Biometric Attendance Management System
Software Requirements Specification

Submitted for S725 –
Applied Software Engineering

Contents

Introduction

Purpose: The purpose of this SRS is to define the requirements for a system that allows employees to mark attendance, apply for leave. as well as for managers and system administrators to approve and manage these activities.

Scope: The system will be a web-based application that can be accessed from any device with a web browser. It will allow employees to mark attendance and apply for leave, and it will allow managers to approve or reject leave requests. The system will also allow system administrators to manage user accounts, assign user roles, and generate reports on attendance and leave

Definitions, acronyms, and abbreviations:

SRS: Software Requirements Specification

UI: User Interface

API: Application Programming Interface

Overall description

System overview: The system will be a web-based application that allows employees to mark attendance and apply for leave. as well as for managers and system administrators to approve and manage these activities. The system will be accessed through a web browser and will have a responsive UI that can be used on a desktop.

Product features:

System administrator features:

Login: System administrators will be able to log in to the system using their unique credentials (e.g., username and password).

Approve registered users: System administrators will be able to view a list of registered users and either approve or reject their request for an account.

Assign user roles: System administrators will be able to assign appropriate user roles (e.g., employee, manager, HR staff) to approved users.

Delete users: System administrators will be able to delete user accounts for employees who have left the organization.

Generate reports: The system will generate reports on attendance, leave. The system will also allow the system administrator to generate a report on the employees currently registered in the system. These reports will be accessible to managers

Employee features:

Employee registration: Employees will be able to register for an account in the system by providing their personal and professional details (e.g., name, email address, job title).

Login: Approved employees will be able to log in to the system using their unique credentials.

Mark attendance: Once logged in, employees will be able to mark their attendance for the current day. This will involve clicking a button to indicate that they are present, and entering the time at which they arrived.

Apply for leave: Employees will be able to apply for leave through the system. This will involve filling out a form with details such as the start and end dates of the leave, the type of leave (e.g., vacation, sick leave), and any relevant notes or documents.

Log out: Employees will be able to log out of the system when they are finished using it. They will also be required to enter the time at which they are leaving.

Manager features:

Login: Managers will be able to log in to the system using their unique credentials (e.g., username and password). –

View attendance and leave data: Managers will be able to view attendance and leave data for their team, including the ability to see when employees are marked as present or absent, and the times at which they marked attendance and logged out.

Approve or reject leave requests: Managers will be able to approve or reject leave requests from their team members.

Access attendance and leave reports: Managers will have access to attendance and leave reports for their team.

External interface requirements

User interface: The system will have a responsive UI that can be used on desktop and mobile devices. The UI will include forms for employees to mark attendance, apply for leave, as well as pages for managers and system administrators to view and manage these activities.

Hardware interfaces: The system will be accessed through a web browser, so it will not have any specific hardware interfaces.

Software interfaces: The system may need to interface with other software systems, such as a database. These interfaces will be implemented using APIs.

System features

Login: The system will allow employees, managers, and system administrators to log in using their unique credentials (e.g., username and password).

Employee attendance: Employees will be able to mark their attendance for the current day by clicking a button and entering the time at which they arrived.

Leave management: Employees will be able to apply for leave through the system by filling out a form with details such as the start and end dates of the leave, the type of leave (e.g., vacation, sick leave), and any relevant notes or documents. Leave requests will be sent to the employee's manager for approval, and the manager will be able to view the details of the request and either approve or reject it.

Wage calculation: Once an employee has logged out for the day, their attendance data (including the times they marked attendance and logged out) will be used to calculate their wage. This calculation will consider factors such as the number of hours worked, the employee's hourly rate, and any applicable overtime pay. The wage calculation will be authorized by the manager before it is final.

Reports: The system will generate reports on attendance and leave

Other non-functional requirements

Performance: The system should be able to handle a high volume of users and transactions without experiencing significant delays or downtime.

Security: The system should ensure the confidentiality and integrity of user data, including employee attendance and personal information, and should implement appropriate measures to prevent unauthorized access or manipulation of the data. The system should ensure the confidentiality and

integrity of user data, including employee attendance and personal information, and should implement appropriate measures to prevent unauthorized access or manipulation of the data.

Usability: The system should be easy for users to navigate and use, with a clear and intuitive UI.

Compatibility: The system should be compatible with popular web browsers and devices.

Other requirements

User registration: The system will allow employees to register for an account by providing their personal and professional details (e.g., name, email address, job title).

User roles: The system will support three user roles: employee, manager, and system administrator. Employees will be able to mark attendance, apply for leave. Managers will be able to view and approve or reject leave requests and authorize wage calculations, as well as access attendance and leave reports for their team. System administrators will be able to manage user accounts, assign user roles, and generate reports on attendance, leave.

User management: System administrators will be able to view a list of registered users and either approve or reject their request for an account. They will also be able to delete user accounts for employees who have left the organization.

Data storage: The system will store data such as employee attendance, leave requests, and expenses in a database.

Use cases:

The following use cases describe the actions that users can take within the system:

Employee attendance: An employee logs in to the system, marks their attendance for the current day, and logs out.

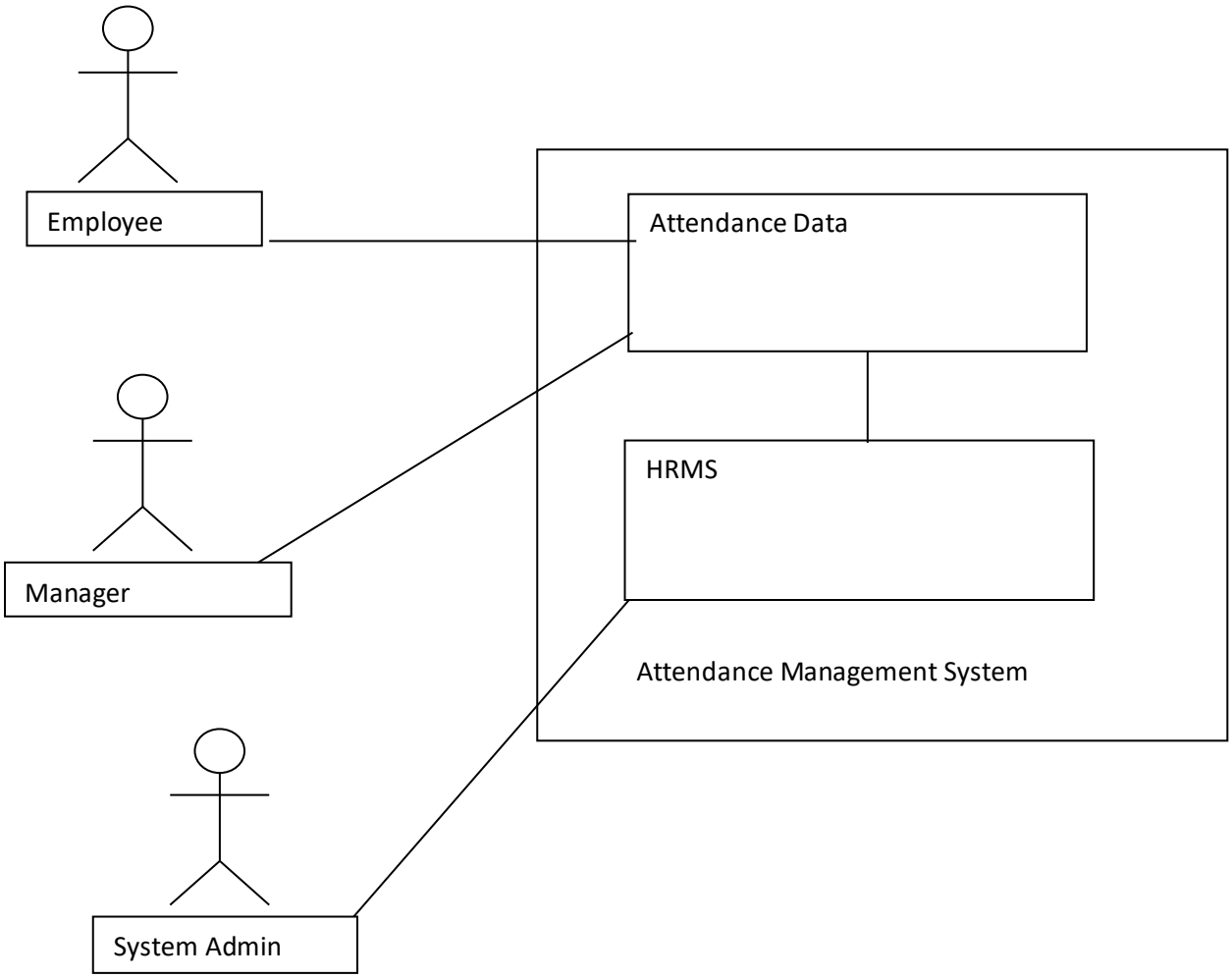
Leave request: An employee logs in to the system, submits a leave request with the start and end dates of the leave and the type of leave, and logs out. The leave request is sent to the employee's manager for approval.

Leave approval: A manager logs in to the system, views a list of leave requests from their team members, and either approves or rejects each request.

User management: A system administrator logs in to the system, views a list of registered users, and either approves or rejects their request for an account. The system administrator also assigns user roles and deletes user accounts as needed.

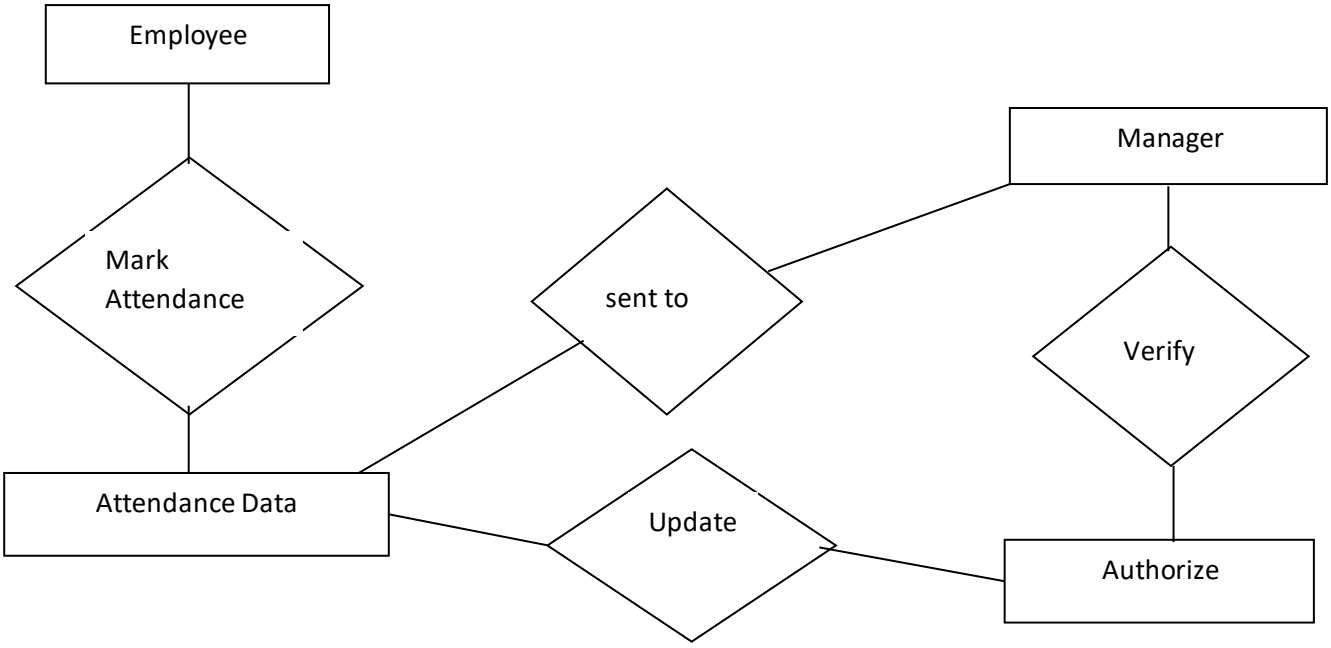
Reporting: A manager or system administrator logs in to the system and generates a report on attendance, leave, or expenses.

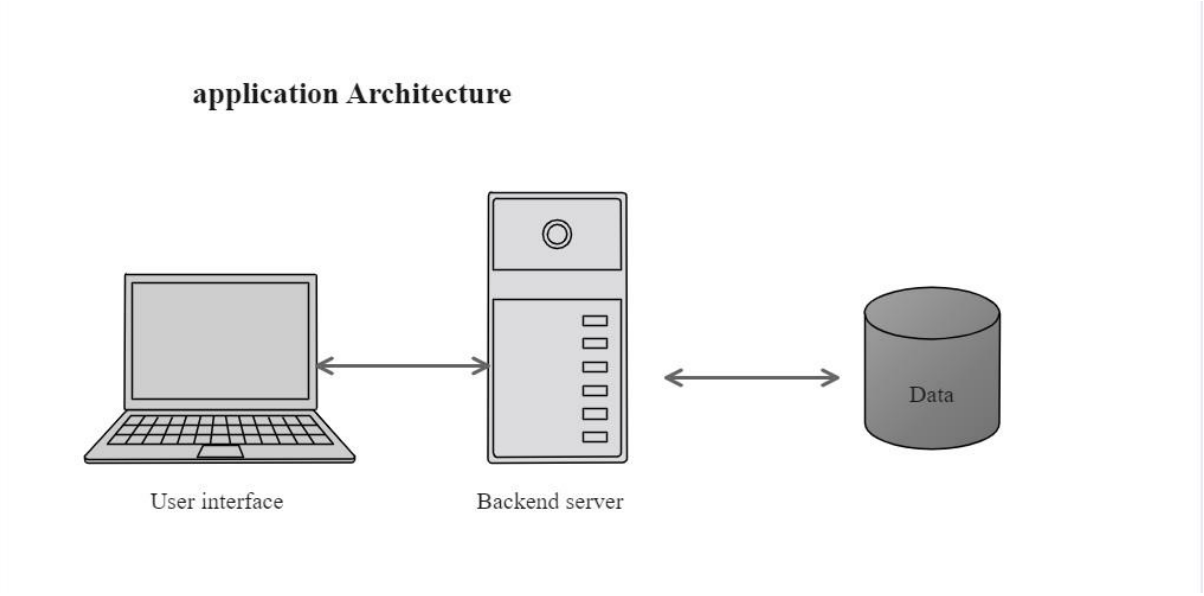
Overall System environment



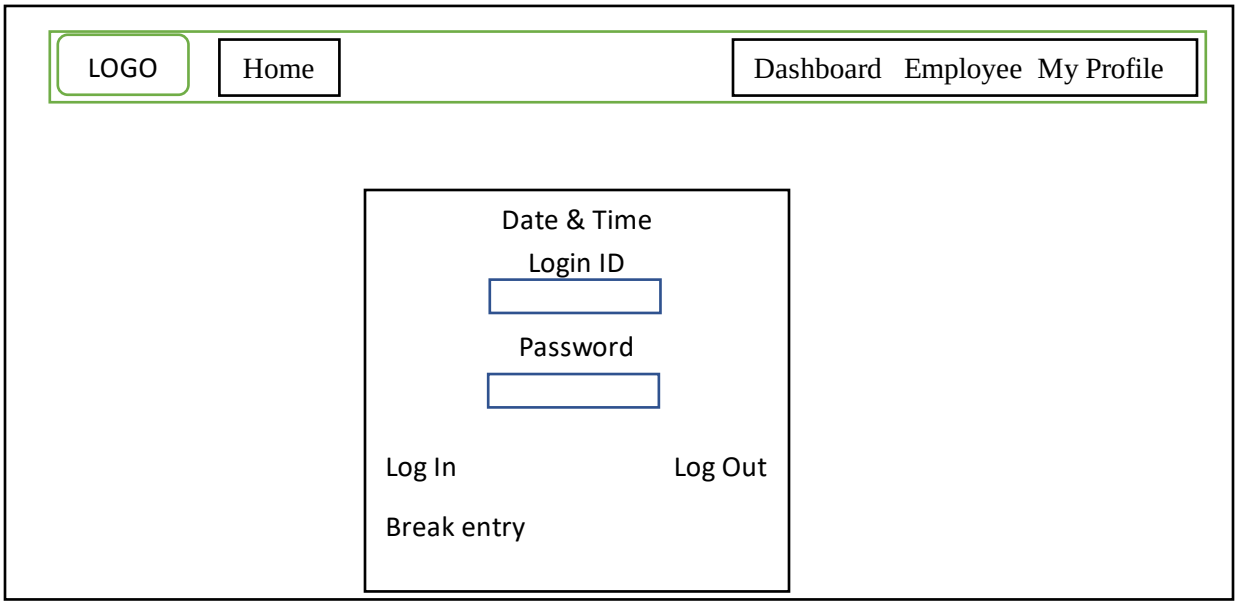
There is mainly three actors/ users in the system in which the employees and managers access the system via internet and system admin will have direct access with the database, each with distinguish functionalities.

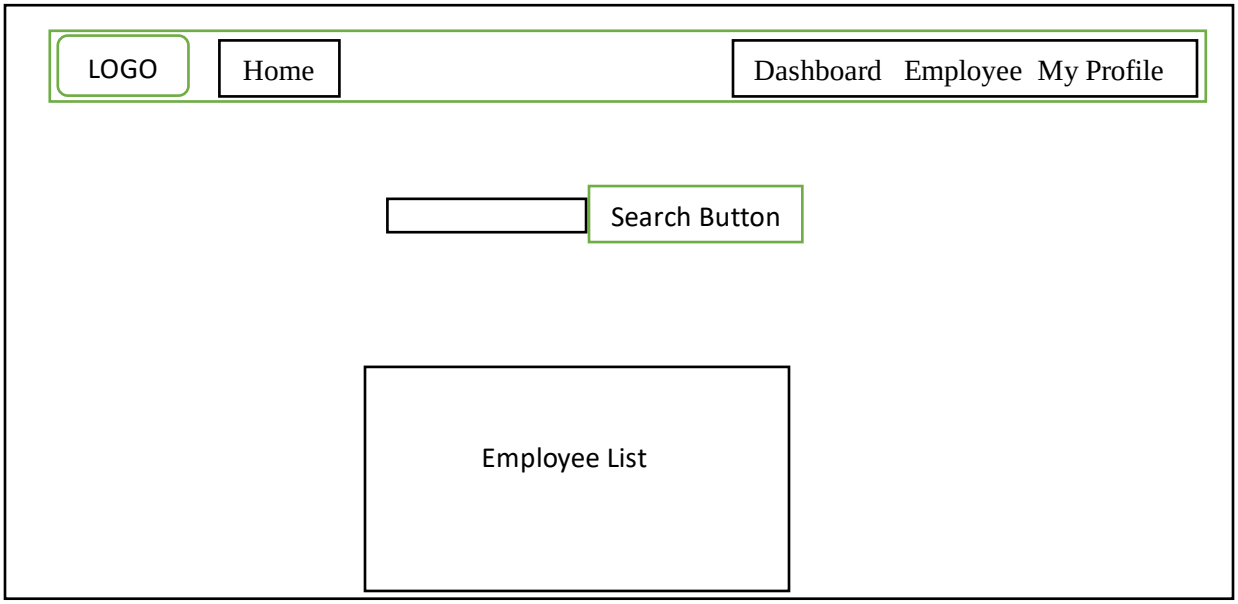
Logical Structure

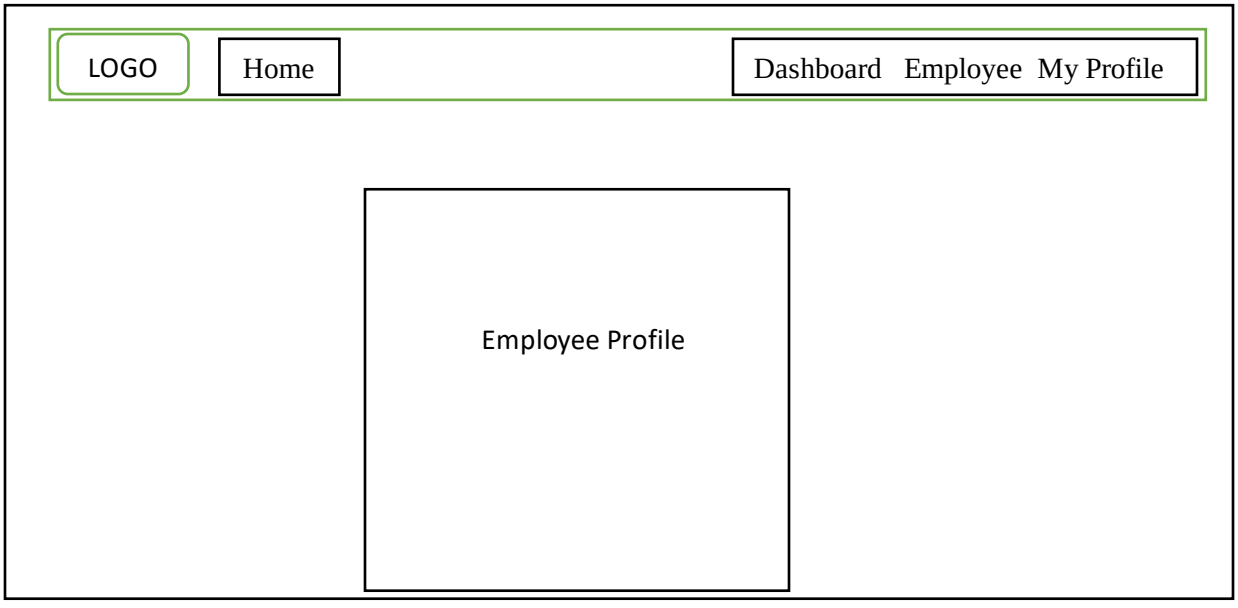


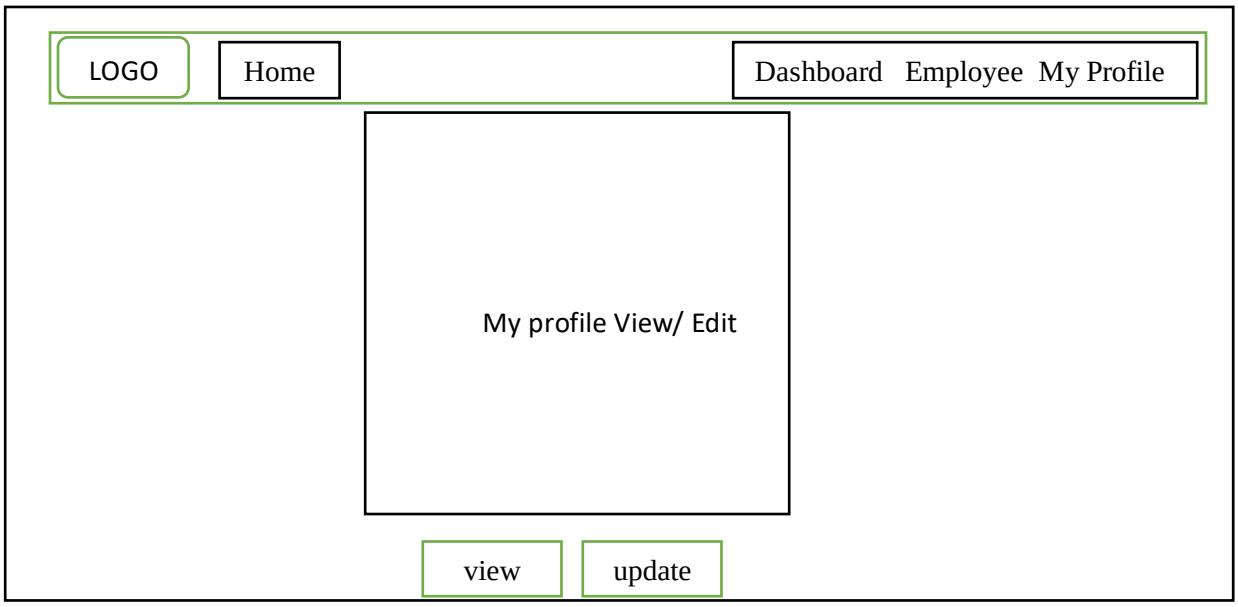


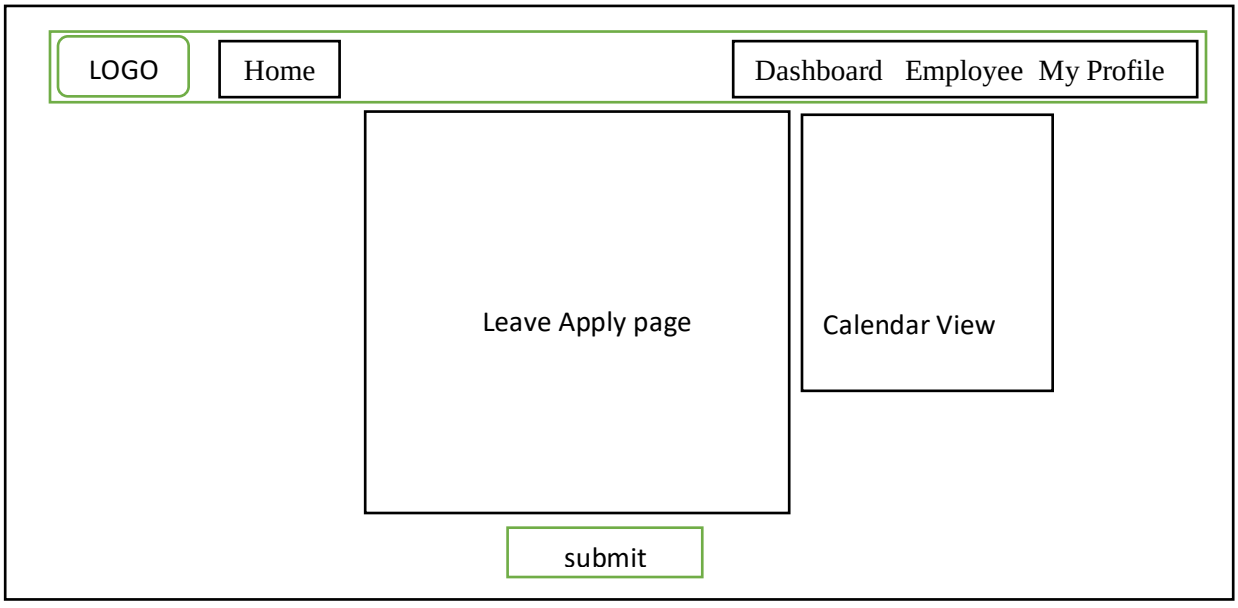
Wireframes/Prototype :

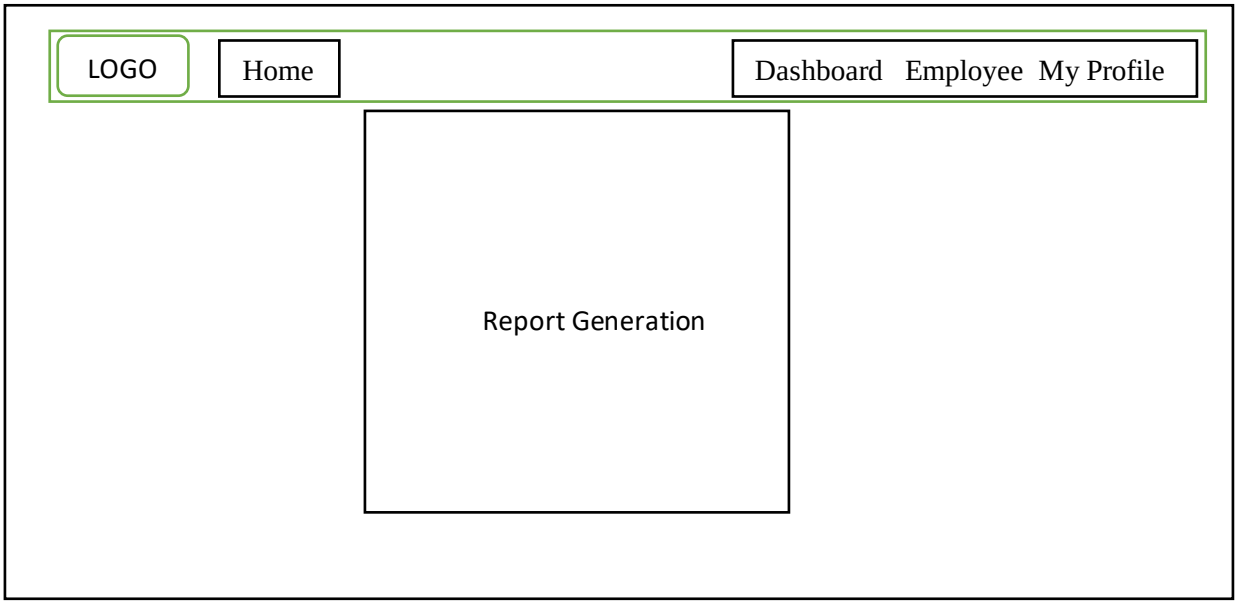


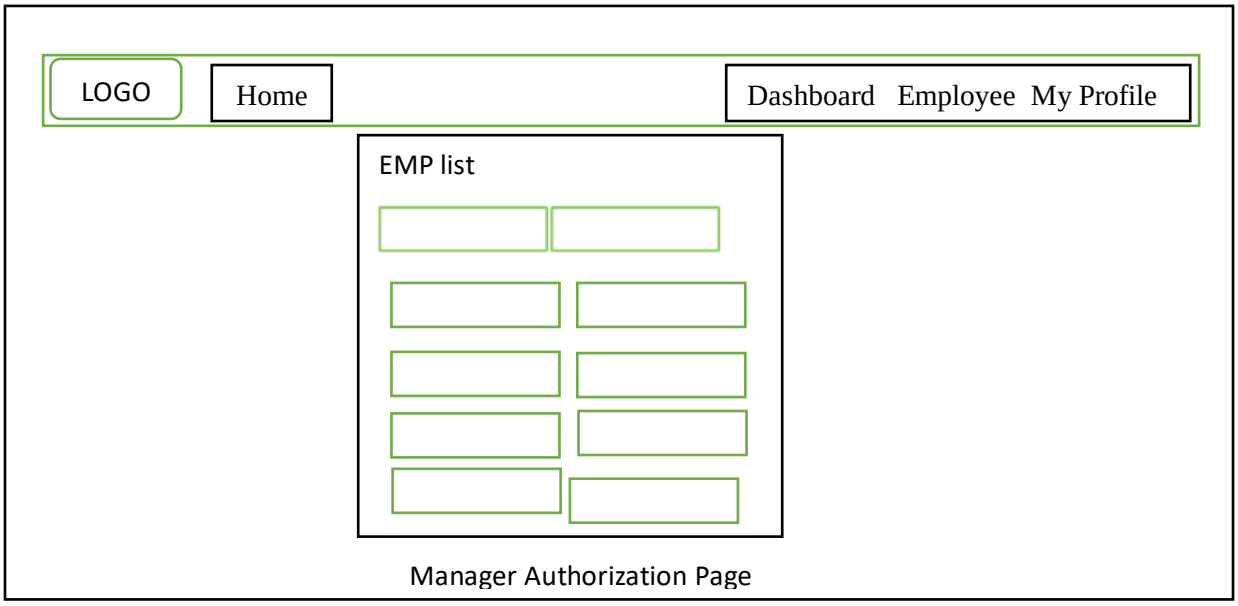





LOGO
Home
Dashboard
Employee
My Profile
My profile View/ Edit
view
update

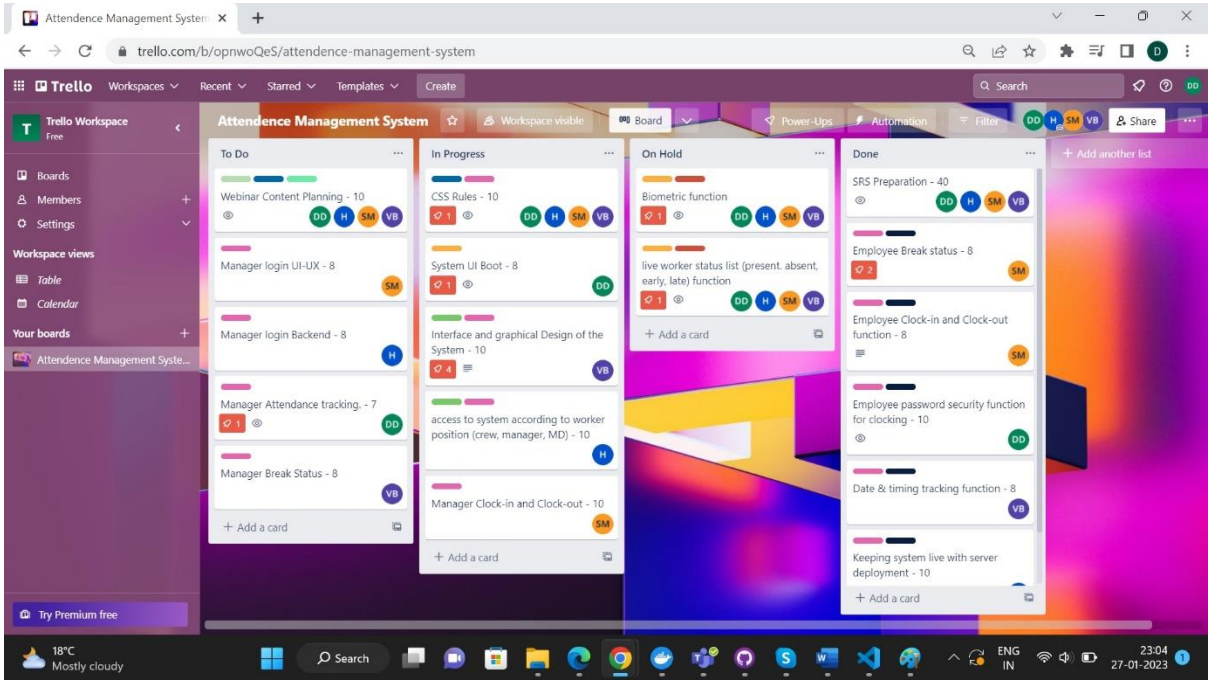

LOGO
Home
Dashboard
Employee
My Profile
Leave Apply page
Calendar View
submit





Manager Authorization Page

Appendix 1:



Tasks Contributed By Team Members:

<u>Deepak Damodaran</u>

- Webinar Content Planning (10) :
  - Each of us contributed 2.5 hours.
- Manager Attendance Tracking (7)
- CSS Rules (10)
  - Each of us contributed 2.5 hours.
- System UI Boot (8)
- Biometric Function (On hold):
- Live Worker Status List (present, absent, early, late) Function (On hold):
- SRS Preparation (40) :
  - Each of us contributed 10 hours.
- Employee Password Security Function for Clocking (10)

<u>Syed Yahyya Hashmi</u>

- Webinar Content Planning (10) :
  Each of us contributed 2.5 hours.
- CSS Rules (10) :
  Each of us contributed 2.5 hours.
- Access To System According to Worker Position (10):
- Manager Login Backend (8) :
- Biometric Function (On hold):

- Live Worker Status List (present, absent, early, late) Function (On hold):
- SRS Preparation (40):
  Each of us contributed 10 hours.
- Keeping System Live with Server Deployment (10) :

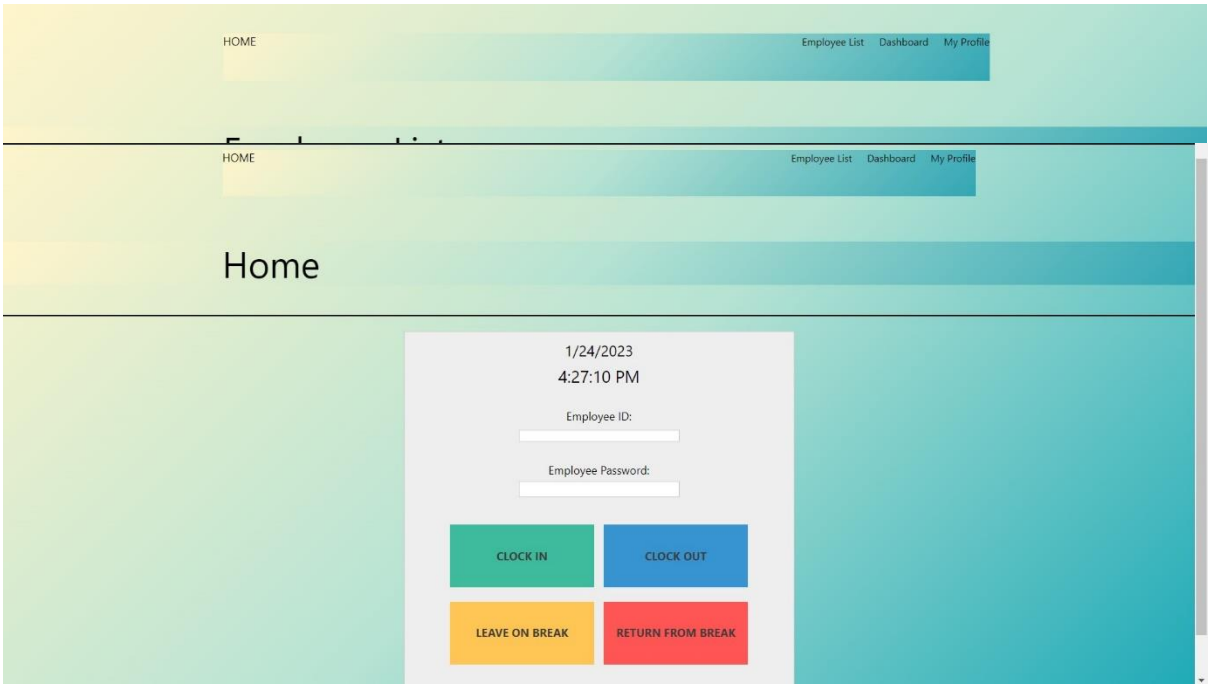
Syed Mohammed

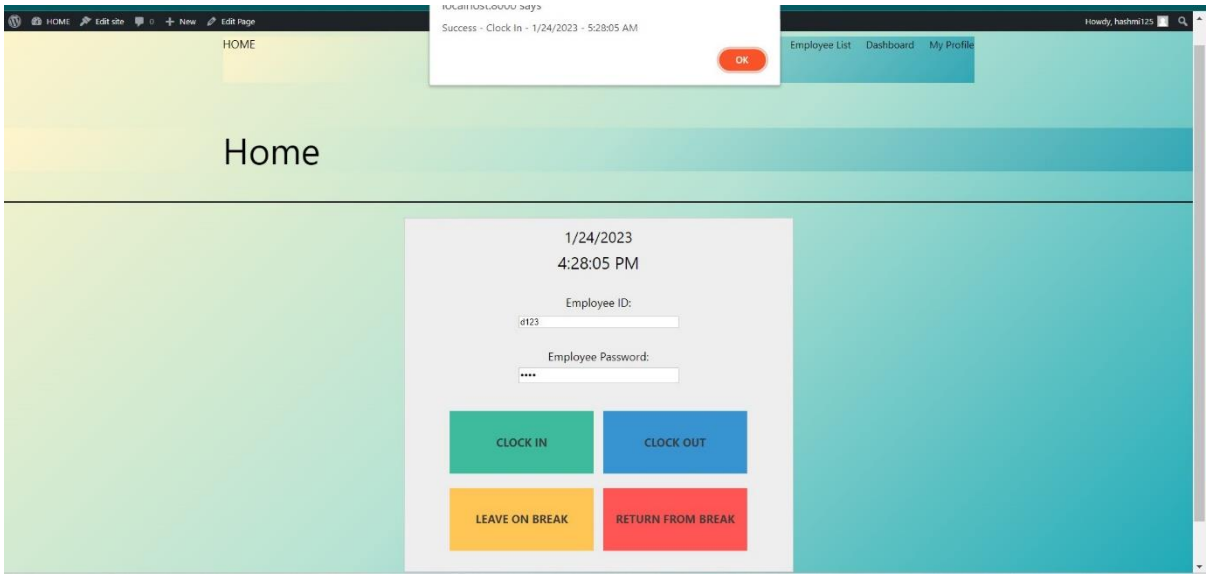
- Webinar Content Planning (10) :
  - Each of us contributed 2.5 hours.
- Manager Login UI-UX (8)
- CSS Rules (10) :
  - Each of us contributed 2.5 hours.
- Manager Clock-in and Clock-out (10)
- Biometric Function (On hold):
- Live Worker Status List (present, absent, early, late) Function (On hold):
- SRS Preparation (40) :
  - Each of us contributed 10 hours.
- Employee Break Status (8)
- Employee Clock-in Clock-out Function (8)

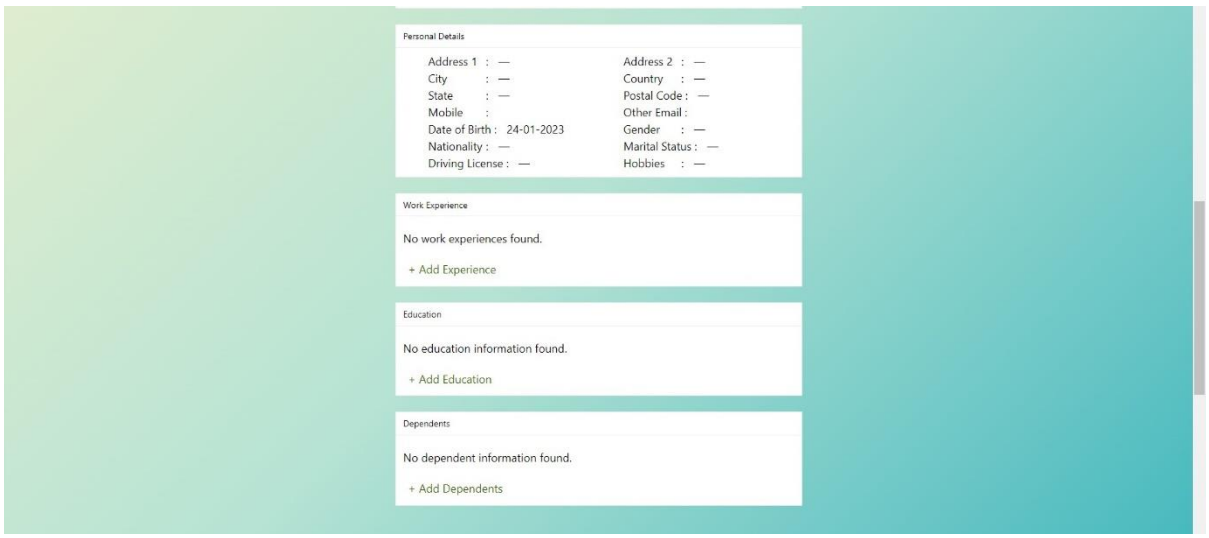
VinithRaja Balu

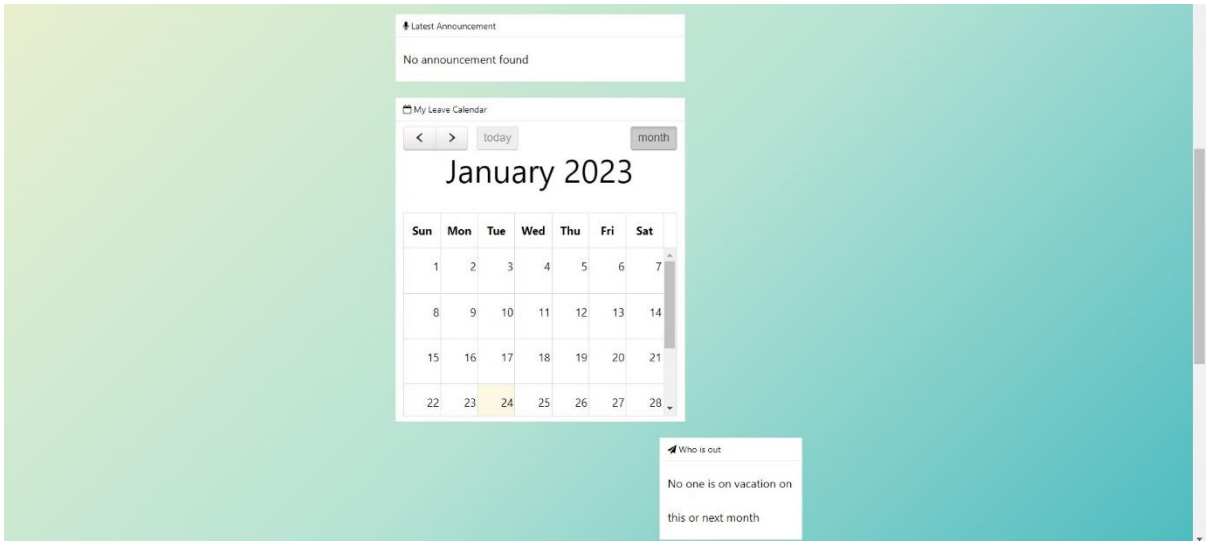
- Webinar Content Planning (10) :
  - Each of us contributed 2.5 hours.
- Manager Break Status (8)
- CSS Rules (10) :
  - Each of us contributed 2.5 hours.
- Interface and Graphical Design of the System (10)
- Biometric Function (On hold):
- Live Worker Status List (present, absent, early, late) Function (On hold):
- SRS Preparation (40) :
  - Each of us contributed 10 hours.
- Date & Timing Tracking Function (8) :

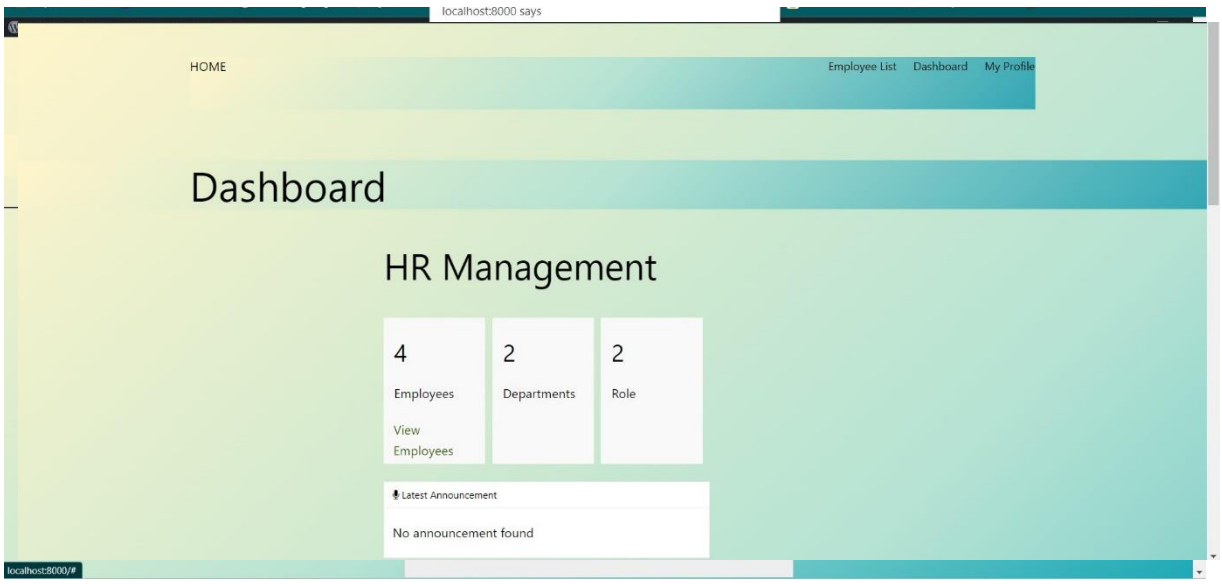
Screenshots of Application:

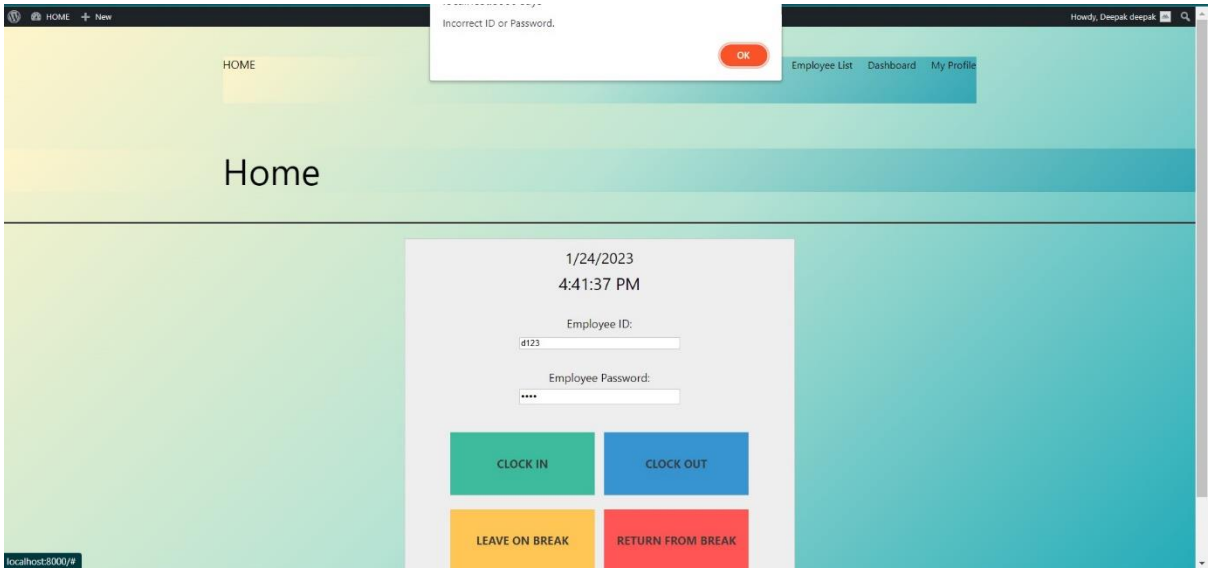





Personal Details
Address 1 : —
City : —
State : —
Mobile :
Date of Birth : 24-01-2023
Nationality : —
Driving License : —
Address 2 : —
Country : —
Postal Code : —
Other Email :
Gender : —
Marital Status : —
Hobbies : —
Work Experience
No work experiences found.
+ Add Experience
Education
No education information found.
+ Add Education
Dependents
No dependent information found.
+ Add Dependents


Latest Announcement
No announcement found
My Leave Calendar
today
month
January 2023
Sun Mon Tue Wed Thu Fri Sat
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
Who is out
No one is on vacation on this or next month


localhost:8000 says
HOME
Employee List
Dashboard
My Profile
Dashboard
HR Management
4
Employees
View Employees
2
Departments
2
Role
Latest Announcement
No announcement found
localhost:8000/#



Reflection of Team Mates in the Project

Working on this software project is a challenging and rewarding experience, thanks in large part to the technical expertise of my project mates. Their skills as a team is very good, the brainstorming sessions we held were productive and collaborative, and my project mates' contributions were invaluable. The team worked seamlessly together to create the SRS document up to now

One of the standout features of this software project was the level of collaboration among my project mates. we were always able to rely on each other for support and guidance. The technical coding aspect of the software project was handled by each of the project mates. The brainstorm sessions we held were productive and allowed us to come up with solutions which as individuals it may take more effort and time. Collaboration was key to the success of the project and my project mates were great team players, always ready to help each other.