A Mini Project Synopsis on

E – Attendance Records

S.E. - D.S Engineering

Submitted By

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Academic Year : 2023-24

CERTIFICATE

This to certify that the Mini Project report on E – Attendance Records has been submitted by **Ansh Rathod (22107022)**, **Arju Salmani (22107003), Chirag Rajiwale (22107057),** who are a Bonafide students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **CSE(DATA SCIENCE)**, during the academic year **2023-2024** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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CHAPTER 1

Introduction

"E – Attendance Records" is a system developed for maintaining the attendance of the student on the daily basis in an organization & educational institutions. Here the faculty, who are handling the subjects, will be responsible to record the attendance of the students. Each faculty will be given with a separate username and password based on the subject they handle. An accurate report based on the student attendance is generated here. This system will also help in evaluating attendance eligibility criteria of a student. Report of the student's attendance will be generated on monthly basis.

Attendance is among the most significant aspects of operations in educational institutions. An effective attendance system benefits the institute and the student's progress. Before the widespread use of attendance trackers, manual attendance taking was not the only popular practice. Data management solutions like Microsoft Access were once fairly popular as a digital version of the manual system roll call approach. Many of the duties were simplified, including finding a name, calculating the days the participant attended, and more.

1.1 Purpose

The purpose of an E Attendance System is to revolutionize the traditional methods of attendance tracking by leveraging electronic means and technology. Here are some key purposes:

Efficiency: E Attendance Systems is the process of keeping the record of student attendance, eliminating the need for manual entry. This efficiency is particularly valuable in large organizations or institutions where managing attendance manually can be time consuming.

Accuracy: Electronic systems reduce the likelihood of errors associated with manual attendance tracking. Timestamps and digital records ensure precision, providing a reliable and accurate representation of attendance data.

Real-time Monitoring: Unlike manual systems that may take time to compile and update, E Attendance system provide real-time monitoring. This means that administrators can access up-to-the-minute attendance information, enabling quick decision-making.

Security and Accountability: Digital records are often more secure than manual ones. E Attendance System can implement security measures such as user authentication and access controls to ensure the integrity and confidentiality of attendance data. This also enhances accountability, as each entry is associated with a specific user.

1.2 Objectives

In brief, the objectives of an e – attendance records are to:

1. **Enhance accuracy :** Ensure the accuracy of attendance records through the use of digital systems, reducing the possibility of errors associated with manual data entry.

2. **Efficiency :** Increase the efficiency of attendance system by eliminating the manual method, reducing administrative workload, and streamlining the entire attendance tracking process.

3. **Real-time data :** Enable real-time data of attendance to provide immediate insights into attendance patterns, allowing for timely adjustments.

4. **Monitor student attendance :** It is a process of keeping track of whether students are present or absent during their classes or educational programs. This practice is common in various educational institutions, from primary schools to universities.

1.3 Scope

The scope for electronic attendance, often referred to as e-attendance, is significant in various sectors and contexts, particularly in education and business. E-attendance systems leverage digital technologies to automate and improve the process of tracking and recording attendance. Here are some of the key areas where e-attendance has a considerable scope:

1. **Education Sector:** In educational institutions such as schools, colleges, and universities, attendance systems help track student attendance in classes and other events. This data can be used to monitor students' regularity, identify attendance patterns, and calculate participation grades.

2. **Corporate Sector:** In the corporate world, attendance systems help companies track employee attendance, which is crucial for payroll management and ensuring a productive workforce. These systems can integrate with time and attendance software to automate timekeeping processes, calculate work hours, and manage leave requests. Attendance systems can also be linked to access control systems to regulate entry and exit points, enhancing security by allowing access only to authorized personnel.

3. **Government and Semi-Government Institutions:** Government offices and semi-government institutions can use attendance systems to monitor the attendance of civil servants, ensuring that public services are consistently available and transparent.

CHAPTER 2

Problem Definition

The problem definition for an e-attendance system outlines the challenges and issues that the system aims to address. It typically highlights the reasons for implementing such a system and sets the stage for developing a solution. Here's a problem definition for an e-attendance system.

An attendance system can offer many benefits, such as increased accuracy and efficiency in recording the attendance. Here are some problems associated with eattendance records:

1.**Data Accuracy:** Ensuring that attendance records are accurate can be challenging. Human errors, such as marking the wrong person as present or absent, can occur in manual systems. Electronic systems may face accuracy issues due to technical glitches or unauthorized access.

2.**Time Consuming:** Manual attendance record-keeping can be time-consuming, especially in large organizations or classrooms. It requires the allocation of staff to manage and record attendance.

3. **Data Loss:** Paper-based records can be easily lost or damaged. Electronic records may also be at risk of data loss due to technical failures or cyberattacks if not properly backed up.

4.**Attendance Manipulation:** In manual systems, individuals may attempt to manipulate records by marking others as present when they are absent. Electronic systems can also face manipulation through unauthorized access or sharing of login credentials.

5. **Absence of Redundancy:** If attendance records are not backed up or stored in multiple locations, a system failure or data loss can result in irretrievable records.

6. **Storage and Retrieval:** Managing and retrieving large volumes of attendance records can be problematic, particularly in paper-based systems.

CHAPTER 3

Proposed System

This project aims to reduce the manual work and saving time to generate accurate results from the student's attendance. The system provides with the best user interface. The efficient reports can be generated by using this proposed system.

3.1) **Features**

-User Registration and Authentication.

- Different levels of access and permission for admin, teachers & students.

- Faculty can see the report of student attendance.

- Faculty will mark and update the attendance of student.

3.2) **Functionality**

Unlike automated systems, e-attendance systems require faculty to physically mark their attendance by entering data through a user interface. Faculty must log in or authenticate themselves using their registered credentials and select an option to mark student attendance manually.

Faculty input their attendance data in real-time, which is immediately recorded in the system's database. This information is accessible by students.

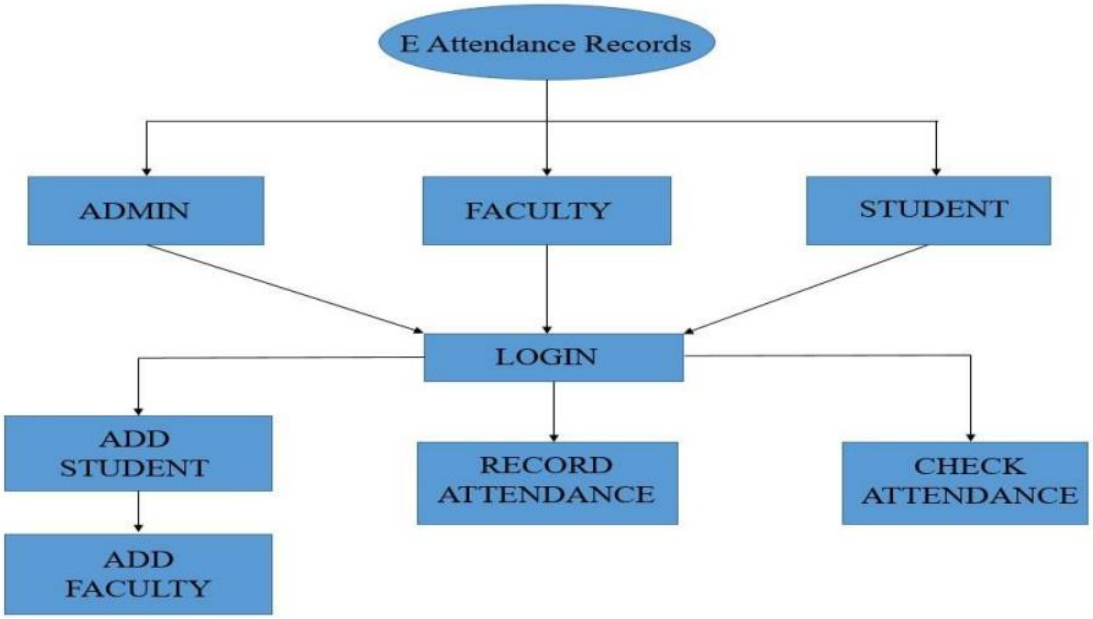


Fig 3: Block Diagram for e attendance

This block diagram shows the three interfaces that are available in the e - attendance i.e. admin, faculty and student. The admin will add the student & faculty. The faculty will be able to login and record the attendance of every students & faculty can update the attendance of students. Faculty can generate the report of students attendance. Lastly the students will be able to login & they can check the attendance of particular subject. Also Students can check the overall attendance percentage of particular subject.

CHAPTER 4
Project Outcomes

E – attendance records maintains student's attendance data. The system collects attendance records in the system and manages, stores and processes the data. It generates weekly attendance reports that help the faculty to track student's presence with high accuracy and efficiency. Student attendance system helps teachers to mark online attendance of students during class. Following are outcomes of the project:

Student Can Check Only Particular Subject Attendance:

Access to Attendance Records: Students can log in to a student portal or use a dedicated mobile app provided by their educational institution.

Selecting a Subject: Within the portal or app, students can choose the particular subject or course for which they want to check their attendance.

Viewing Attendance Data: Once the subject is selected, students can view their attendance data for that specific subject. This data may include the number of classes attended, missed, and any relevant notes or remarks.

Benefits: This feature empowers students to monitor their own attendance, helping them track their progress and identify areas where they may need to improve their attendance. It also promotes transparency and accountability in the educational process.

Faculty Can Store Proper Records of Students Attendance:

Marking Attendance: Faculty members have the ability to mark the attendance of students in their classes. This can be done through various methods.

Student Identification: The system typically associates attendance records with individual students, ensuring that the right student is marked as present or absent.

Record Keeping: Faculty can store attendance data in a secure database, either on-premises or in a cloud-based system, ensuring that the data is safe and accessible for future reference.

Benefits: Proper attendance records assist faculty in assessing student engagement and participation in their courses. It can also be used for administrative purposes, such as calculating grades and identifying students who may need

CHAPTER 5

Software Requirements

The development and successful operation of an e attendance records require a well defined set of software requirements to ensure its functionality, security, and usability. Thus here are some software required for e attendance records :

1. Net Beans Apache 19
2. MYSQL (Database)
3. JAVA (backend & frontend)
4. Java Development Kit 20

By ensuring that your system meets these software requirements, you can create, develop, and deploy Java-based applications with a graphical user interface using NetBeans Apache 19, a MySQL database, and Java for both frontend and backend development.

CHAPTER 6

Project Design

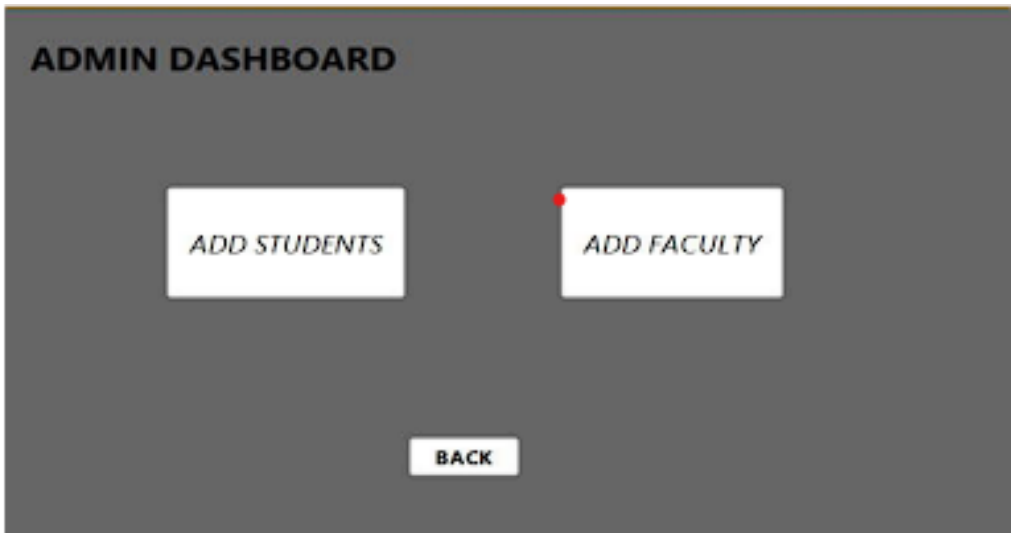


Fig. 6a : Admin Dashboard

Admin have the authority to add students as well as faculty, which involves accessing the database with the appropriate permissions, querying the data using structured query languages like MYSQL, and retrieving information in a tabular format.

Fig.6b: Add Students

Here, Admin is adding the students details in table of MYSQL, providing username and password to students.

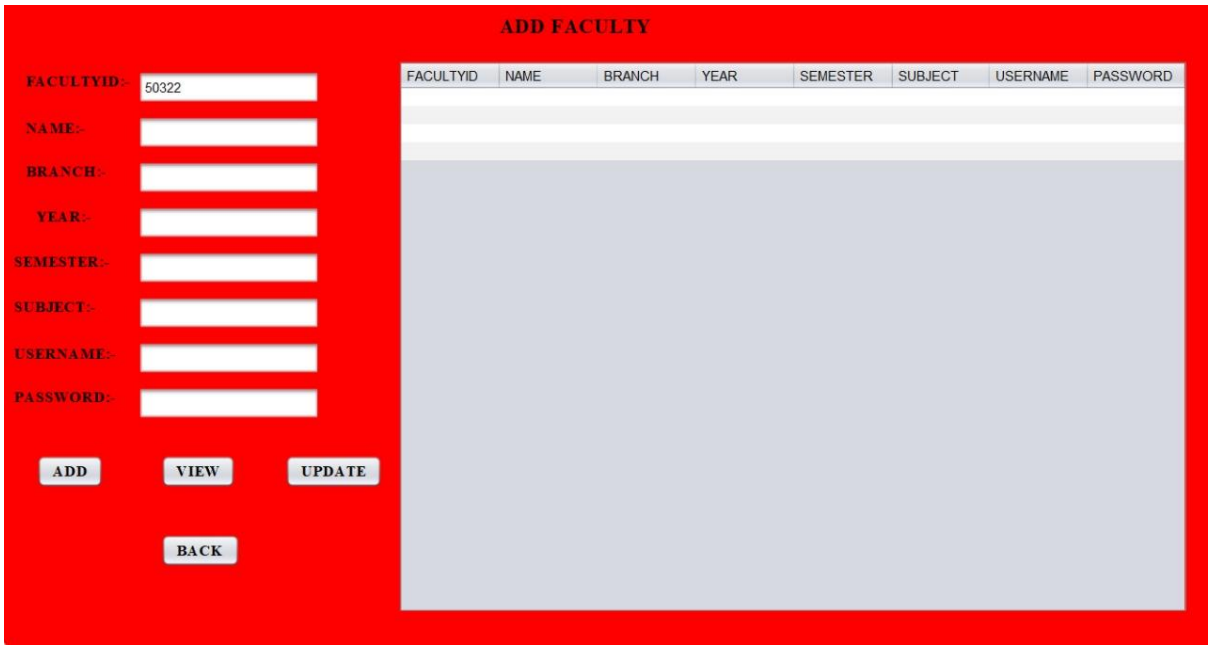


Fig.6c: Add Faculty

Here, Admin is adding the faculty details in table of MYSQL, providing username and password to faculty.

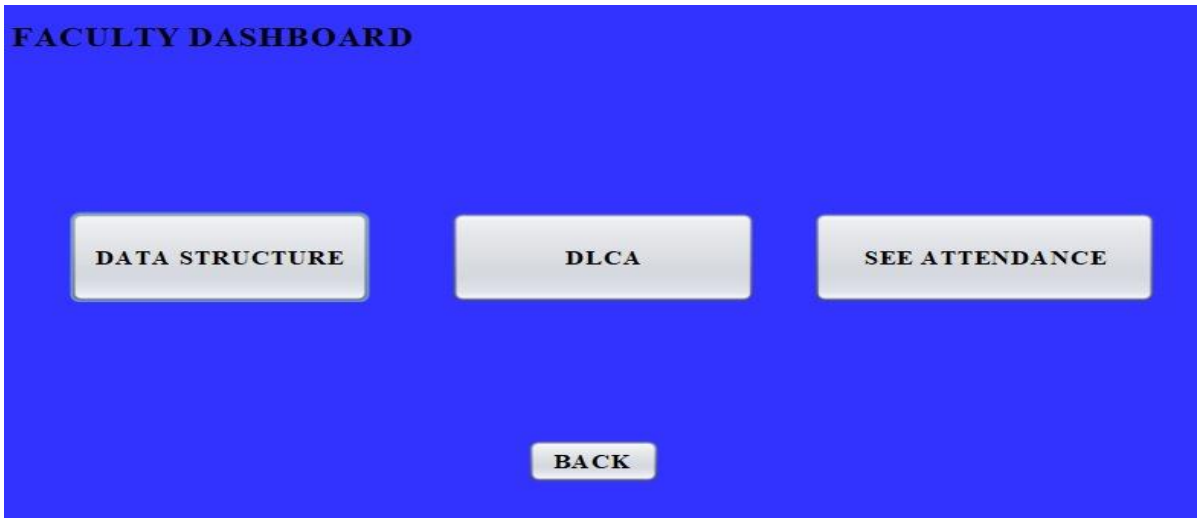


Fig.6d: Faculty Dashboard

The above fig, is showcase the faculty dashboard where faculty can see the subject as well as see attendance to mark students.

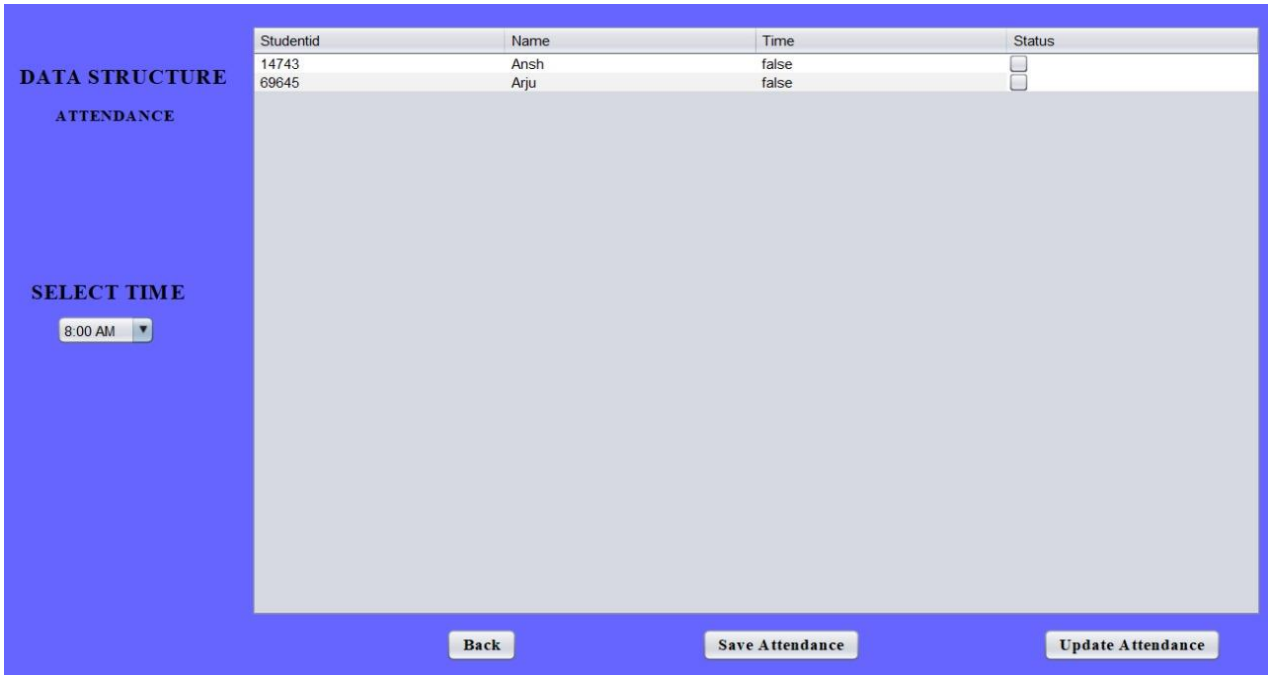


Fig.6e:DS Attendance

The above fig, showcase the interfaces of DS Attendance where the faculty marking students attendances and which stores in MYSQL databases and faculty can also update and select the time of session.

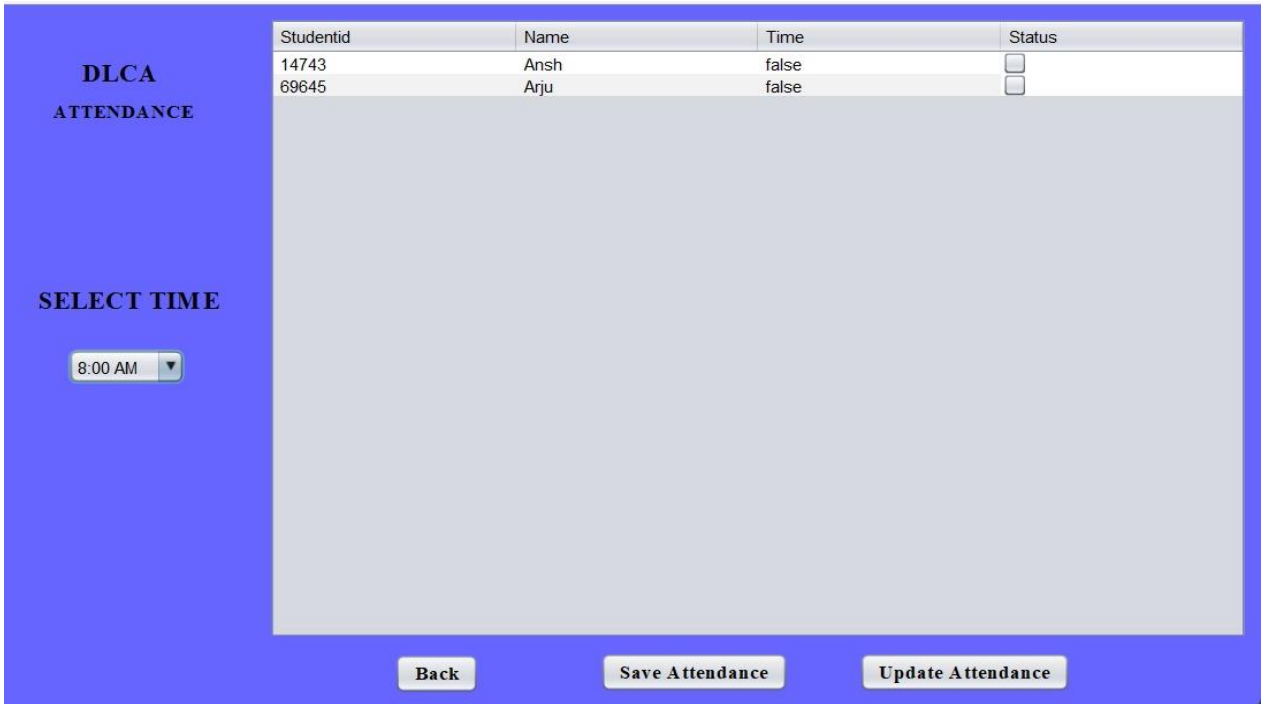


Fig.6f: DLCA Attendance

The above fig, showcase the interfaces of DLCA Attendance where the faculty marking students attendances and which stores in MYSQL databases and faculty can also update and select the time of session.

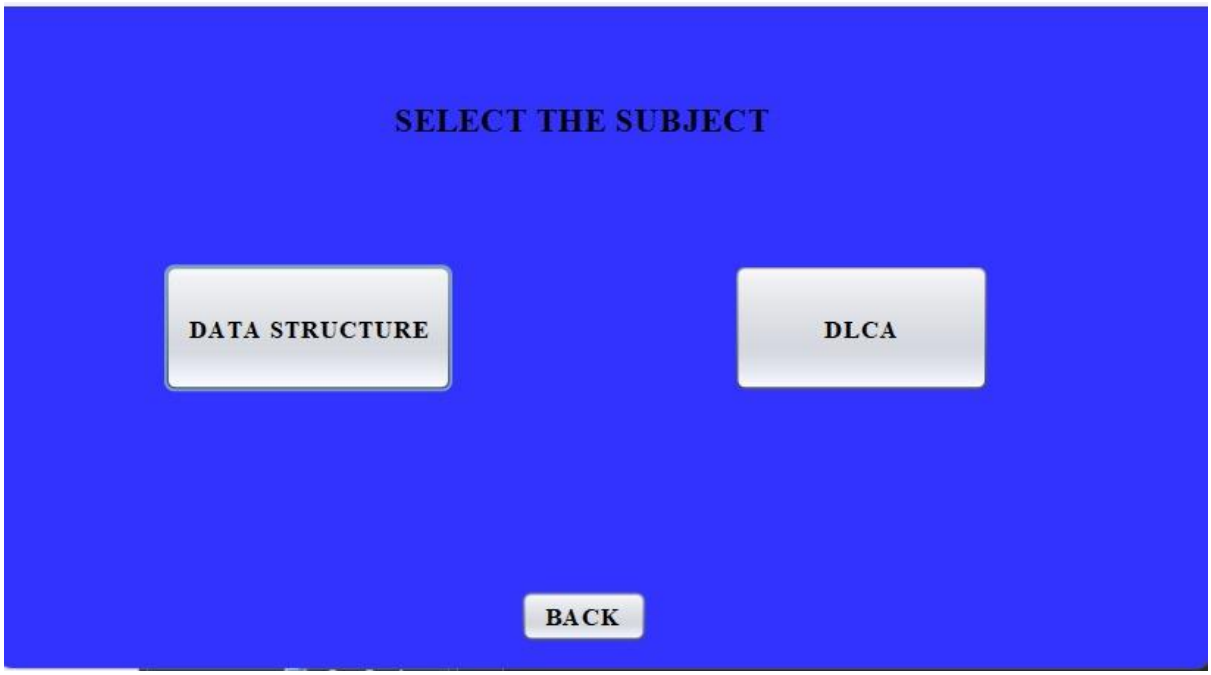


Fig.6g: See Attendance

The above fig, showcase the interfaces of See Attendance where the faculty can see the each of the subject attendance that was mark by them, It simply show the MYSQL databases of DLCA and DS attendances.

Fig.6h: View DLCA Attendance

The above fig, showcase view attendance of DLCA in which faculty have to enter the date and time for viewing the attendance of particular interval of date and time, it shows with the help of MYSQL databases**.**

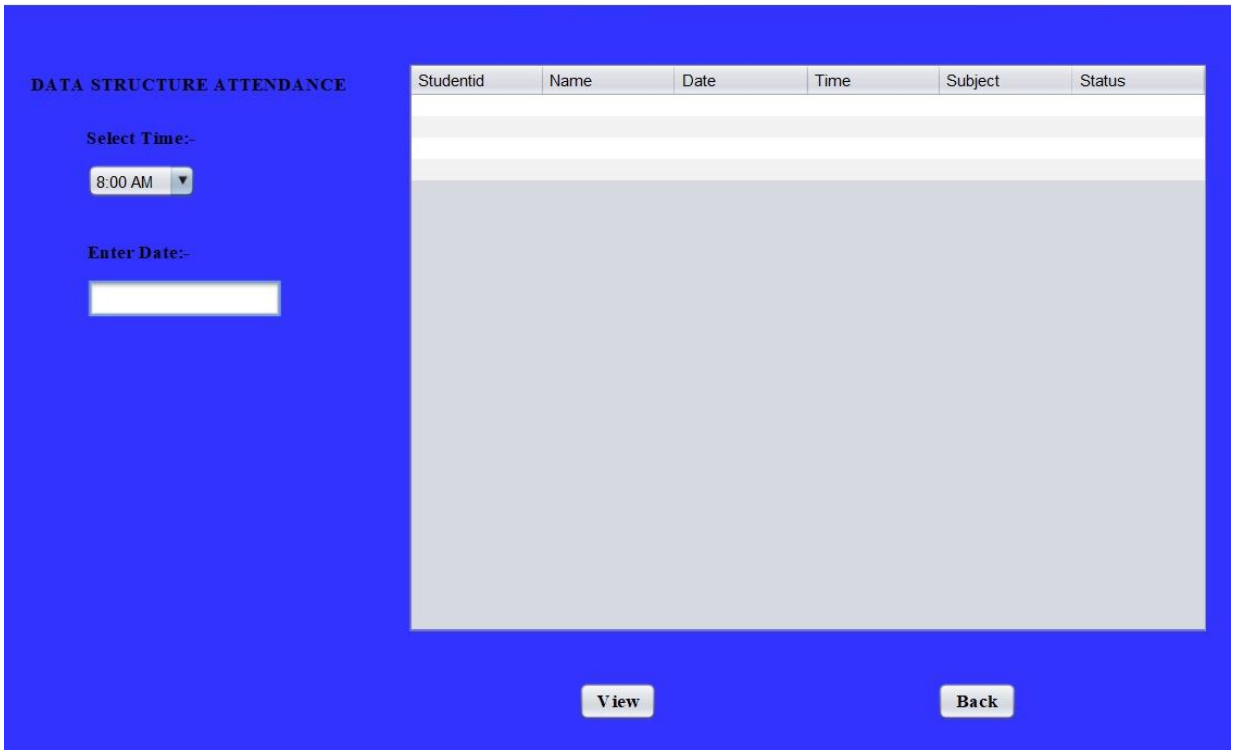


Fig.6i: View DS Attendance

The above fig, showcase view attendance of DS in which faculty have to enter the date and time for viewing the attendance of particular interval of date and time, it shows with the help of MYSQL databases.

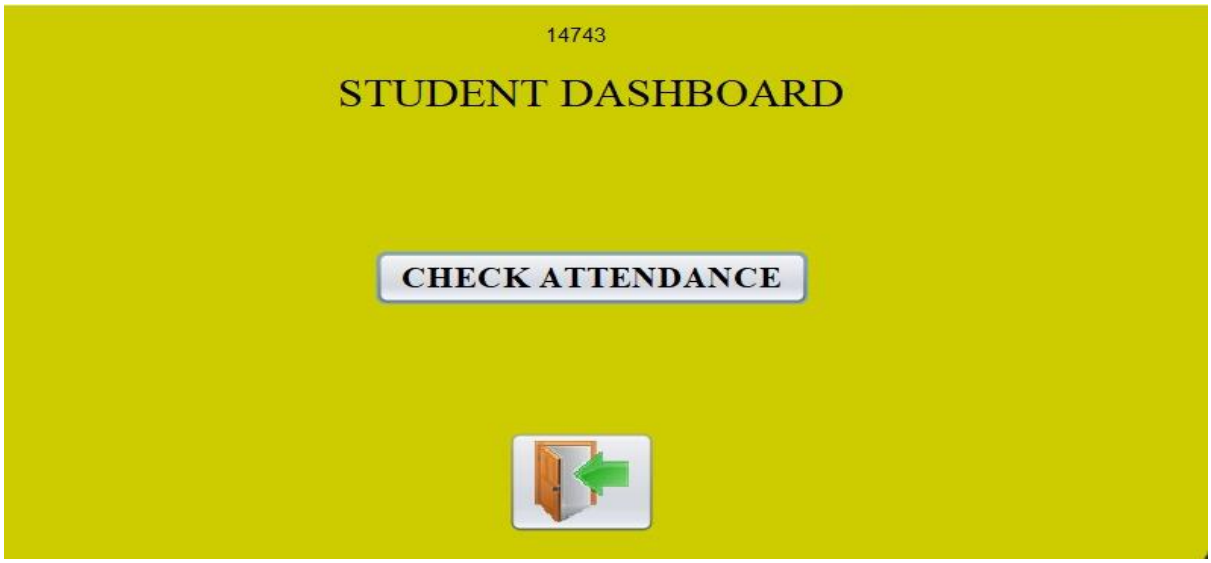


Fig.6j: Student Dashboard

The above fig, showcase Student Dashboard where students can check there attendance by clicking on check attendance it is student interfaces.

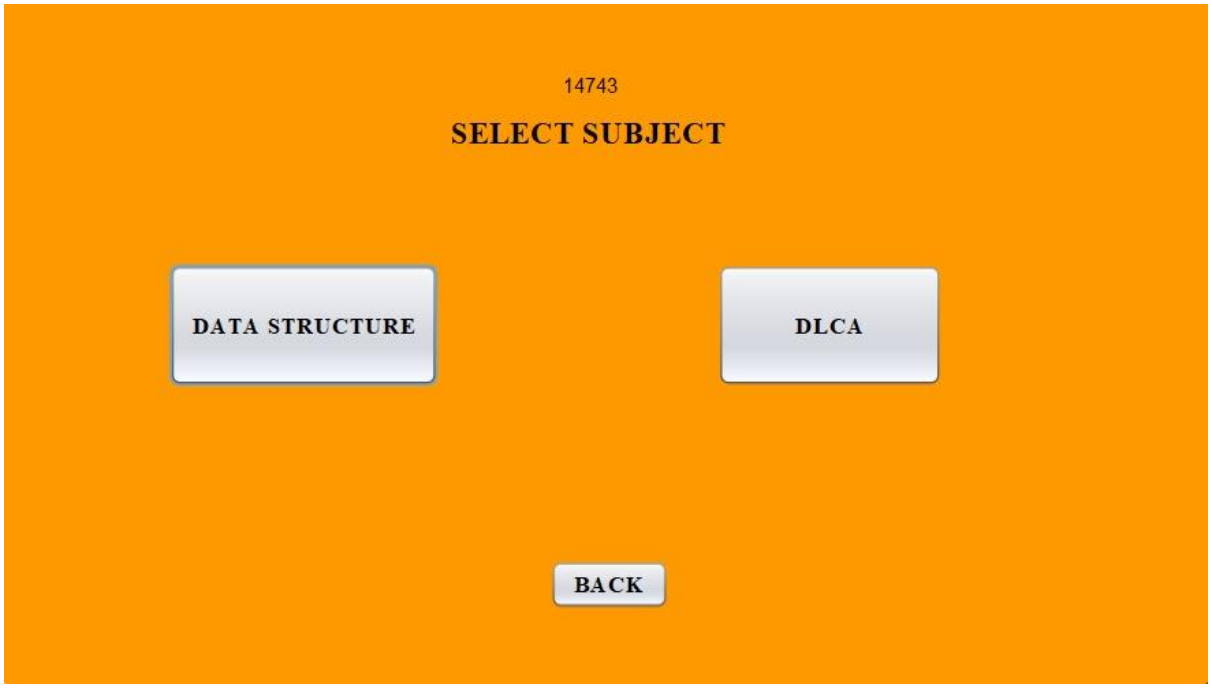


Fig.6k: Select Subject

The above fig, showcase Select Subject it will appear when student click on check attendance, students can select particular subject to see there attendance and attendance percentage**.**

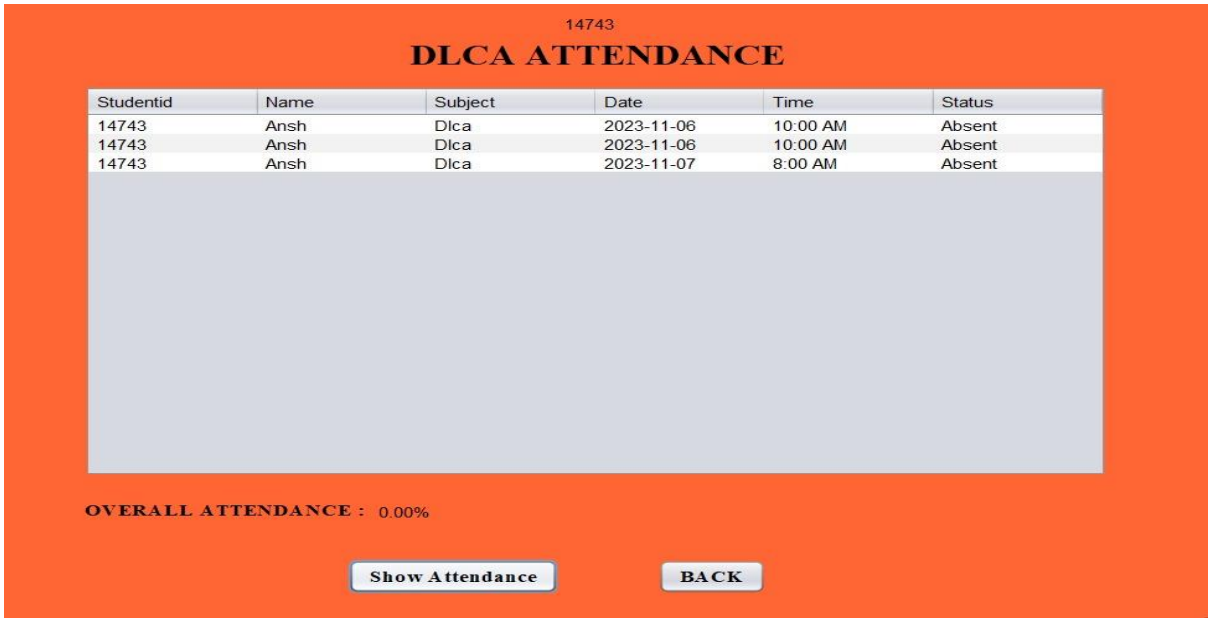


Fig.6l: Check DLCA Attendance

The above fig, showcase check DLCA Attendance where student can check there particular subject and attendance percentage of DLCA subject which is marks by faculty during there session**.**

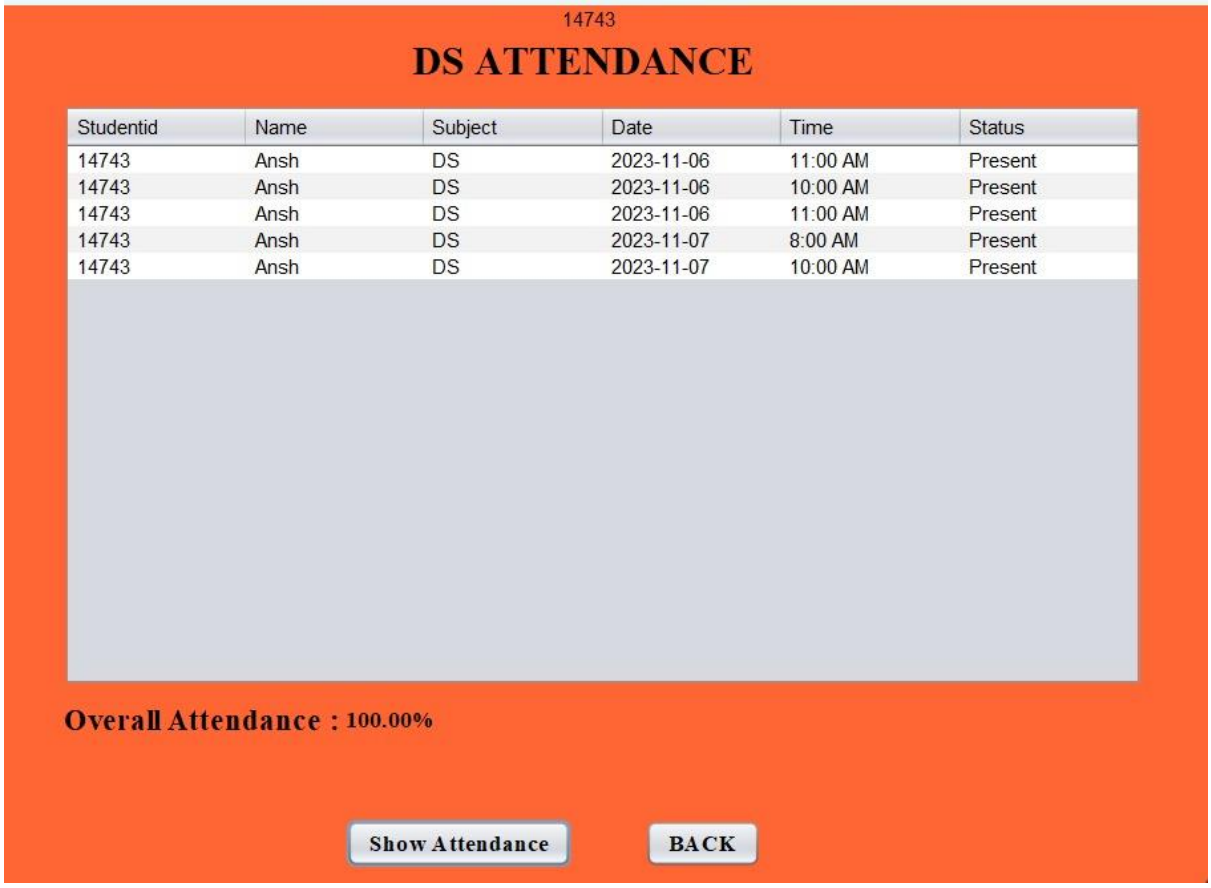


Fig.6m: Check DS Attendance

The above fig, showcase check DS Attendance where student can check there particular subject and attendance percentage of DS subject which is marks by faculty during there session**.**

CHAPTER 7

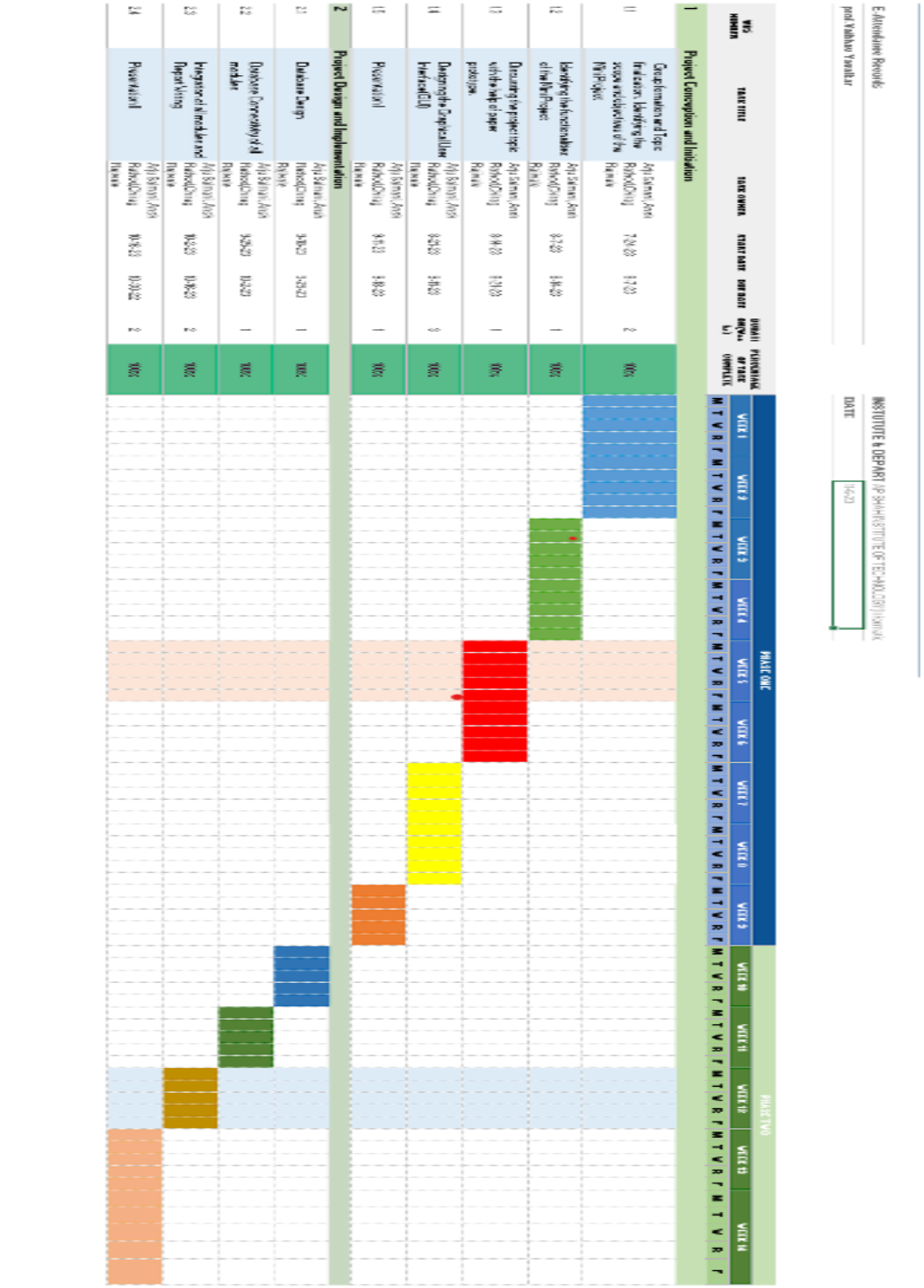
Project Scheduling

Scheduling in this project management is the listing of activities, deliverables, and milestone within a project. A schedule also includes a planned start and finish date, duration, and resources assigned to each activity.

Sr. No	Group Member	Time Duration	Work to be done
1	Ansh Rathod Arju Salmani Chirag Rajiwale	4rd week of July	Group formation and Topic finalization. Identifying the scope and objectives of the Mini Project. Discussing the project topic with the help of a paper prototype.
		1st week of August	Identifying the functionalities of the Mini Project. Designing the Graphical User Interface (GUI).
2	Ansh Rathod, Arju Salmani	1st week of September	GUIs Connectivity.
3	Ansh Rathod Arju Salmani Chirag Rajiwale	4th week of September	Chat section and database connectivity with features
4	Ansh Rathod, Arju Salmani	3rd week of October	Integration of all modules and Report Writing.

Fig 7a : Timeline Chart

Fig 7b : Gantt chart of E-Attendance Records



A Gantt representation of a project's timeline, showing when each task or activity is scheduled to start and finish. Following is the detail of the gantt chart – In the fourth week of July, Ansh Rathod, Arju Salmani, Chirag Rajiwale formed a group for their mini project. They discussed and finalized the project's topic, scope, and objectives during this meeting. In the following weeks, Arju and Ansh used a paper prototype to explore and refine project ideas, completing this phase by the third week of August. In late August, Ansh and Arju executed the design and integration of the graphical user interface (GUI). Afterward, on 18th September, the first project review took place, and the faculty suggested some changes to the GUI, which were subsequently approved. Following this, Arju Salmani and Chirag Rajiwale collaborated to create a structured database system, facilitating the systematic storage of information. This, in turn,
made it easier for Arju and Ansh to connect the database to the project. This database work was completed by mid-October. Finally, the team integrated all modules and completed the report writing, resulting in their final presentation on 26th October, which was approved by the faculty.

Chapter 8
Conclusion

The E – Attendance records is designed in such a way that it meets the requirements of the system. Here there is no possibility of doing the proxy for others. The system maintains the records of students with ease and accuracy which is an important key of this project. Thus, it is helpful for all students, faculties and admin of the institutions. An e-attendance system with manual functionality is a flexible and versatile electronic attendance tracking solution that relies on users to manually record their attendance data. Unlike automated systems that use biometrics, RFID, or barcode scanning for attendance tracking, manual e-attendance systems require individuals to input their attendance information through a user interface, typically via a web portal, mobile app, or dedicated software. the accuracy and integrity of attendance data depend on user compliance and honesty. Therefore, proper user training, clear guidelines, and consistent monitoring may be necessary to ensure the reliability of the system. Overall, e-attendance systems provide a cost-effective and accessible solution for organizations that require attendance tracking without the need for sophisticated automated methods.

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ACKNOWLEDGEMENT

This project would not have come to fruition without the invaluable help of our guide **Prof. Vaibhav Yavalkar**. Expressing gratitude towards our HoD, **Prof.Anagha Aher**, and the Department of CSE(Data Science) for providing us with the opportunity as well as the support required to pursue this project. We would also like to thank our teacher Ms. Poonam Pangarkar who gave us her valuable suggestions and ideas when we were in need of them. We would also like to thank our peers for their helpful suggestions.