Gate Pass Management System

May 6, 2024 - June 15, 2024

Koyena Dutta

4th Semester, 2nd Year

Computer Science,

GITAM University, Vishakhapatnam.

INDEX

BONAFIDE CERTIFICATE

This is to certify that **Ms. Koyena Dutta**, a student of **Gandhi Institute of Technology and Management, Visakhapatnam, Andhra Pradesh**, has successfully completed the project work titled "**Online Gate Pass Management System**" under the supervision of Mr. Dipan Das, as an IT Project Trainee at MECON Ltd., India, Ranchi, Jharkhand.

The project work was carried out from **May 06, 2024 to June 15, 2024** in partial fulfilment of the requirements for the award of the degree of **Bachelor of Technology** in **Computer Science Engineering** at **Gitam Institute of Technology(GITAM)** at Vishakhapatnam, Andhra Pradesh.

Ms. Koyena Dutta has shown sincere efforts and dedication in completing the project work to the satisfaction of the department and the organisation. The project report submitted herewith is a genuine record of the work done by her during the training period.

We wish her all the best for future endeavours.

Signature:

Mr. Dipan Das Sr. Manager(IT)
Project Supervisor
MECON Ltd.
Ranchi, Jharkhand, India

Signature:

Mr. Sanjit Dash Sr.GM & I/C,
IT Services
MECONLtd.
Ranchi, Jharkhand, India
Date:

Place: Ranchi

<u>ACKNOWLEDGEMENT</u>

I express my sincere gratitude to MECON Ltd., Ranchi, Jharkhand, India, for providing me with the opportunity to undertake the project titled "Online Gate Pass Management System." This project has been an invaluable learning experience for me.

I am deeply thankful to Mr. Dipan Das, Sr. Manager and Mr. Sanjit Dash, Sr.GM & I/C, IT Services at MECON Ltd., for their constant guidance, encouragement, and support throughout the duration of this project. Their insightful feedback and expertise have been instrumental in the successful completion of this work.

I would also like to extend my heartfelt thanks to the entire team at MECON Ltd. for their cooperation and assistance during my training period. Their support and the conducive work environment greatly facilitated my learning and development.

I am beyond grateful to Dr. Basavraj katageri, Director, Gitam Institute of Technology and Management, for the constant support and encouragement.

Finally, I would like to thank my family, friends, and colleagues for their unwavering support and motivation throughout the course of this project. Thank you all.

Koyena Dutta

Signature

Overview

The Online Gate Pass Management System (OGPMS) aims to digitalise and enhance the security system and manage the inflow/outflow of both visitors and employees outside usual office entry/exit hours. This system works with the requester applying for a pass online, which is then approved/rejected by the authority concerned, on the basis of which, an online gate pass is generated and the requester is granted entry/exit.

Goals

1. Efficiency

2. Transparency

3. Security

4. Accuracy

5. Cost Reduction

6. User Convenience

Overall, an online gate pass management system aims to enhance operational efficiency, improve security, and provide a seamless experience for both employees and visitors within the organisation.

Working Principle

The system works on the following principles:

❖ **For Employees**

Employee fills the online gate pass requisition form.

● The data is cross-checked from the Employee database and stored in the EmployeeOuting database.

● The request is forwarded to all the employees in the same section with a pay scale greater than the said employee.

● The employee with the highest pay scale logs in to the portal and approves or rejects the request.

● In case the request is approved, a gate pass is issued for the requester employee.

❖ **For Visitors**

● Thevisitor fills the online gate pass requisition form.

● While filling the form, once the visitor enters the Employee ID/Mobile number of the contact personnel, the other details, viz., the Employee Name, the Designation and the Section, are entered automatically from the Employee Database.

● All the data entered in the form gets stored in the VisitorRequest database.

● The request is forwarded to the employee whose Employee ID is mentioned in the form as an email/SMS alert/push notification.

● The said employee logs in to the portal using the username (same as Employee ID) and password and approves the request.

● TheVisitor's Pass is then issued to the visitor.

System Platforms:

The OGPMS utilises various software applications and resources to run. Some of the key points kept in mind while selecting the softwares/resources are listed underneath:

● Cost minimisation: Employing Open-Source softwares ensures minimised developmental and maintenance costs.

● Scalability: This ensures that the system can support and maintain efficiency even with ever increasing and changing data in the Organisational databases.

● Runtime & Performance: Selecting platforms with lesser response and run times enables a seamless and smooth user experience.

● Robust Security: Employing verified and secure platforms ensures that the system can stay immune to security threats along with protecting the data stored in the databases.

The major softwares and libraries used to develop this system are:

❖For Frontend:

➢ **React**

➢ **Cascading Style Sheets (CSS)**

➢ **Bootstrap**

➢ **React**

❖ For Backend:

➢ **PostgreSQL**

➢ **NodeJS**

➢ **ExpressJS**

❖ For API Testing:
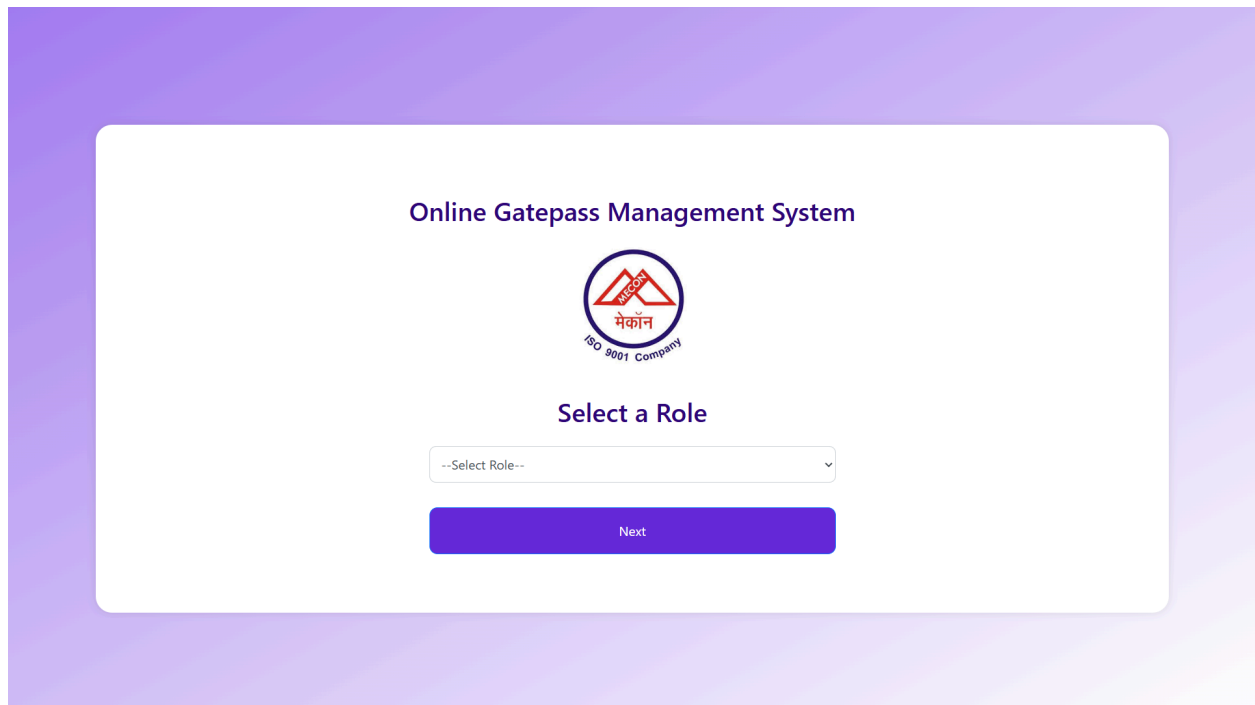
➢ **Postman**

Relevant Images:

Setting the website server(React) :
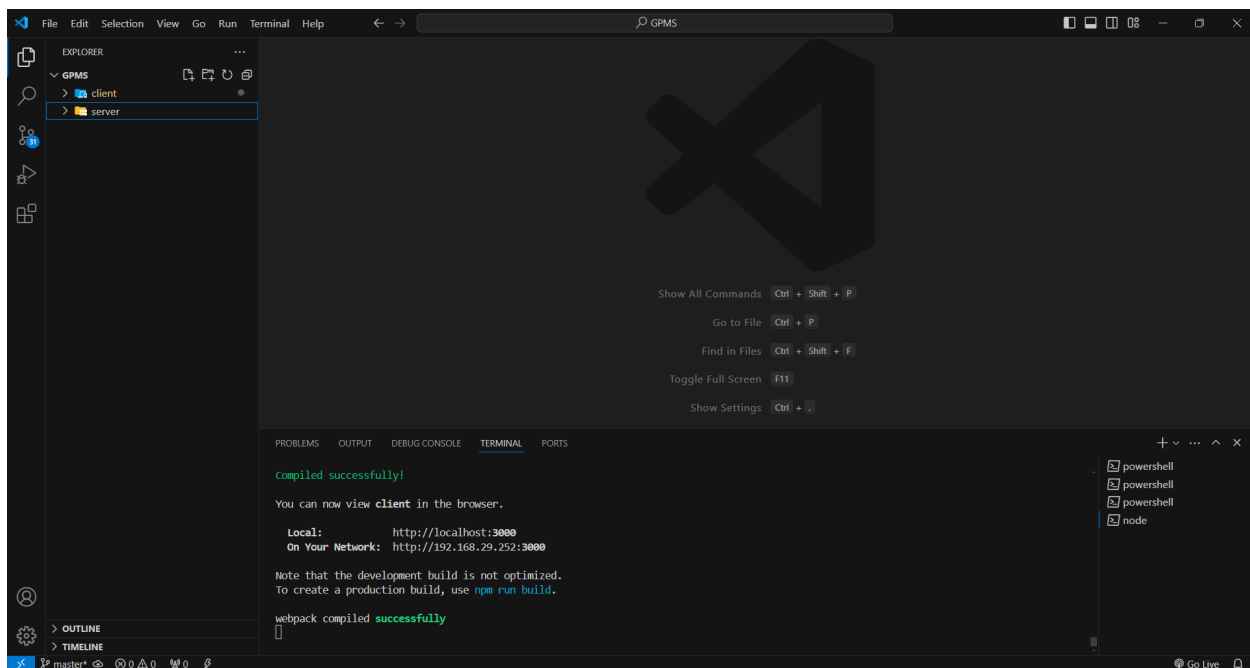
Landing page :

Online Gatepass Management System
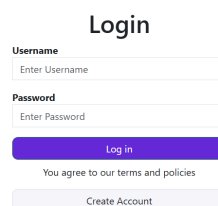
Select a Role

--Select Role--

Next

Employee Login page :

Login

Username

Enter Username
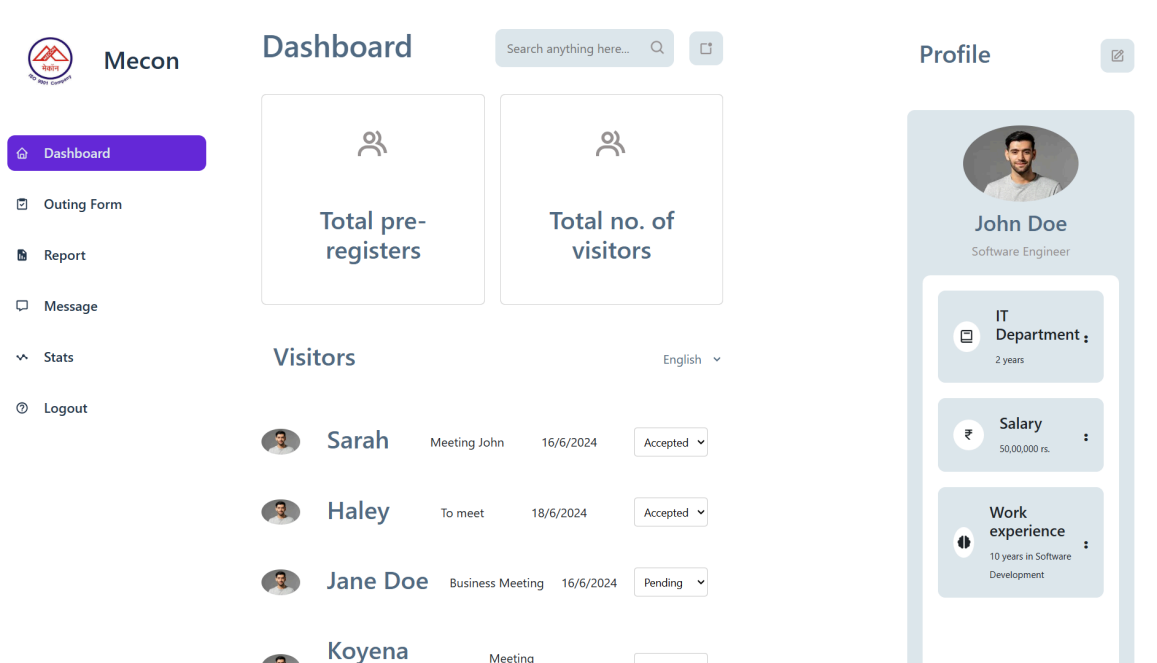
Password

Enter Password

Log in

You agree to our terms and policies

Create Account

Employee Dashboard :

Outing Form :

Outing Form

Employee Name

Employee ID

Designation

Section

Purpose

Location

eg.Ranchi,Bangalore

Date of Outing

dd-mm-yyyy

Out Time

--:--

Submit

Visitor Requisition form :

Visitor Requisition Form

Visitor Name

Phone

Designation

Organisation

Purpose

Aadhar No.

Last 4-digit XXXX

Date

dd-mm-yyyy

Submit

Connecting to server :

Database (PostgreSQL) :

Data successfully stored reflected in server :

API Testing :

Conclusion :

Implementing a Gate Pass Management System using ReactJS, Node.js, PostgreSQL offers a robust solution for efficiently managing access and tracking movements within an organization or facility. By leveraging React, Bootstrap CSS for front-end development and Node.js for server-side scripting, the system can provide features such as user authentication, pass generation, entry/exit logging, and reporting functionalities. This integrated approach ensures seamless communication between the front-end interface and the back-end database, enabling real-time data updates and accurate reporting.

Additionally, utilizing React allows for the creation of a user-friendly interface with customizable features to suit the specific needs of the organization. Meanwhile, PostgreSQL provides a powerful platform for securely storing and managing data, ensuring reliability and scalability as the system grows. In conclusion, the Gate Pass Management System developed using Reactjs, Node.js, and PostgreSQL offers a comprehensive solution for enhancing security, streamlining access management processes, and improving overall efficiency within the organization