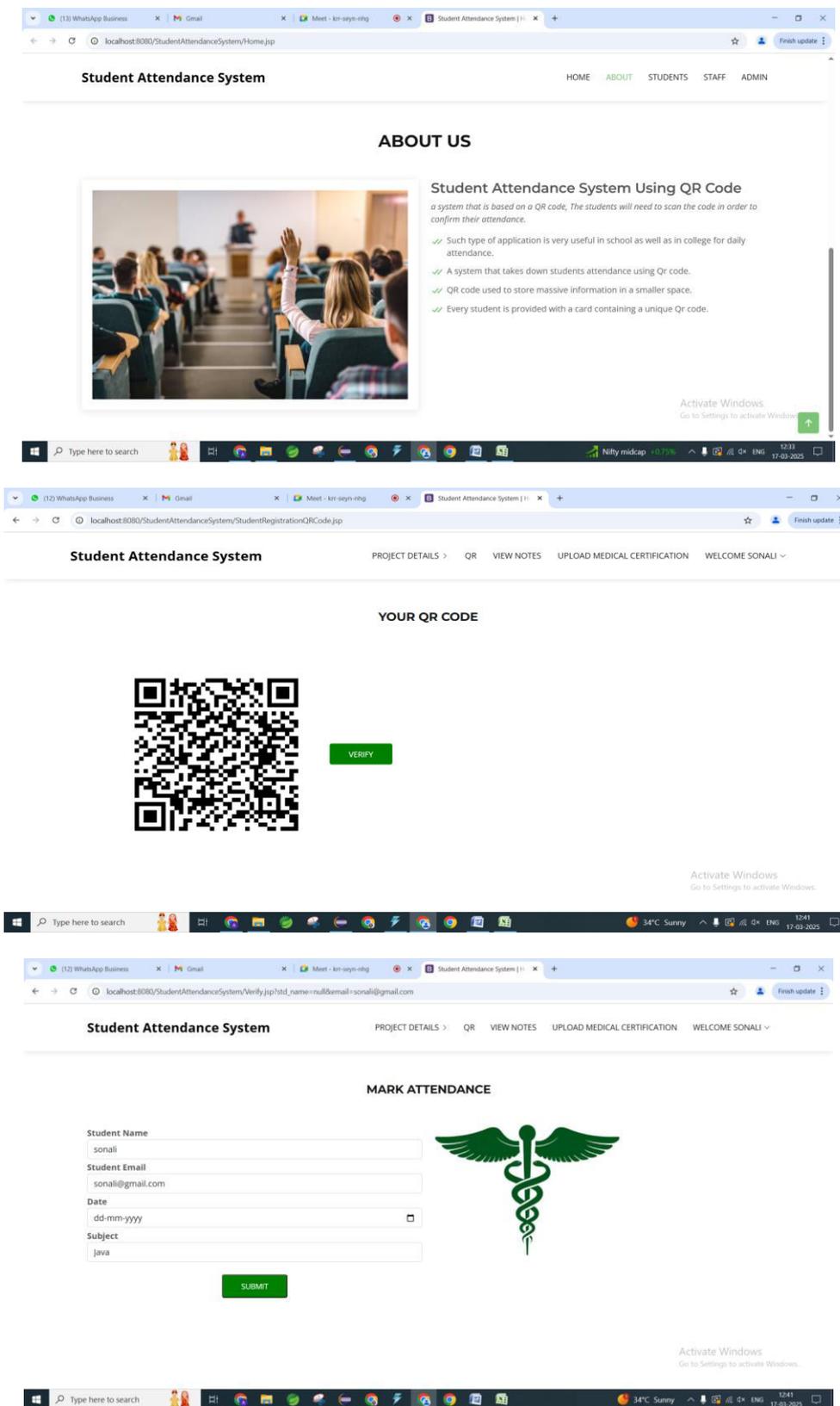


Figure 1. System Architecture

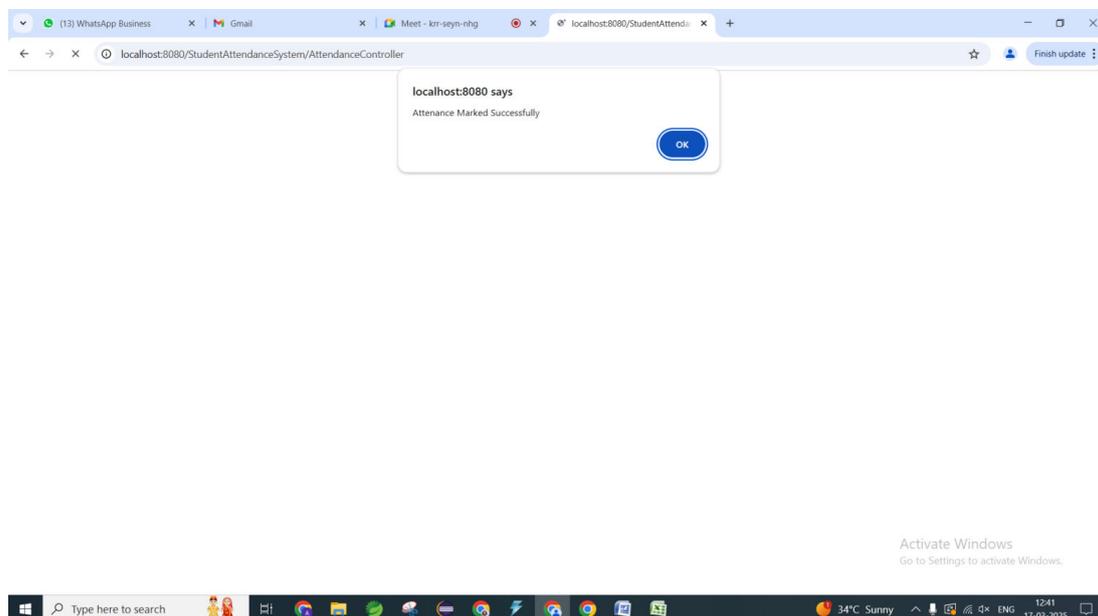
VII. RESULTS AND DISSCUSSION





The screenshot displays three sequential pages of the Student Attendance System web application:

- Page 1: Student Attendance System - ABOUT US**
 - Header: Student Attendance System | HOME | ABOUT | STUDENTS | STAFF | ADMIN
 - Section: ABOUT US
 - Image: A classroom with students raising their hands.
 - Text: **Student Attendance System Using QR Code**
a system that is based on a QR code. The students will need to scan the code in order to confirm their attendance.
 - List of features:
 - Such type of application is very useful in school as well as in college for daily attendance.
 - A system that takes down students attendance using Qr code.
 - QR code used to store massive information in a smaller space.
 - Every student is provided with a card containing a unique Qr code.
- Page 2: Student Attendance System - YOUR QR CODE**
 - Header: Student Attendance System | PROJECT DETAILS > | QR | VIEW NOTES | UPLOAD MEDICAL CERTIFICATION | WELCOME SONALI >
 - Section: YOUR QR CODE
 - Image: A large QR code for scanning.
 - Button: A green button labeled "VERIFY".
- Page 3: Student Attendance System - MARK ATTENDANCE**
 - Header: Student Attendance System | PROJECT DETAILS > | QR | VIEW NOTES | UPLOAD MEDICAL CERTIFICATION | WELCOME SONALI >
 - Section: MARK ATTENDANCE
 - Form fields:
 - Student Name: sonali
 - Student Email: sonali@gmail.com
 - Date: dd-mm-yyyy
 - Subject: java
 - Image: A green caduceus symbol.
 - Button: A green button labeled "SUBMIT".



VIII.CONCLUSION

These days, being up to date with technology is crucial, particularly in the field of education. Educational institutions are utilizing the newest technologies to enhance the learning process. Given the trend toward digitization, we think this approach is essentially necessary for the university. This essay has covered a possible system that makes use of internet-connected devices and QR codes to track student attendance. This study shows how smart devices' versatile and popular QR code capacity may be utilized to effectively record attendance in place of the earlier, traditional method of calling name lists in class.

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