Automated Attendance Management System

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Abstract: *In the last few years due to improvement of technology education system in India has developed. Smart Class, video conferencing is some of the examples of modern trends in educational system. Automated Attendance Management System is a web-based application which helps the institute to move forward, fulfill their vision accomplish their goals. In this research, we purposed a secure system that provides information about the attendance of students. In this framework when the card brought close to the RFID module, it reads the card data and its contrasts and the information in the program memory and showcases the corresponding name to that card. The attendance is saved in a text file on the SD card then it converted to an excel sheet on the computer. This research work successfully designed and implemented an Automatic Attendance System that automatically takes attendance and calculates thepercentages via scanning the Unique Identifier (UID) of a tag which represents each student. The designed system proved to be effective such that it processes information gathered from the tags within an average.*

Keywords: *Web Application, Attendance, MySQL, RFID (Radio frequency identification), Unique Identifier (UID).*

I. INTRODUCTION

IT has revolutionized colorful aspects of academic institutions, including Student monitoring andoperation systems. Tracking and managing Student attendance is pivotal for icing promptitude, perfectinglearning effectiveness, enhancing academic performance, and eventually elevating the quality ofeducation. Traditional styles similar as calling out names or collecting autographs are time- consumingand hamstrung. To address this, an automated attendance operation system exercising informationtechnology is necessary to streamline executive processes and reduce costs. In the digital period, arisingtechnologies like face recognition, fingerprints, voice recognition, irises, barcodes, and RFID have theeventuality to transfigure colorful aspects of people's everyday lives. RFID, in particular, is an automatic identification technology that enables data reclamation and storehouse on RFID markers without physical contact. It consists of RFID markers, RFID compendiums, middleware, and a backend database.

II. LITERATURE SURVEY

Chitresh, S and Amit K (2010): In an automatic attendance system, a proposed fingerprint verification technique utilizes the extraction of abnormal points on the ridge of a user's fingerprint or the minutiae technique. This technique verifies the authenticity of an authorized user by comparing the captured fingerprint templates with the stored templates in the database. The system signals either true or falsebased on the logical result of the one-to-one verification of the person's authenticity.

Nambiar A.N. (2009): The author reviewed the current research applications of RFID in various areas, witha focus on its application in supply chain management. They also developed a taxonomic framework toclassify literature, enabling swift and easy content analysis to identify areas for future research.

III. SYSTEM ARCHITECTURE
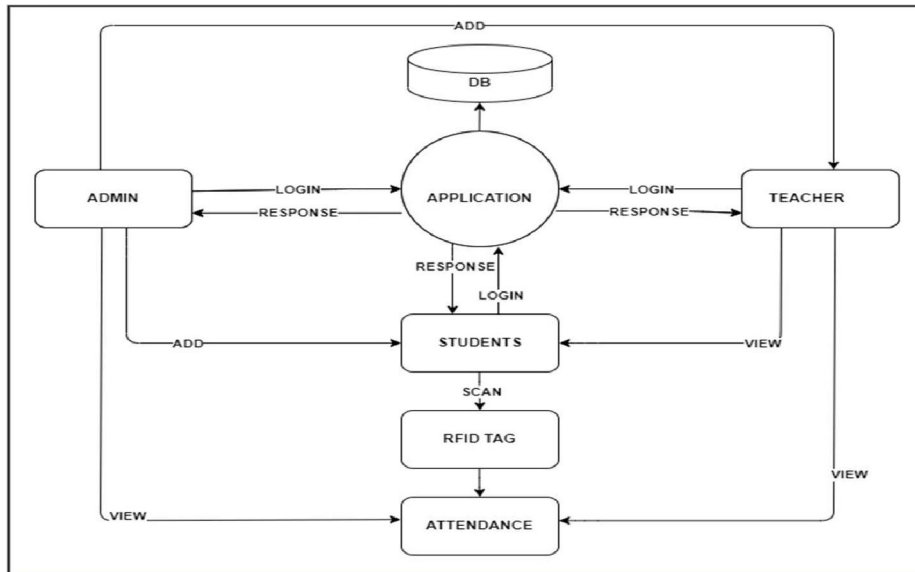
IV. WORKING

The project utilizes Radio Frequency Identification (RFID) technology and student cards to record attendance. The main objective is to track students' attendance by having them swipe their authorized RFID tags over a reader. Manual roll calls in classrooms are time-consuming, and using paper for attendance records presents various challenges, including potential cheating. Our proposed system addresses these issues by providing an automatic attendance solution using RFID technology. The project functions by retrieving the code from the student's RFID card and comparing it with the database stored in MySQL. To enhance accessibility, we have developed a Graphical User Interface (GUI) using CSS and HTML.

This simplifies the database access and enables lecturers to take attendance more easily and automatically. In conclusion, RFID technology proves to be highly beneficial for student attendance applications. The integrated circuit within the RFID tag stores and processes information, modulating and demodulating radio frequency signals for transmission. The stored data on the card serves as the identification and attendance record of the person. When a student places their card in front of the RFID reader, the system reads and verifies the data, saving a significant amount of time by directly storing all attendance records in the database.

V. RESULTS
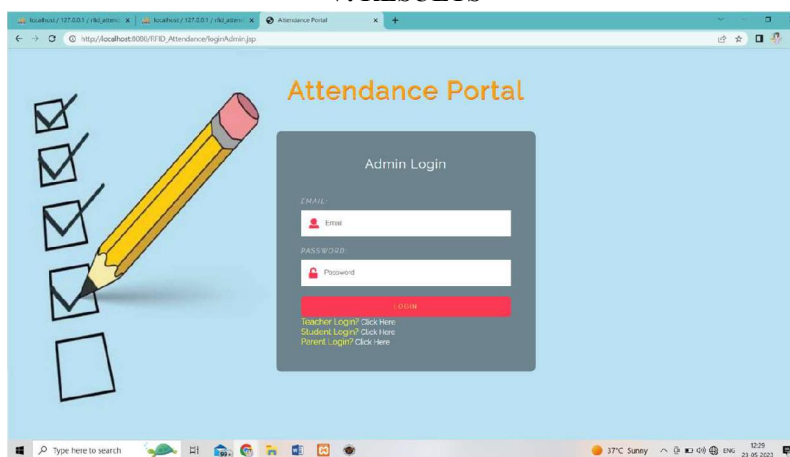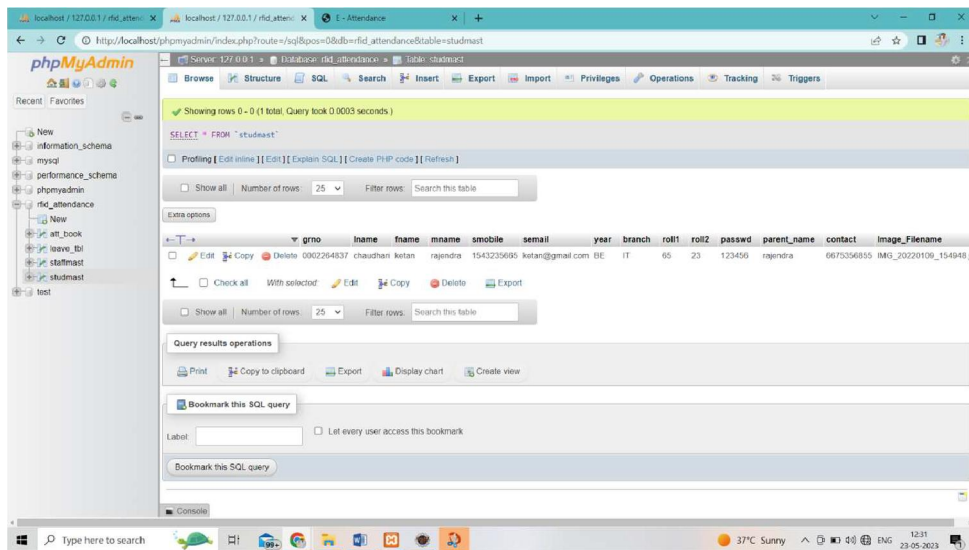
VI. CONCLUSION

The implementation of a web-based Automatic Attendance System has the potential to revolutionize thetraditional attendance procedures in educational institutions. The RFID-based automatic attendancesystem offers a more convenient and efficient method of marking attendance compared to traditionalsystems. Its user-friendly interface allows for easy data manipulation and retrieval, making it adaptablefor implementation in various educational settings. The RFID technology used in the attendance systemprovides enhanced security and faster response times compared to other systems such as biometrics.Thecontactless nature of RFID tags and their ability to function in various environmental conditions makethem highly reliable. This system offers an effective and convenient solution for recording attendance,surpassing the limitations of manual systems.

During testing, the RFID-based attendance systemdemonstrated accuracy and reliability, with a lower probability of being manipulated compared to manualsystems. Additionally, the system calculates the total percentage of attendance, which is essential forgrading students accurately. As RFID technology continues to evolve, more advanced applications can bedeveloped, leveraging its capabilities for data storage and transmission. By implementing this RFIDbasedattendance system, educational institutions can transform the process of monitoring studentattendance in classrooms, providing a more accurate and streamlined approach. This system has thepotential to improve overall efficiency and reduce the burden associated with manual attendance tracking.

VII. ACKNOWLEDGEMENT

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