

**DESIGN AND DEVELOPMENT OF WEB APPLICATION ON AUTO ATTEND
SYSTEM**



DAFFODIL INTERNATIONAL UNIVERSITY
DHAKA, BANGLADESH
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**DESIGN AND DEVELOPMENT OF WEB APPLICATION ON AUTO ATTEND
SYSTEM**

**BY
Shah Samrat Fahim**

ID:153-15-629

AND

Jumana Binte Noor

ID:153-15-624

This Report Presented in Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science in Computer Science and Engineering.

Supervised By

Nadira Anjum Nipa
Lecturer
Department of CSE
Daffodil International University



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APPROVAL

This Project titled “**DESIGN AND DEVELOPMENT OF WEB APPLICATION ON AUTO ATTEND SYSTEM**”, submitted by Shah Samrat Fahim ID: 153-15-629 And Jumana Binte Noor ID: 153-15-624 to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering (BSc) and approved as to its style and contents. The presentation has been held on 10 December 2019.

BOARD OF EXAMINERS

Dr. Syed Akhter Hossain
Professor and Head

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

Chairman

Dr. S M Aminul Haque
Associate Professor & Associate Head

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

Internal Examiner

Saif Mahmud Parvez
Lecturer

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

Internal Examiner

Dr. Mohammad Shorif Uddin
Professor

Department of Computer Science and Engineering
Jahangirnagar University

External Examiner

DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Nadira Anjum Nipa, Lecturer, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:



Nadira Anjum Nipa
Lecturer
Department of CSE
Daffodil International University

Submitted by:



Shah Samrat Fahim
ID: 153-15-629
Department of CSE
Daffodil International University



Jumana Binte Noor
ID: 153-15-624
Department of CSE
Daffodil International University

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ABSTRACT

The Auto Attend System is a web-based application that leverages the Wi-Fi module of an employee's mobile device to determine their presence in the office premises. The application works without requiring human intervention and requires no additional configuration on the employee's mobile. Any mobile that has a Wi-Fi module (regardless of OS type and version) can be used with this application. Each employee's attendance can be tracked without requiring their fingerprint. The attendance of an employee is taken when his/her Wi-Fi device connects to the network of the organization. The attendance data includes the entry and exit times. Attendance is only counted when the entry time is within a specific time range. The entry and exit times are stored regardless of whether entry happened within the specific time range. This allows our application to collect data in real-time and populate the attendance list automatically. The attendance sheet is stored into the database. Users can request for time-off by submitting leave applications. These leave applications, once approved, are taken into consideration when generating reports for attendance. The report view of attendance data indicates presence, time-off and Fridays on tabular calendar format. The administrator of the organization can access all attendance records through an easy-to-use web interface. In addition to that, the administrator may check the list of defaulters (i.e. employees being absent), search for a particular employee's attendance records by name, filter by time and date, and generate reports in well-known formats (e.g. Microsoft Excel).

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Our Project, The Auto Attend System, is a software that allows an entire organization to track attendance of its employees in a very precise manner. The mechanisms rely on the unique identity associated with every Wi-Fi device. By detecting the presence of the Wi-Fi device of the employee, it is possible to determine when they enter and exit the office premises.

Every employee connects their phone using Wi-Fi. Their attendance is taken when the Wi-Fi device connects to the network of the organization. This allows our application to collect data in real-time and populate the attendance list automatically. The attendance sheet is stored into the database. The administrator of the organization can access all attendance records through an easy-to-use web interface. In addition to that, the administrator may check the list of defaulters (i.e. employees being absent), search for a particular employee's attendance records by name, filter by time and date, and generate reports in well-known formats (e.g. Microsoft Excel).

1.2 Motivation

We were searching for an application that would automate the attendance tracking of employees in an organization. Our honorable teacher Nadira Anjum Nipa (Lecturer, DIU-UC) encouraged us to build a web-based application for this purpose so that we can customize it as necessary and ensure that it is a feasible project for organizations of all scales.

1.3 Objectives

To ensure that The Auto Attend System is feasible project and easily customizable, we have set the following goals. We have made our web application about Auto Attend System. By then there are a couple of objectives that we need to fulfill. Here is a segment of the goals of goals that can be gotten by our project.

- To make the application user friendly.
- To make it flexible and full featured employee attendance.
- To operate management tool which allows controlling employees.
- To calculate Attendance by automating time keeping and attendance tracking.
- To collect data from Attendance sheet, and simultaneously allows optional PC entry.

1.4 Expected Outcome

This Attendance system will express some outcome. Here we will discuss about it:

- To make a full furnished web application.
- To make it possible for someone using this system easily.
- To enable for the user to check their daily attendance.
- To help users edit their profile.
- To allow users leaving an application form, if they want to leave, they can apply for leave option.
- To help administrators in searching for a particular employee's attendance records by name, filter by time and date.
- To guide Administrators in generating reports in well-known formats (e.g. Microsoft Excel).
- To help administrators in approving/rejecting leave applications.
- To help administrators in adding/removing users and devices.
- To guide all user in maintaining the ir profile.

1.5 Report Layout

Here is the report format that used to make this report on web application of The Auto Attend System.

- All the topics are covered with related information.
- All topics are divided with some paragraph thus it can be easy to understand.
- Figures and images are used to get the topics content more easily.
- Required font and size is used to organize all the contents of the report.
- Specific margins and spaces are used to format the content.
- Bullet point are used to describe the content value more exact.
- Required format and menus are used to get all the contents more easily.

1.6 Summary

The Auto Attend System project aims to solve a fundamental challenge faced by every organization. Regardless of scale, by automating this aspect, an organization can capture accurate data of attendance records and timings and generate reports as necessary. The system is designed to be user-friendly, flexible and feature rich.

CHAPTER 2 BACKGROUND

2.1 Introduction

The fundamental objective of making this attendance system is that it allows the attendance to be taken using the Wi-Fi network. The novelty here is the use of the mobile's Wi-Fi module to identify the user instead of their RFID card or fingerprint. This attendance system is a software for an entire organization to record the attendance of all of their employees automatically. When an employee connects their phone to the Wi-Fi network, then their attendance will be recorded. The attendance data is updated in real-time and can be accessed from within the web application.

2.2 Project Function

Our project has two types of using modes:

1. Administrator:

Administrators have the right to manage employee details, update their email addresses, update their passwords, etc. Administrators can change his/her own profile, receive leave applications from employees, add new users, add new devices, etc.

2. User (Employee):

Employees can log in, see his/her profile, update his/her profile, check his/her attendance, and apply for leaves through an application form.

2.3 Assumption and Dependencies

- The server will be connected to the network which will be a part of the office's Wi-Fi.
- Administrator access should be careful in deleting or modifying any information knowingly or unknowingly which will lead to inconsistency of the database.
- The users of this system are assumed to have basic level of computer knowledge.

Challenges

In this attendance system we have confronted such a significant number of difficulties. A few difficulties are too hard to even think about meeting objective and some are absolutely new to us to discover the arrangement like,

- **Create the relation to all the tables in database:** To make database tables are too much difficult job to do, we tried our best to normalized the database table for our project.
- Initially we designed a system that used the IP address to identify devices. But due to the nature of IP addresses (i.e. it being dynamic and modifiable) we changed our system to use the device's MAC address.
- A standout amongst the most essential test was gathering proper information for this system and give an easy to understand look the system and make this system dependable.

CHAPTER 3

REQUIREMENT AND SPECIFICATION

3.1 UML Diagram

In this section we will examine about UML chart. There are numerous sorts of UML outline. We will talk about two of them. By utilizing what we will talk about our whole system.

3.1.1 Use Case Diagram

Use case diagram represent all the actor whose are related to the system and then show them how they can participate to the system.

Figure-3.1.1 shows the use case diagram of our system.

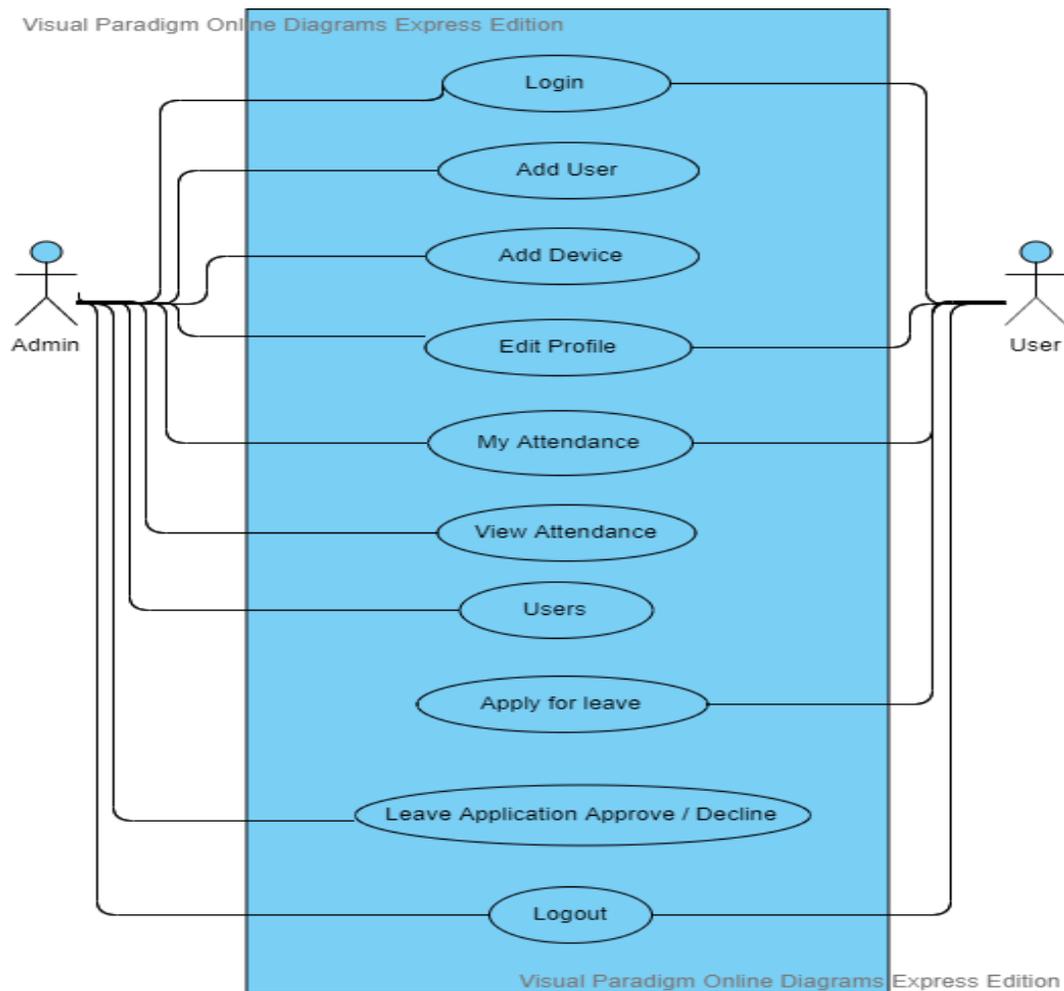


Figure 3.1.1: use case diagram of auto attend.

3.1.2 Description of Use Case Model

In Use case diagram we can see there is two actor and they are (1) Admin (2) User. In this application Admin can login, add users, add devices, edit profile, manage admin & user attendance and leave application. He can provide user attendance, in-time, out-time, manage holidays, leave applications to every user. The admin may check all attendance data, press a button to see defaulter list, search for particular users' attendance by name, search time and date attendance and generate excel reports. Admin receive the leave application request. He can approve or decline user leave application request.

Use case of Log in

Cases	Details
Actors	Admin and User
Pre-Condition	Log in is needed.
Post-Condition	After Successful log in Admin will get admin panel and user will get user profile.

3.1.3 System Flow Diagram

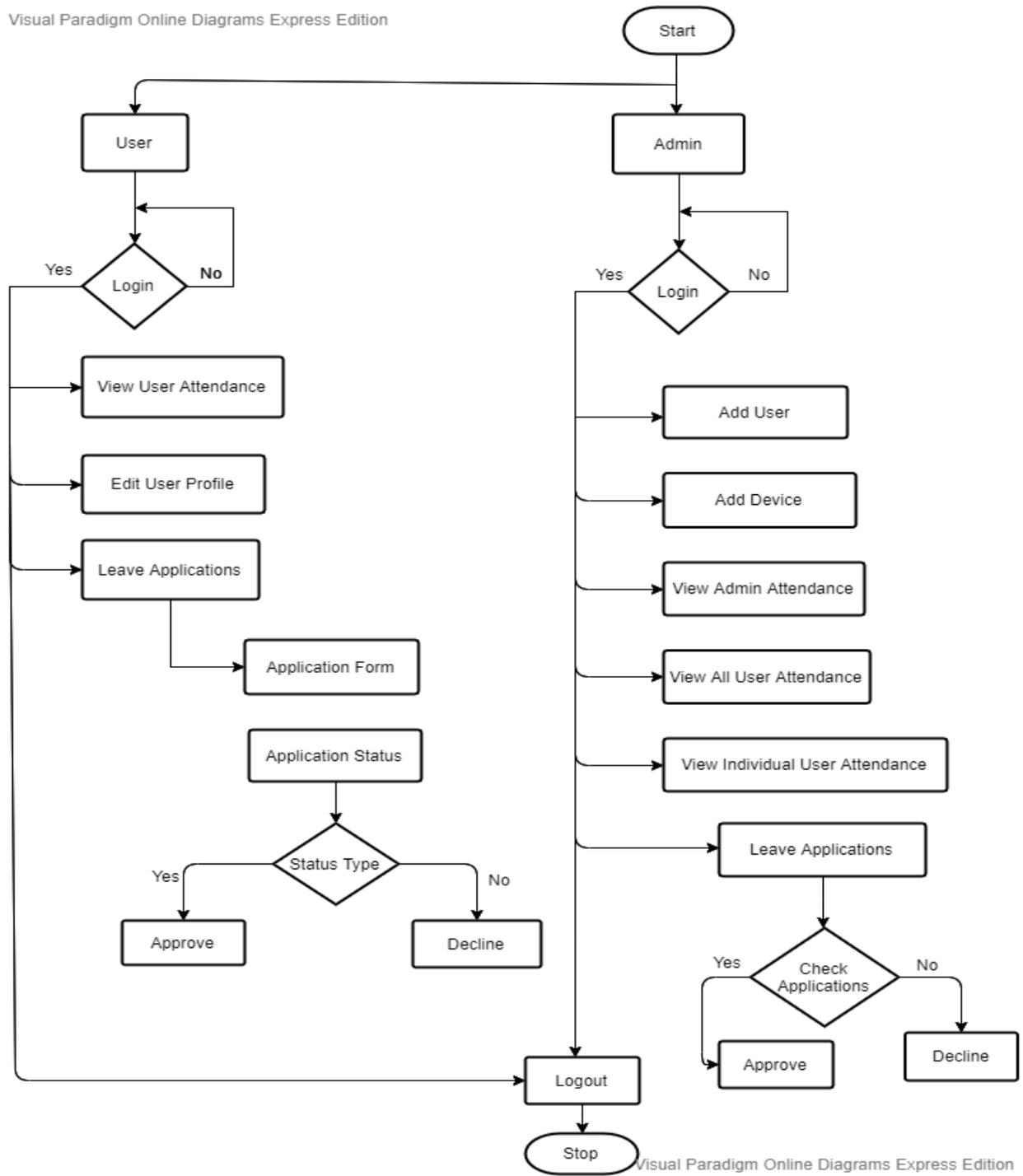
Now we are going to show our working flow diagram in figure-3.2. The entire system has two fundamental on-screen characters Admin and another is user. Enlistment is must be required for two entertainers Admin and User. To start with, we will discuss user. User must to login into the system, in the event that he login he could check all day attendance. He can see their current and previous monthly attendance, which date he present and absent and see their in-time, out-time and average time when he presents the office and through it they can see easily get their attendance report. He also edits his own profile and apply for leave else he couldn't apply.

Admin have right to manage employee details, provide email, provide password. Admin can change his profile, receive employee's application, add user, add device,

admin have two option one is if admin think that users leave apply is acceptable then he approved the leave and two is if admin think that users apply is not acceptable he declined the leave and user can easily see their result for application approved or declined and until admin check the application, user see pending in his application.

Figure-3.1.3 shows systems flow diagram

Visual Paradigm Online Diagrams Express Edition



Visual Paradigm Online Diagrams Express Edition

Figure 3.1.3: Systems Flow Diagram.

3.2 Summary

In this chapter we discussed about the full project using use case diagram and system flow chart. We also described them elaborately.

CHAPTER 4 SYSTEM DETAILS

4.1 Introduction

In this part we will talk about our system design, including the front-end configuration, back-end database and execution prerequisites. The section will begin with an outline of the high-level features and drill down into them later in the chapter. The contents of this chapter is aimed at those who would like to understand the thought process behind the implementation and development of this application.

4.2 Application Feature

There are various kind of features in our system. At first, we are going to show our features list and we will describe them later.

- User authentication – Different user of an organization can be given different level of access to the records and features.
- Dashboard – Users and administrators can see an overview of the collected data.
- My Attendance – User and administrators both can see their own attendance which date he present or absent.
- Edit Profile-User and administrators both can update their profile like name, mail.
- Leave Application - User can apply for his leave and administrators can check the who are applying and administrator have two option approve and declined if admin think that he want to accept the leave that time administrator approve the leave or he don't want to accept the leave that time declined the leave .
- View Attendance – Administrators can see the attendance of all employees.
- User's List – Administrators can see all the all user's list.
- Add User – Administrators can add the new user.
- Add Device – Administrators can add the new user's devices.

4.2.1 Log in

Users and administrators cannot log in to the application without using the correct email and password. The password is stored in salted-hashed form in the database to ensure added security. Users can be given different level of access to the application depending on their user type.

4.2.2 Dashboard

Users and administrators can see the dates of their presence or absence at the office. They can also see the time of their entry and exit where applicable. The dashboard shows a summary of this information.

4.2.3 My attendance

Users and administrators can both see their own attendance data in the “My Attendance” section. It shows a tabular calendar and indicates the following for each date: presence, absence, Friday, approved leave.

4.2.4 Edit profile

Users and administrators can both edit their profile. If he/she wants to they change their name or email address, then he/she can go to the edit profile option and change their profile data and then click on the update profile button to save the changes.

4.2.5 Leave applications

Leave applications are very important because employees may need to request for time-off without affecting their attendance records. Leave applications are of 3 types. The options are:

- i) sick leave
- ii) official leave
- iii) yearly leave.

At any time, users may be ill or he may want to leave for official work and may need yearly leave. That time user can go to the leave application option and he select the type of leave which type leave he want and select the start date of leave and select end date of leave and shortly describe the leave reason or problem’s for description option and then he clicks the apply button. Then this application goes to the pending leave applications page that the administrator can access. The administrator can check the application, and do one of the following: if the administrator thinks that the employee’s leave application is acceptable then he can approve the leave. Alternatively, if the administrator thinks that

the user's application is not acceptable, he declined the leave and the user can easily see the status of their leave application.

4.2.6 View attendance

Only administrator can see this view attendance for all users. This is date wise daily attendance; view attendance is where the administrator can see the name of all users, at which time he/she comes to office and at which time he/she leaves the office. And view attendance also allows the administrator to see past history of attendance for any employee using the previous/next date option. If the administrator wants to check the previous date of user's entry and exit time then he can use the previous date option.

4.2.7 Users list

The administrator can see the complete user list in this system; including their user id, name, email and MAC address. The administrator can change the users' profile data. The administrator can click on the name of any user on this page to be navigated to the user's attendance data page (i.e. view attendance).

4.2.8 Add user

The administrator of the application can use this form to add new user to the system. A new user can be of administrator or regular type. This form will be used mostly during the on-boarding of new employees. To add a new user, the administrator will have to provide the name of the employee, his/her email address, a password and their role in the application.

4.2.8 Add device

Only the administrator can add the new user's device. A device can be added for both new users and existing users. When adding a device, the MAC address of the device must be known. To add a new device, it must be given a name and be linked to one of the users in the database.

4.3 Front End Design

This is the home page for all users. After giving the valid email and password user, admin or system admin can enter the system. Figure 4.3.1 shows User and Admin login system.

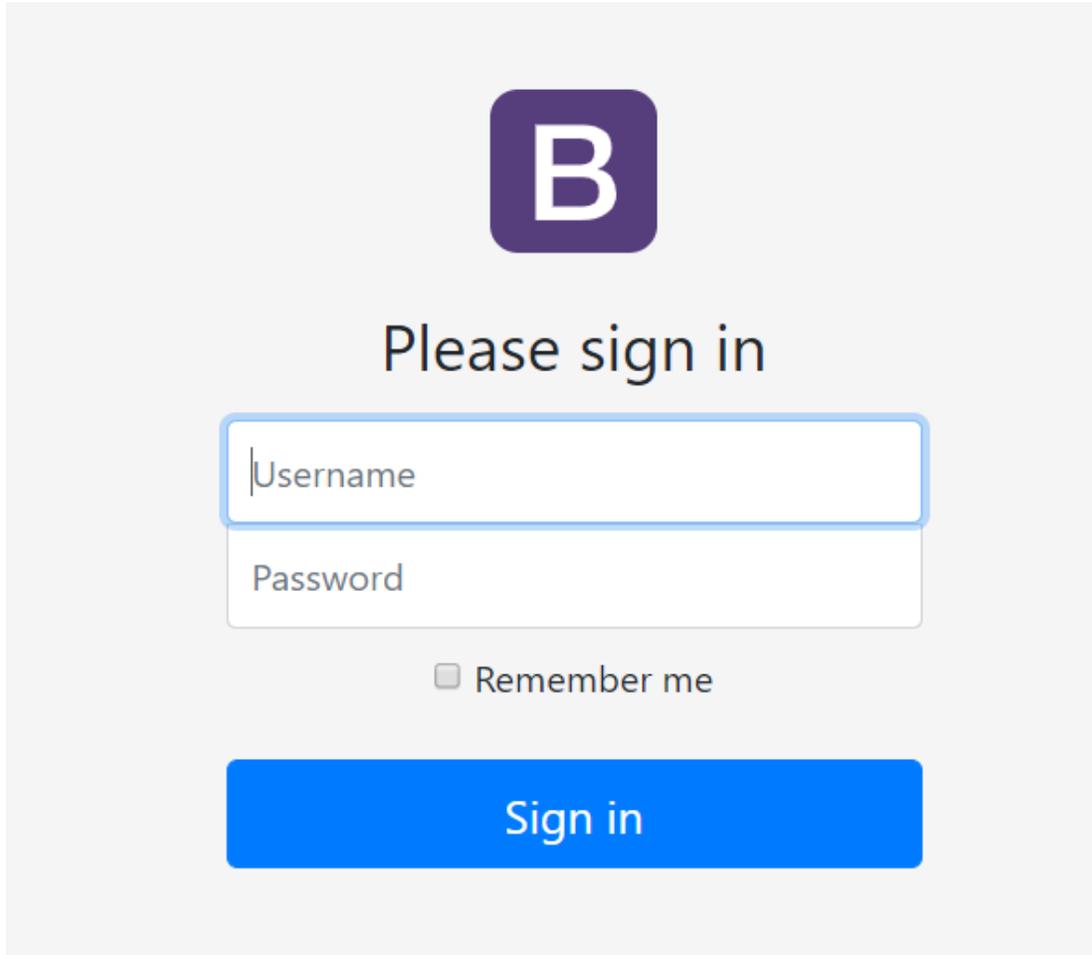
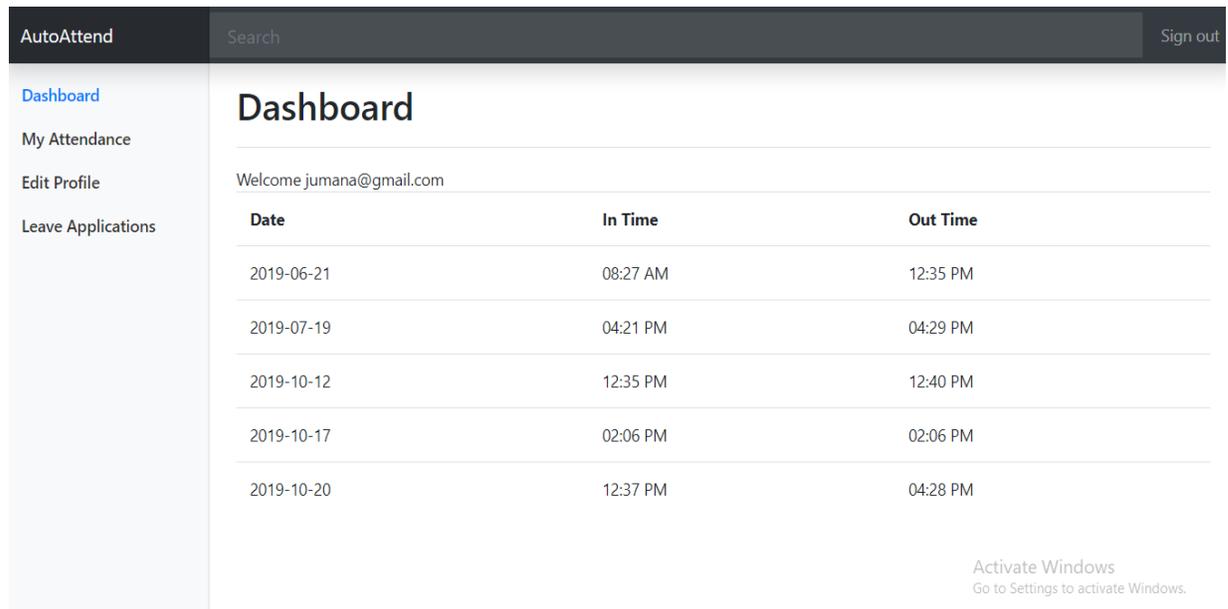
The image shows a login interface on a light gray background. At the top center is a purple rounded square containing a white letter 'B'. Below this is the text 'Please sign in' in a dark blue font. Underneath are two stacked white input fields with light blue borders. The top field is labeled 'Username' and the bottom field is labeled 'Password'. Below the password field is a checkbox with the text 'Remember me'. At the bottom is a large blue button with the text 'Sign in' in white.

Figure 4.3.1 User and Admin login system.

After log in user can see his dashboard. Figure 4.3.2 show the User's dashboard.

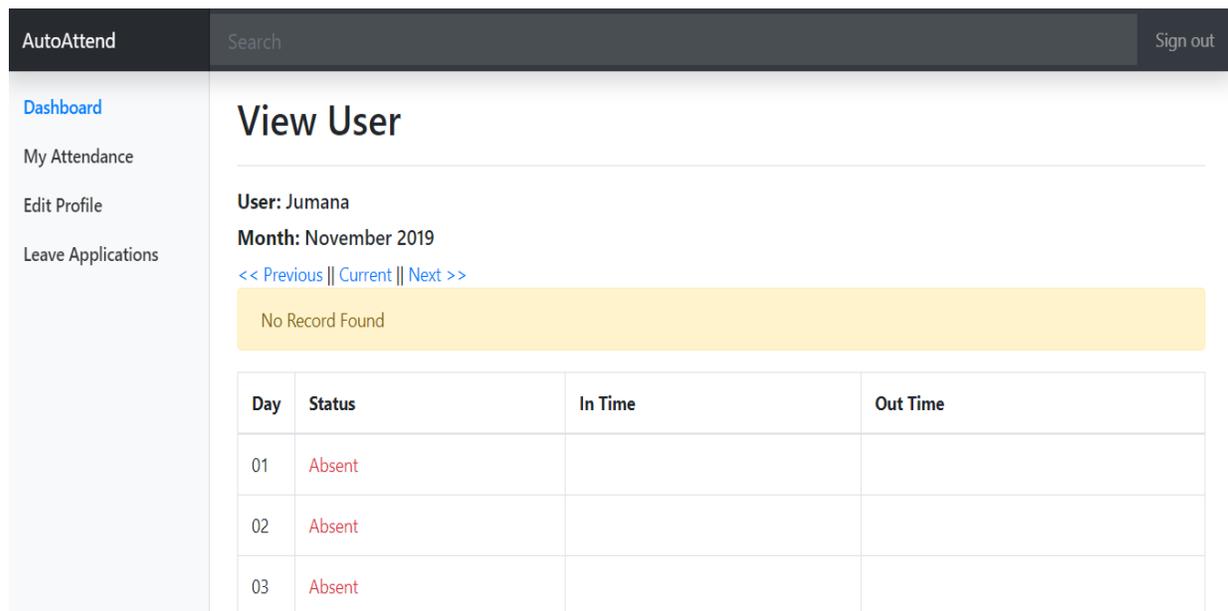


The screenshot shows a user dashboard with a sidebar on the left containing navigation links: Dashboard, My Attendance, Edit Profile, and Leave Applications. The main content area is titled 'Dashboard' and includes a welcome message for 'jumana@gmail.com'. Below this is a table with three columns: Date, In Time, and Out Time. The table contains five rows of attendance data. At the bottom right, there is a 'Sign out' button and a Windows activation notice.

Date	In Time	Out Time
2019-06-21	08:27 AM	12:35 PM
2019-07-19	04:21 PM	04:29 PM
2019-10-12	12:35 PM	12:40 PM
2019-10-17	02:06 PM	02:06 PM
2019-10-20	12:37 PM	04:28 PM

Figure 4.3.2 Users Dashboard.

Click the My Attendance users can see their own attendance time when he entry the office and out the office and also check that which date he absent or present. Figure 4.3.3 shows the users own attendance.



The screenshot shows the 'View User' page for user 'Jumana' for the month of 'November 2019'. It features navigation links for '<< Previous', 'Current', and 'Next >>'. A yellow message box states 'No Record Found'. Below this is a table with columns for Day, Status, In Time, and Out Time. The table shows three days (01, 02, 03) with a status of 'Absent'.

Day	Status	In Time	Out Time
01	Absent		
02	Absent		
03	Absent		

Figure 4.3.3 Users own attendance.

If users want to edit their profile, they can easily change their profile through Edit profile. Figure 4.3.4 shows the how users edit their profile.

The screenshot shows the 'Edit Profile' page in the AutoAttend application. The top navigation bar includes 'AutoAttend', a search bar, and a 'Sign out' link. The left sidebar contains links for 'Dashboard', 'My Attendance', 'Edit Profile', and 'Leave Applications'. The main content area is titled 'Edit Profile' and contains two input fields: 'Name' with the value 'Jumana' and 'Email' with the value 'jumana@gmail.com'. Below these fields is a blue 'Update Profile' button.

Figure 4.3.4 Edit Profile for user.

When users need a leave then they can apply for leave from Leave applications side. Figure 4.3.5 shows the why users applying for a leave.

The screenshot shows the 'Application Form' page in the AutoAttend application. The top navigation bar includes 'AutoAttend', a search bar, and a 'Sign out' link. The left sidebar contains links for 'Dashboard', 'My Attendance', 'Edit Profile', and 'Leave Applications'. The main content area is titled 'Application Form' and contains four input fields: 'Leave Type' (a dropdown menu with '[Select...]' selected), 'Date Start' (with a date format 'dd----yyyy'), 'Date End' (with a date format 'dd----yyyy'), and 'Description' (a large text area). In the bottom right corner, there is a watermark that reads 'Activate Windows Go to Settings to activate Windows.'

Figure 4.3.5 Application Form for User.

When admin approved or declined their application then the output shown on the leave applications side. Figure 4.3.6 shows the how users get their applications output.

Start Date	End Date	Type	Status
2019-10-18	2019-10-19	Official	Approved
2019-10-14	2019-10-15	Sick	Approved
2019-10-18	2019-10-18	Official	Approved
2019-10-22	2019-10-23	Sick	Pending

Figure 4.3.6 Applications Output.

Same way after log in admin can see his dashboard. Figure 4.3.7 shows the admins dashboard after his log in.

Date	In Time	Out Time
2019-06-21	08:28 AM	12:35 PM
2019-07-19	04:22 PM	04:27 PM
2019-10-12	12:33 PM	12:40 PM
2019-10-17	02:04 PM	02:04 PM
2019-10-19	10:35 PM	11:59 PM
2019-10-20	12:00 AM	04:44 PM

Figure 4.3.7 Admins Dashboard.

Same way of users, admin can also see his own attendance time when he entry the office and out the office and also check that which date he absent or present. Figure 4.3.8 shows the admins own attendance.

AutoAttend Search Sign out

View User

User: Fahim
 Month: November 2019
 << Previous || Current || Next >>

Day	Status	In Time	Out Time
01	Absent		
02	Absent		
03	Absent		
04	Absent		

Figure 4.3.8 Admin’s Attendance.

Admin check all user’s attendance for View Attendance. Figure 4.3.9 shows the admin check all user’s attendance.

AutoAttend Search Sign out

View Attendance

Date: 2019-10-20
 << Previous || Next >>

Date	Name	In Time	Out Time
2019-10-20	Fahim	12:00 AM	04:44 PM
2019-10-20	Farida	12:32 AM	12:57 AM
2019-10-20	Jumana	12:37 PM	04:28 PM
2019-10-20	Prema	12:37 PM	04:46 PM
2019-10-20	Susmita	12:47 PM	01:23 PM
2019-10-20	sabbir	12:49 PM	01:23 PM

Figure 4.3.9 View Attendance of all users.

Users have all users name, email and how users have in this system. Figure 4.3.10 shows the list of all users.

ID	Name	Email	
1	Rafi	ashraf@gmail.com	Edit
2	Jumana	jumana@gmail.com	Edit
3	Fahim	fahim@gmail.com	Edit
4	Prema	prema@gmail.com	Edit
13	Farida	farida@gmail.com	Edit
14	sabbir	sabbir@gmail.com	Edit
15	Susmita	susmita@gmail.com	Edit

Figure 4.3.10 All Users list.

Through add user adding the new user. Figure 4.3.11 shows the how admin add the new user.

Name

Email

Password

Role User Admin

[Create User](#)

Figure 4.3.11 Add user.

After add the new user then his device is adding through the Add device. Figure 4.3.12 shows the after adding the user then how admin add the new user's device name and mac address and also add the new users id.

The screenshot shows the 'Add Device' interface. The header includes 'AutoAttend', a search bar, and a 'Sign out' button. The sidebar lists navigation options: Dashboard, My Attendance, View Attendance, Users, Add User, Add Device, Edit Profile, and Leave Applications. The main content area is titled 'Add Device' and features three input fields: 'Device Name' (placeholder: Name), 'Mac Address' (placeholder: Mac Address), and 'User ID' (placeholder: User ID). A blue 'Add Device' button is positioned below the input fields.

Figure 4.3.12 Add Device.

This page is same to users edit profile admin can also edit his profile. Figure 4.3.13 shows the how admin edit his profile.

The screenshot shows the 'Edit Profile' interface. The header includes 'AutoAttend', a search bar, and a 'Sign out' button. The sidebar lists navigation options: Dashboard, My Attendance, View Attendance, Users, Add User, Add Device, Edit Profile, and Leave Applications. The main content area is titled 'Edit Profile' and features three input fields: 'Name' (value: Fahim), 'Email' (value: fahim@gmail.com), and 'Role' (radio buttons for 'User' and 'Admin', with 'Admin' selected). A blue 'Update Profile' button is positioned below the input fields.

Figure 4.3.13 Admin's Edit profile.

When users apply for leave then the application goes to the pending option. Figure 4.3.14 shows the admin can check users leave applications for pending page.

ID	Name	Type	Start Date	End Date	Descripton	Approve	Decline
2	Rafi	official	2019-10-24	2019-10-09	aaaa	Approve	Decline
11	Prema	Official	2019-10-22	2019-10-22	I would like to formally request one day leave of absence for official reasons.Thank you very much for your consideration.	Approve	Decline
12	Susmita	Yearly	2019-10-23	2019-10-29	I am requesting annual leave for the one week period of Oct 23-29.	Approve	Decline
13	Emran	Sick	2019-10-21	2019-10-22	Respectfully, it is to inform you that I am suffering from fever. I am an employee of your firm for past	Approve	Decline

Figure 4.3.14 Pending Applications.

When admin approved the leave then application goes to the approved page. Figure 4.3.15 shows the how many users application is approved and after approved if admin think that he cancelled the leave then he has also a decline option.

ID	Name	Type	Start Date	End Date	Descripton	Decline
5	Rafi	sick	2019-10-24	2019-10-26	aaaa	Decline
8	Jumana	Official	2019-10-18	2019-10-19	i am sick	Decline
9	Jumana	Sick	2019-10-14	2019-10-15	i am sick	Decline
10	Jumana	Official	2019-10-18	2019-10-18	plz accept my leave	Decline

Figure 4.3.15 Approved Applications.

When declined the leave application then application goes to the declined page. Figure 4.3.16 shows the which users leave application is declined and after declined if admin think that he approved the leave then he has also a approve option.

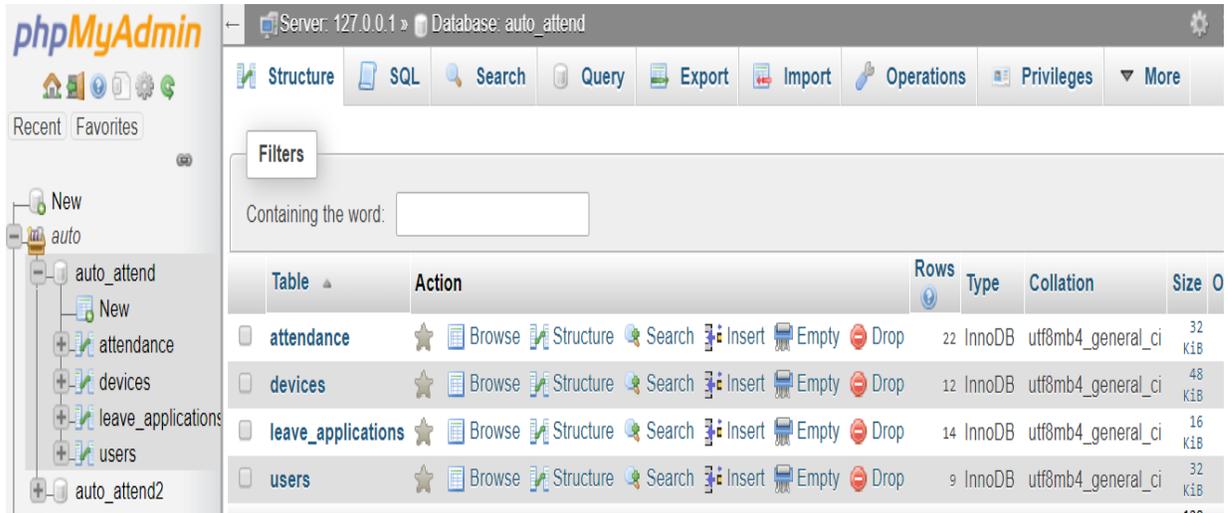
The screenshot shows a web application interface for managing leave applications. At the top, there is a navigation bar with 'AutoAttend' on the left, a search field in the center, and 'Sign out' on the right. A sidebar on the left contains a menu with items: Dashboard, My Attendance, View Attendance, Users, Add User, Add Device, Edit Profile, and Leave Applications. The main content area is titled 'Leave Applications' and includes a filter bar with 'Pending | Approved | Declined'. Below this is a table with the following data:

ID	Name	Type	Start Date	End Date	Descripton	
6	Rafi	official	2019-10-24	2019-10-25	aaaaa	<button>Approve</button>
7	Rafi	Choose...	2019-10-18	2019-10-25	aaaa	<button>Approve</button>
8	Jumana	Official	2019-10-18	2019-10-19	i am sick	<button>Approve</button>

Figure 4.3.16 Declined Applications.

4.4 Backend Design

We create 4 table of our systems database there are attendance, devices, leave-applications and users table. Figure 4.4.1 shows the systems database table.

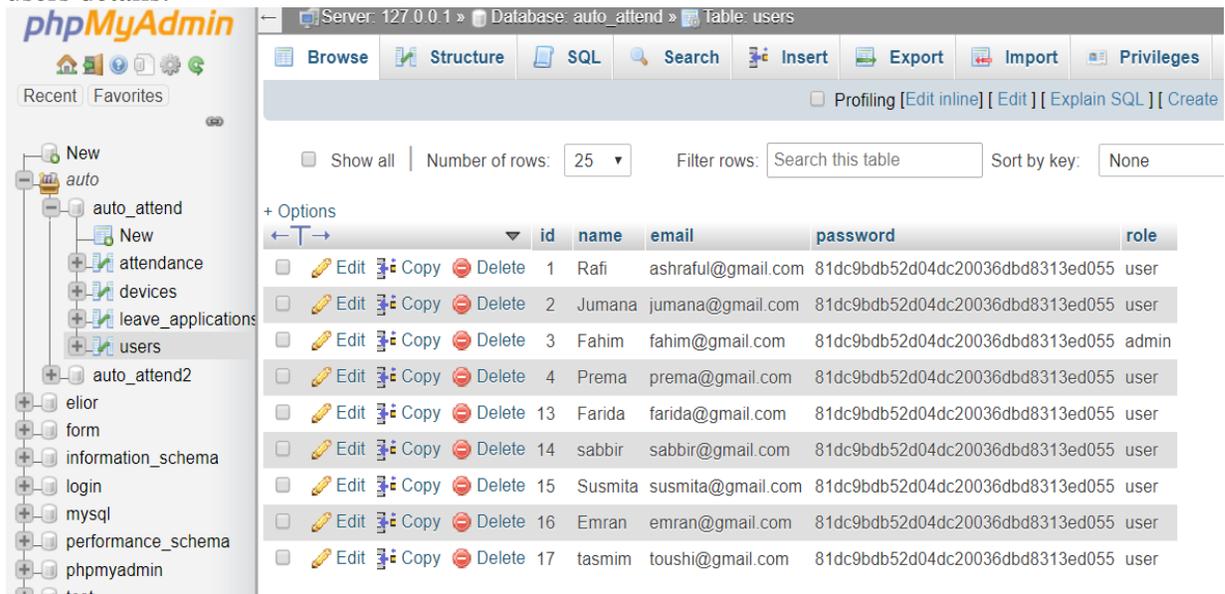


The screenshot shows the phpMyAdmin interface for a database named 'auto_attend'. The 'Structure' tab is selected, displaying a table with the following columns: Table, Action, Rows, Type, Collation, and Size. The table lists four tables: attendance (22 rows, 32 KiB), devices (12 rows, 48 KiB), leave_applications (14 rows, 16 KiB), and users (9 rows, 32 KiB). Each table has a star icon and a set of action icons (Browse, Structure, Search, Insert, Empty, Drop).

Table	Action	Rows	Type	Collation	Size
attendance	★ Browse Structure Search Insert Empty Drop	22	InnoDB	utf8mb4_general_ci	32 KiB
devices	★ Browse Structure Search Insert Empty Drop	12	InnoDB	utf8mb4_general_ci	48 KiB
leave_applications	★ Browse Structure Search Insert Empty Drop	14	InnoDB	utf8mb4_general_ci	16 KiB
users	★ Browse Structure Search Insert Empty Drop	9	InnoDB	utf8mb4_general_ci	32 KiB

Figure 4.4.1: Database table.

Users table have all users id, name, email, password and role. Figure 4.4.2 shows the users details.



The screenshot shows the phpMyAdmin interface for the 'users' table. The 'Browse' tab is selected, displaying a table with the following columns: id, name, email, password, and role. The table contains 17 rows of user data. Each row has a star icon and a set of action icons (Edit, Copy, Delete).

	id	name	email	password	role
★ Edit Copy Delete	1	Rafi	ashraful@gmail.com	81dc9bdb52d04dc20036dbd8313ed055	user
★ Edit Copy Delete	2	Jumana	jumana@gmail.com	81dc9bdb52d04dc20036dbd8313ed055	user
★ Edit Copy Delete	3	Fahim	fahim@gmail.com	81dc9bdb52d04dc20036dbd8313ed055	admin
★ Edit Copy Delete	4	Prema	prema@gmail.com	81dc9bdb52d04dc20036dbd8313ed055	user
★ Edit Copy Delete	13	Farida	farida@gmail.com	81dc9bdb52d04dc20036dbd8313ed055	user
★ Edit Copy Delete	14	sabbir	sabbir@gmail.com	81dc9bdb52d04dc20036dbd8313ed055	user
★ Edit Copy Delete	15	Susmita	susmita@gmail.com	81dc9bdb52d04dc20036dbd8313ed055	user
★ Edit Copy Delete	16	Emran	emran@gmail.com	81dc9bdb52d04dc20036dbd8313ed055	user
★ Edit Copy Delete	17	tasmim	toushi@gmail.com	81dc9bdb52d04dc20036dbd8313ed055	user

Figure 4.4.2: Database users table.

This is an all user's devices table and table have device name, devices mac address and also have which date and time users last seen. Figure 4.4.3 shows the all users devices which date and time their last seen of this system.

id	name	mac_add	user_id	last_seen
1	Jumana's PC	2C-D0-5A-57-C2-F8	2	2019-07-19 16:29:56
2	Fahim's PC	0C-54-15-5D-C6-A9	3	2019-06-21 07:19:36
3	Prema's PC	44-1C-A8-93-90-6B	4	2019-10-20 14:14:56
4	Ashrafu's PC	7C-2A-31-B9-FE-83	1	0000-00-00 00:00:00
5	Jumana's Phone	48-01-C5-14-D4-8E	2	2019-10-20 16:28:56
6	Prema's Phone	20-A6-0C-31-EA-73	4	2019-10-20 16:46:59
7	Fahim's Phone	6C-B7-49-FE-AA-06	3	2019-11-17 21:29:56
9	Farida's Phone	B4-0F-B3-3A-2A-AD	13	2019-10-20 00:57:00
10	sabbir's phone	A8-3E-0E-61-35-B9	14	2019-10-20 13:23:31
11	Susmita's phone	1C-77-F6-CB-4F-25	15	2019-10-20 13:23:31
12	emran's phone	50-8F-4C-41-59-66	16	2019-10-20 16:33:07
13	toushi's phone	C4-0B-CB-33-82-8B	17	2019-10-20 13:22:38

Figure 4.4.3: Database devices table.

This table have all data of user's attendance which date he present or absent and time of his in time and out time. Figure 4.4.4 shows the date wise all users in time and out time of this system.

date	user_id	in_time	out_time
2019-06-21	2	2019-06-21 08:27:46	2019-06-21 12:35:10
2019-06-21	4	2019-06-21 08:27:57	2019-06-21 12:35:22
2019-06-21	3	2019-06-21 08:28:46	2019-06-21 12:35:22
2019-07-19	1	2019-07-19 05:00:00	2019-07-19 06:00:00
2019-07-19	2	2019-07-19 16:21:55	2019-07-19 16:29:56
2019-07-19	4	2019-07-19 16:22:03	2019-07-19 16:30:08
2019-07-19	3	2019-07-19 16:22:04	2019-07-19 16:27:04
2019-10-12	4	2019-10-12 12:33:54	2019-10-12 12:40:10
2019-10-12	3	2019-10-12 12:33:54	2019-10-12 12:40:11
2019-10-12	2	2019-10-12 12:35:14	2019-10-12 12:40:10
2019-10-17	3	2019-10-17 14:04:54	2019-10-17 14:04:54
2019-10-17	2	2019-10-17 14:06:08	2019-10-17 14:06:55
2019-10-19	3	2019-10-19 22:35:15	2019-10-19 23:59:56
2019-10-20	3	2019-10-20 00:00:57	2019-10-20 16:44:03
2019-10-20	13	2019-10-20 00:32:00	2019-10-20 00:57:00
2019-10-20	2	2019-10-20 12:37:39	2019-10-20 16:28:56
2019-10-20	4	2019-10-20 12:37:39	2019-10-20 16:46:59
2019-10-20	15	2019-10-20 12:47:13	2019-10-20 13:23:31
2019-10-20	14	2019-10-20 12:49:53	2019-10-20 13:23:31
2019-10-20	16	2019-10-20 12:55:42	2019-10-20 16:33:07
2019-10-20	17	2019-10-20 13:22:38	2019-10-20 13:22:38
2019-11-17	3	2019-11-17 21:02:23	2019-11-17 21:29:56

Figure 4.4.4: Database attendance table.

Leave applications table have data of how users applying for leave, start date of leave and end date of leave, which users' application is approved and which users' application are declined. Figure 4.4.5 shows the record of users leave applications.

The screenshot shows the phpMyAdmin interface with the 'leave_applications' table selected. The table contains 14 records with columns: id, user_id, type, date_start, date_end, description, and status. The status column indicates whether the application is 'Approved', 'Declined', or 'Pending'.

id	user_id	type	date_start	date_end	description	status
1	0	official	2019-10-10	2019-10-25		
2	1	official	2019-10-24	2019-10-09	aaaa	Approved
3	1	sick	2019-10-24	2019-10-08	aaaa	Approved
4	1	sick	2019-10-24	2019-10-26	aaaa	Approved
5	1	sick	2019-10-24	2019-10-26	aaaa	Approved
6	1	official	2019-10-24	2019-10-25	aaaaa	Declined
7	1	Choose...	2019-10-18	2019-10-25	aaaa	Declined
8	2	Official	2019-10-18	2019-10-19	i am sick	Declined
9	2	Sick	2019-10-14	2019-10-15	i am sick	Approved
10	2	Official	2019-10-18	2019-10-18	plz accept my leave	Approved
11	4	Official	2019-10-22	2019-10-22	i would like to formally request one day leave of ...	Pending
12	15	Yearly	2019-10-23	2019-10-29	I am requesting annual leave for the one week peri...	Pending
13	16	Sick	2019-10-21	2019-10-22	Respectfully, it is to inform you that I am suffer...	Pending
14	2	Sick	2019-10-22	2019-10-23	i am sick	Pending

Figure 4.4.5: Database leave_ applications table.

4.5 Implementation Requirements

These are following things and technology that we need to implement this project. Here is the list below:

- Internet Browser
- XAMPP Server
- Task Scheduler
- Text Editor (ex: Atoms, sublime Text)
- PHP 7.2
- HTML 5
- CSS
- jQuery 3.0+
- Bootstrap 4

4.6 Hardware Requirement

- Operating System (Windows, Linux, Mac OS, Android)
- RAM 1 GB or Higher
- HDD 256 GB
- Modem or Broadband (Must have good speed)

4.7 Software Requirement

- Internet Browser (Google chrome v60 or above)
- Internet Browser (Firefox v50 or above)

4.8 Summary

This application will automate the process of tracking the attendance of employees at an organization of any scale without needing regular manual intervention. Once the employee list and MAC addresses are added to the database, the application will automatically track the entry and exit times of every employee. The leave application form within the system allows users to file requests for time-off and their requests be reported in the same attendance interface.

CHAPTER 5

CONCLUSION AND FUTURE SCOPE

5.1 Discussion and Conclusion

We were able to implement a simple system to automate attendance tracking. The application is built using familiar technologies and is highly customizable. The design of the system makes it useful for any organization and it helps these organizations reduce paper-based work for attendance taking and improves accuracy in the data traditionally collected as a part of attendance.

The Wi-Fi network-based employee presence detection makes it easy to adopt for organizations as a majority of mobile phones now already support this technology and almost every employee of every organization carries a mobile phone.

5.2 Limitations

Interface is only in English; no other language option is available.

User can login with his assigned username and password, no guest facilities are available.

Attendance tracking depends on a 24x7 available Wi-Fi network.

Improvements will be required to scale for organizations with multiple Wi-Fi network.

5.3 Future Scope

Because of the short time we couldn't add new features to reach to our goal. If we got sufficient opportunity, we had intention to incorporate some more features in our system. In future we have plan to extend all of the things referenced beforehand. We want to add support for additional display languages. We want to add support for multiple Wi-Fi networks. We want to make sure some of the business rules (e.g. entry/exit time limits) are customizable. We want to implement team hierarchy in user management.

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