



DBMS COURSE PROJECT  
2024

# Employee Management System

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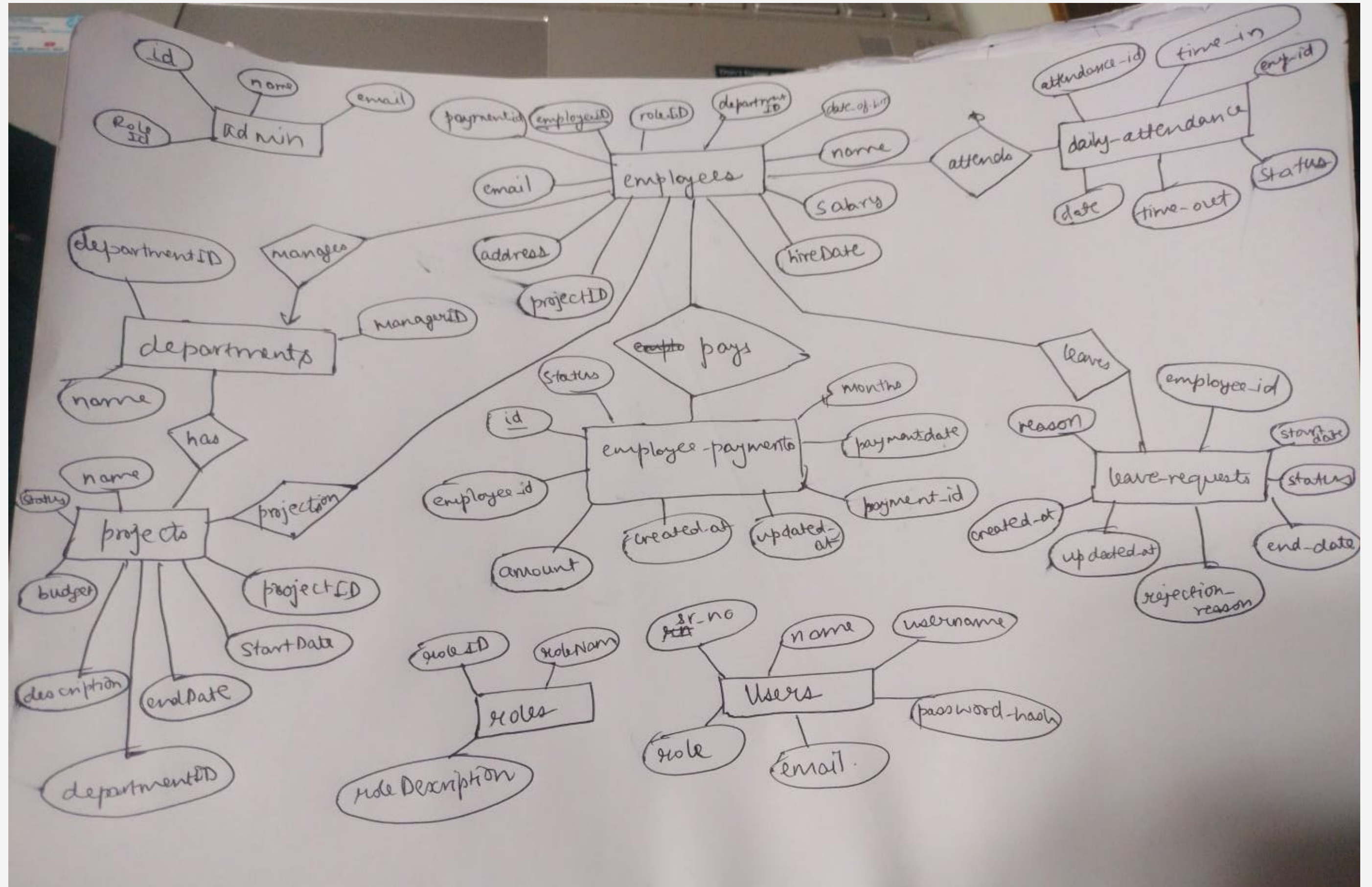
# Problem Statement

The problem statement of an Employee Management System (EMS) outlines the key issues that the system aims to resolve and the goals it strives to achieve in managing employee data within an organization. This system is generally designed to streamline and enhance the management of employee information, which includes personal details, job-related data, payroll, attendance of the employees etc.





# ER DIAGRAM



# Database Management

## Overview of schema

Supports CRUD (Create, Read, Update, Delete) operations for employee records

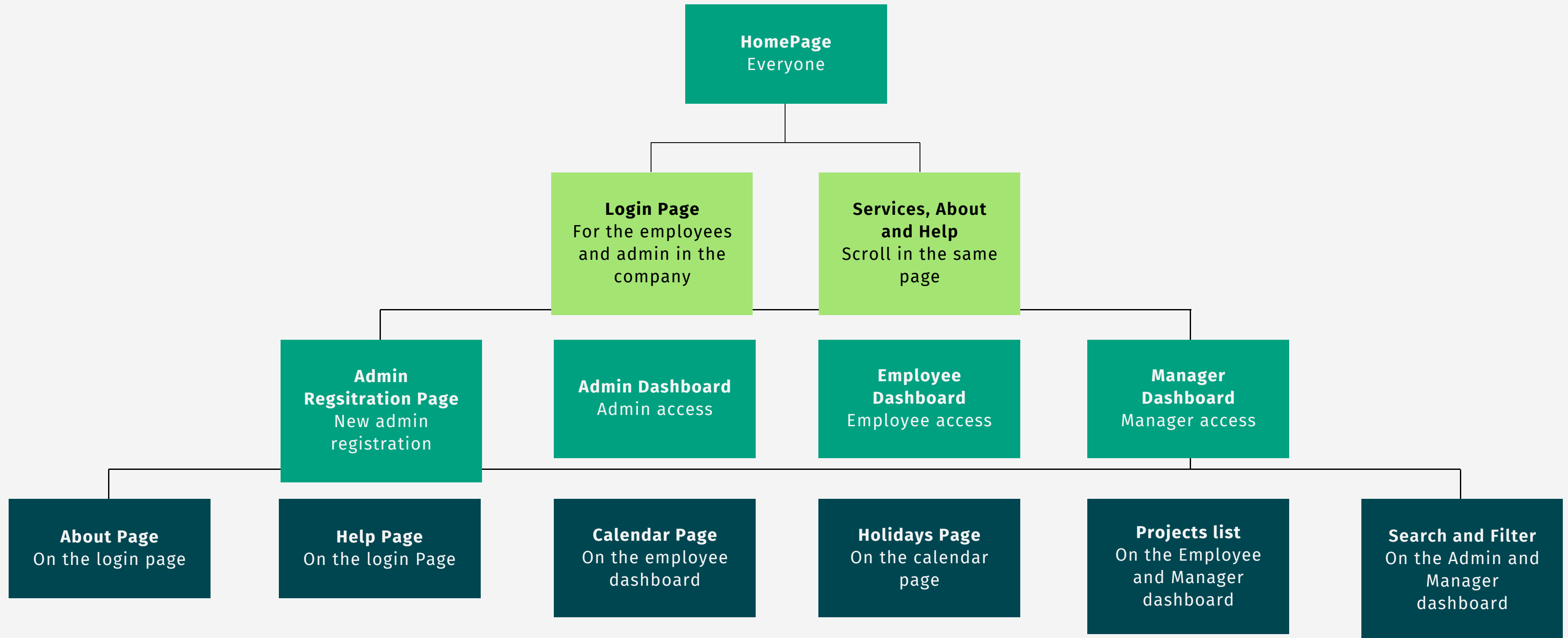
- **Tables:**

- **Employees:** Contains personal and professional details of employees.
- **Departments:** Lists departments within the organization.
- **Roles:** Defines various roles assigned to employees.
- **Projects:** Manages ongoing and completed projects.
- **Leaves:** Manages the leaves of an employee with the employee ID.

- **Relationships:**

- One-to-many between Departments and Employees.
- One-to-many between Roles and Employees.
- Many-to-many between Employees and Projects facilitated through a junction table.

# Pages and Content



# HomePage

## Welcome to TechSolutions

Your partner in innovative IT solutions.

## Our Services

### Cloud Solutions

Maximize efficiency with our cloud computing services.

### Software Development

Custom software solutions tailored to your needs.

### IT Consulting

Expert advice to optimize your IT strategies.

# Roles

## Admin

Main management of the entire system, keeps track of all the employees and managers in the company. Have access to all the available data.

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## Manager

Manager of each department have access to all the data of the employees in their respective departments

---

## Employee

Employees can see their projects info, the calendar pages but can't see the data/info of any employee other than themselves.



[Back to Agenda Page](#)



# Login and Admin Registration

## **Username and Password Login**

- Users can enter their username and password to log into the system.
- Access granted only to the verified users.

## **Admin Details for registration**

- Administrative users can create their accounts or register new admin profiles.
- It might involve entering detailed information such as names, email etc. for people who will manage.

## **About and Help page**

- Provides help resources, FAQs and contact details for support.
- Aids users in navigating the application and resolving any issues they encounter.

## **Go back to HomePage**

- This is a navigation feature allowing users to return to the homepage of the application at any point.
- It enhances user experience.

# Backend Working

LOGIN AND ADMIN REGISTER

```
app.post('/', (req, res) => {
```

```
app.post('/register', async (req, res) => {
```

## Login

- The username and password are authenticated from the users table.
- The session user details are set to the person logged in.

## Admin Register

- A new admin is registered entering the required details.
- The entered details update the admin table and the users table with the registered information.

## Calls used

- app.post() calls are used as tables are to filled with the information entered

Login

Username

Password

Log In

Register New Admin

About TechSolutions Inc.

Our Mission

At TechSolutions Inc., our mission is to empower businesses through innovative technology solutions that streamline processes, enhance productivity, and drive growth.

What We Do

We specialize in providing end-to-end IT services, from system integration to data management and cybersecurity. Our team of experts works diligently to ensure your business is equipped with cutting-edge technology.

Our History

Founded in 2008, TechSolutions Inc. has spent over a decade refining our services and expanding our reach. Today, we're proud to be a leader in the IT services industry.

Help & Support

Frequently Asked Questions

Find answers to common questions about our services, billing, and technical support on our FAQ page.

View FAQs

Contact Support

Need further assistance? Our support team is here to help. Contact us via email, phone, or live chat.

Get Support

Documentation

Browse through our extensive library of product manuals, how-to guides, and technical documents.

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Browse through our extensive library of product manuals, how-to guides, and technical documents.

View Documentation

Go to Login

Go Back to Home

# Admin Dashboard

## Attendance Management

- This section is designed to handle the recording and monitoring of employee attendance.
- Check-ins and check-outs, real-time attendance reporting, and analytics to monitor

## Employee Registration

- Onboarding new employees into the company's system.
- Registration process through automated forms, ensuring new hires are systematically added to the company's database.

## Show Employees

- Search and Filter option which let the admin to view list or profiles of all employees based on department or roles.
- Easy access to all employees info.

## Personal Info and Logout

- Personal info of the employee is displayed on the page.
- Logout feature to go back to the login page.

# Backend Working

## ADMIN DASHBOARD

```
app.post('/register-employee', async (req, res) => {
```

```
  app.get('/get-admin-info', (req, res) => {
```

```
  app.post('/attendance-entry', (req, res) => {
```

```
  app.post('/attendance-exit', (req, res) => {
```

```
  app.get('/search-employees', (req, res) => {
```

```
  app.get('/filter-employees', (req, res) => {
```

## Employee registration

- All the details in the form are filled and entered in the users and employee table.

## Admin information

- Retrieve the admin data from the admin table.
- Using the name and email stored in the session.

## Attendance entry and exit

- Record the entry and exit of the employee manually in the attendance table
- The entry exit times and the status are also stored in the table.



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Record Entry

Employee Registration

Welcome, Mukul Goel

Email: mukul45@gmail.com

Role: Admin

Employee Name

dd - mm - yyyy

Close

Record Entry

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Record Entry

Employee Registration

Welcome, Mukul Goel

Email: mukul45@gmail.com

Role: Admin

Register New Employee

\* Name

Enter Full Name

\* Email

Enter Personal Email

\* Address

Enter Residential Address

Welcome, Mukul Goel

Email: mukul45@gmail.com

Role: Admin

Search Employees

Search

Engineering | Select Role

Apply Filters

Filtered Employees

Name: Aksh Agarwal

Email: aksh123@gmail.com

Name: Kimmy Gibler

Welcome, Mukul Goel

Email: mukul45@gmail.com

Role: Admin

aksh

Search

Engineering | Select Role

Apply Filters

Filtered Employees

Name: Aksh Agarwal

Email: aksh123@gmail.com

# Manager Dashboard

## Personal Info

- Managers can see and access their personal information.

## Leave Requests Management

- Leave requests from the employees of their department are managed.
- They can approve the leave request or reject it with a proper reason.

## Salary Payments

- Cover the management of salary disbursements to employees.
- Salary for different number of months can be paid.

## Show Employees

- Allows managers to see the employees info of their department.

# Backend Working

Manager Dashboard

```
app.get('/get-employee-info', async (req, res) => {
```

```
  app.get('/search-employees', (req, res) => {
```

```
    app.get('/manager', (req, res) => {
```

```
      app.get('/managerProjects', (req, res) => {
```

```
        app.get('/departmentEmployees', (req, res) => {
```

```
          app.get('/leave-applications', (req, res) => {
```

```
            app.post('/record-payment', (req, res) => {
```

## Employees

- Get the list of employees who work in that department from the department table.
- On the basis of the department ID we get the list of all the employees.

## Leave Requests

- Manager can see the leave requests from the leave table on the basis of department ID.
- Approve and rejects on the requests can be updated in the table.

## Employee payments

- In the employee\_payments table we update the amount and the months for which the employee is paid the salary.

Welcome Manager, Aksh Agarwal

Profile Projects Employees Leave Applications Pay Employees Salary

Edit Profile

Logout

Projects

Project Apollo

Status: Ongoing

Ongoing

Mark as Completed

Project Orion

Status: Completed

Completed

Mark as Completed

Welcome Manager, Vinod Agarwal

Profile Projects Employees Leave Applications Pay Employees Salary

Edit Profile

Logout

Pending Leave Applications

Danny Tanner's Leave Request

Dates: April 21, 2024 to April 23, 2024 Reason: Emergency in home

Approve

Reject

Welcome Manager, Aksh Agarwal

Profile Projects Employees Leave Applications Pay Employees Salary

Edit Profile

Logout

Aksh Agarwal

Kimmy Gibler

Profile Projects Employees Leave Applications Pay Employees Salary

Pay Salary

Name: Aksh Agarwal

Annual Salary: 9999999.99

Hire Date: 4/4/2024

Name: Kimmy Gibler

Annual Salary: 1000000.00

Hire Date: 4/7/2020

Pay Salary

Employee Name

Aksh Agarwal

Select Months

1 Month

Amount to Pay

\$8333333.33

Payment ID

0

Return

Pay Salary

# Employee Dashboard

## Personal Info

- Employees can see their personal information

## Leave Requests Apply and Status

- They can apply for leaves and see their leave requests status as approved or rejected.

## Calendar

- Employees can see the calendar.
- Employees can also see the detailed holidays list

## Projects

- Employees can see which are their ongoing and completed projects.



# Backend Working

Employee dashboard

```
app.post('/apply-leave', (req, res) => {
```

```
app.post('/logout', (req, res) => {
```

```
app.get('/get-employee-info', async (req, res) => {
```

```
app.get('/holidays', (req, res) => {
```

```
app.get('/leave-requests-employee', (req, res) => {
```

## Personal Info and calendar

- Personal info retrieved from employees table based on the session user info.
- Calendar and holidays data from the calendar and holidays table retrieved.

## Apply Leaves and leave status

- Leave applied pending inserted in the leave table.
- Leave status is seen once manager approves or rejects the leaves.

## Projects

- Ongoing and Completed projects of the employee extracted from the projects table

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View Calendar

Apply for Leave

Leave Status

Projects

Payment Status

Logout

Welcome, Kimmy Gibler

Name:

Kimmy Gibler

Email:

kimmy123@gmail.com

Date of Birth:

2002-04-07T18:30:00.000Z

Address:

Tanner House, 5 Ben Street, New Jersey

Phone Number:

3458983563

Role:

Employee

Current Salary:

1000000.00

Date of Joining:

2020-04-06T18:30:00.000Z

Department:

Engineering

Detailed Holidays

Yearly Calendar

2024

Apr

Month

Year

Su	Mo	Tu	We	Th	Fr	Sa
31	01	02	03	04	05	06
07	08	09	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	01	02	03	04
05	06	07	08	09	10	11

View Calendar

Apply for Leave

Leave Status

Projects

Apply for Leave

\* Reason for Leave

Enter the reason for your leave

\* Start Date

Select date

\* End Date

Select date

Submit Leave Application

Leave Requests

My Leave Requests

Leave Request — April 18, 2024 at 12:00 AM to April 20, 2024 at 12:00 AM

Reason for Leave: gtygtdb

Status: Denied

Submitted on: April 9, 2024 at 05:30 AM

Last Updated: April 9, 2024 at 05:30 AM

Leave Request — April 11, 2024 at 12:00 AM to April 18, 2024 at 12:00 AM

Reason for Leave: xyz

Status: Denied

Submitted on: April 9, 2024 at 05:30 AM

Last Updated: April 9, 2024 at 05:30 AM

Leave Request — April 10, 2024 at 12:00 AM to April 12, 2024 at 12:00 AM

View Calendar

Apply for Leave

Leave Status

Completed Projects

Payment Status

Project Orion

Description: A project to create a new constellation mapping system.

Start Date: 2021-03-14T18:30:00.000Z

End Date: 2021-11-29T18:30:00.000Z

Budget: \$75000.00

Status: Completed

Department: Engineering

Employees: Kimmy Gibler

# Conclusion

**Support it with a brief explanation.**

The implementation of the Employee Management System (EMS) marks a significant milestone in the way our organization manages and interacts with its human resources. By automating numerous routine tasks, the system has not only streamlined administrative processes but also significantly reduced errors associated with manual data entry and management.

The usage of react and node made this system more dynamic and eaasy to handle with good UI. The SQL tables and relationships make it easy integrity of data and backend services handle the authentication during logins and submissions.



# Demo link and Github link

Project github link(click on this)

Youtube Link for demo

**Thank  
you!**