GATEWAY

ONLINE VEHICLE AND GATE PASS MANAGEMENT SYSTEM UNIVERSITY OF VAVUNIYA

GROUP 15

Introduction to the GATEWAY System

Current Situation:

The University of Vavuniya currently uses a manual system to manage vehicle entries, exits, and gate pass approvals. This system is:

- Time-consuming
- Prone to human error
- Inefficient in record-keeping

Proposed Solution:

An online platform for vehicle and gate pass management to enhance:

- Security
- Transparency
- Accessibility

Project Aims

Key Objectives of the Project

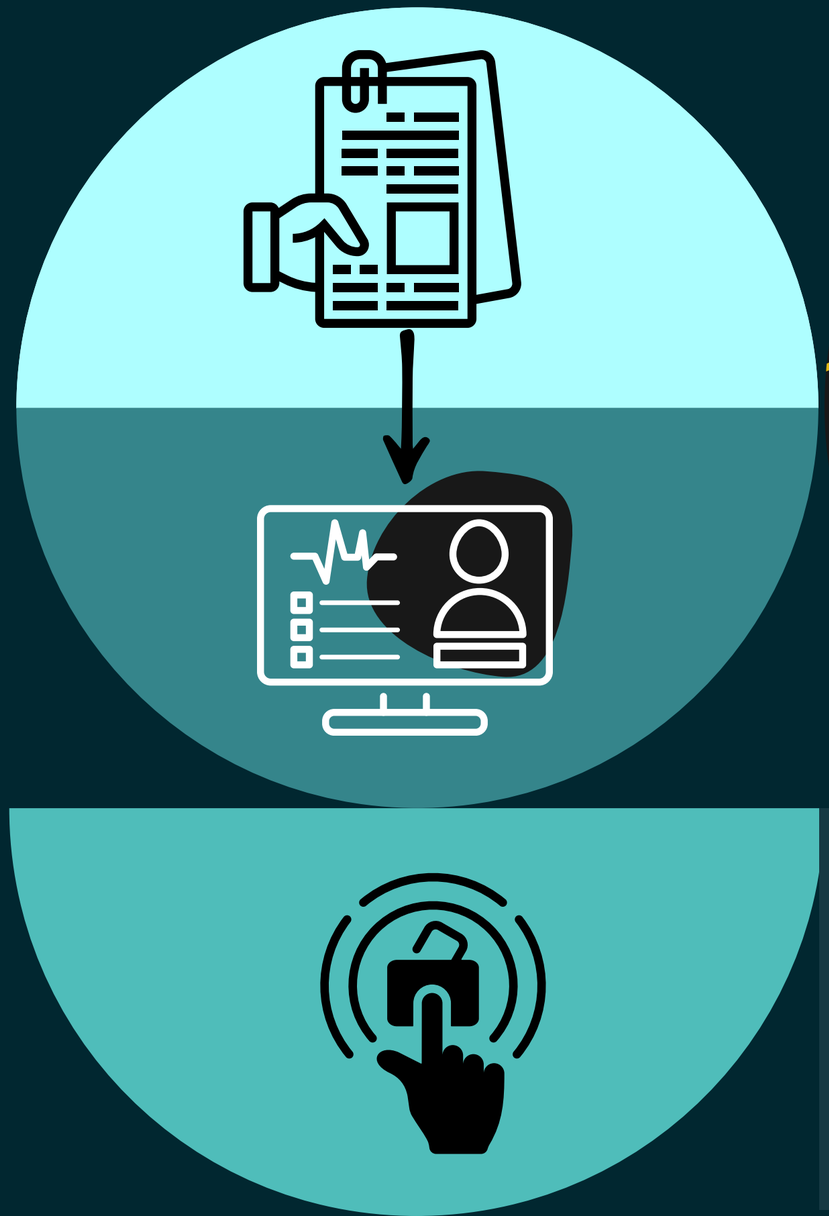
To develop a secure, user-friendly, and efficient online Vehicle and Gate Pass Management System for the University of Vavuniya.

Objectives:

- Digitalize the process of issuing and approving gate passes
- Record and monitor vehicles entering and leaving the university
- Maintain detailed records of drivers and vehicles
- Allow administrators to generate monthly and custom reports
- Provide role-based access control (Admin and Security)
- Improve security, accountability, and reduce paperwork

Benefits of the System

- Reduced manual paperwork and human error
- Faster gate pass approval process
- Improved monitoring of vehicle and goods movement
- Easy retrieval of past records
- Enhanced transparency and accountability
- Secure login system with username and password



Background

Importance in Modern Institutions

Currently, all vehicle movements and gate passes at the university are recorded manually.

- Goods taken out require paper approval from the Dean or authorized person
- Security officers write vehicle and driver details in logbooks
- This results in duplicated work and inefficiencies
- Difficult to generate reports or track data efficiently

Review of Existing Vehicle Management Systems

Manual Log Books:

- Error-prone
- Time-consuming
- Difficult to retrieve past records

Other Universities/Institutions:

- Some use Excel sheets or simple databases
- Lack online approval and role-based access

Our Proposed System:

- Centralized online platform
- Role-based access (Admins and Security)
- Digital approval workflows
- Report generation features

Proposed System Design

Security Officers

- Record vehicle entry and exit times
- Record driver details
- View approved gate passes

Administrators

- Add and manage security officer accounts
- Approve or reject gate pass requests
- View all records
- Generate monthly/custom reports

FUNCTIONAL REQUIREMENTS

- *Login system with username and password*
- *Add and view vehicle and driver records*
- *Gate pass approval and generation*
- *Record entry and exit times of vehicles*
- *Generate monthly and custom reports*

NON-FUNCTIONAL REQUIREMENTS

- **Security:** *Role-based access, password protection, data integrity*
- **Usability:** *Simple and user-friendly interface*
- **Reliability:** *System should operate without failure during working hours*
- **Scalability:** *Should support future upgrades and new feature integration*

Tools and Technologies

1. **Frontend**: React
2. **Backend**: Node.js / Express.js
3. **Database**: MySQL
4. **Other Tools**: Postman (API testing)

GATEWAY

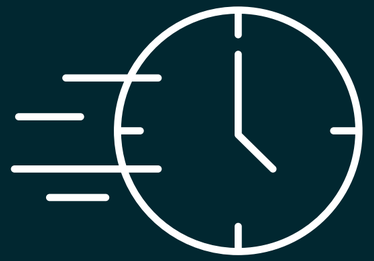
Expected Results

- Fully functional management system
- Secure authentication with roles
- Digitalized approval process
- Centralized database
- Automated report generation

GATEWAY

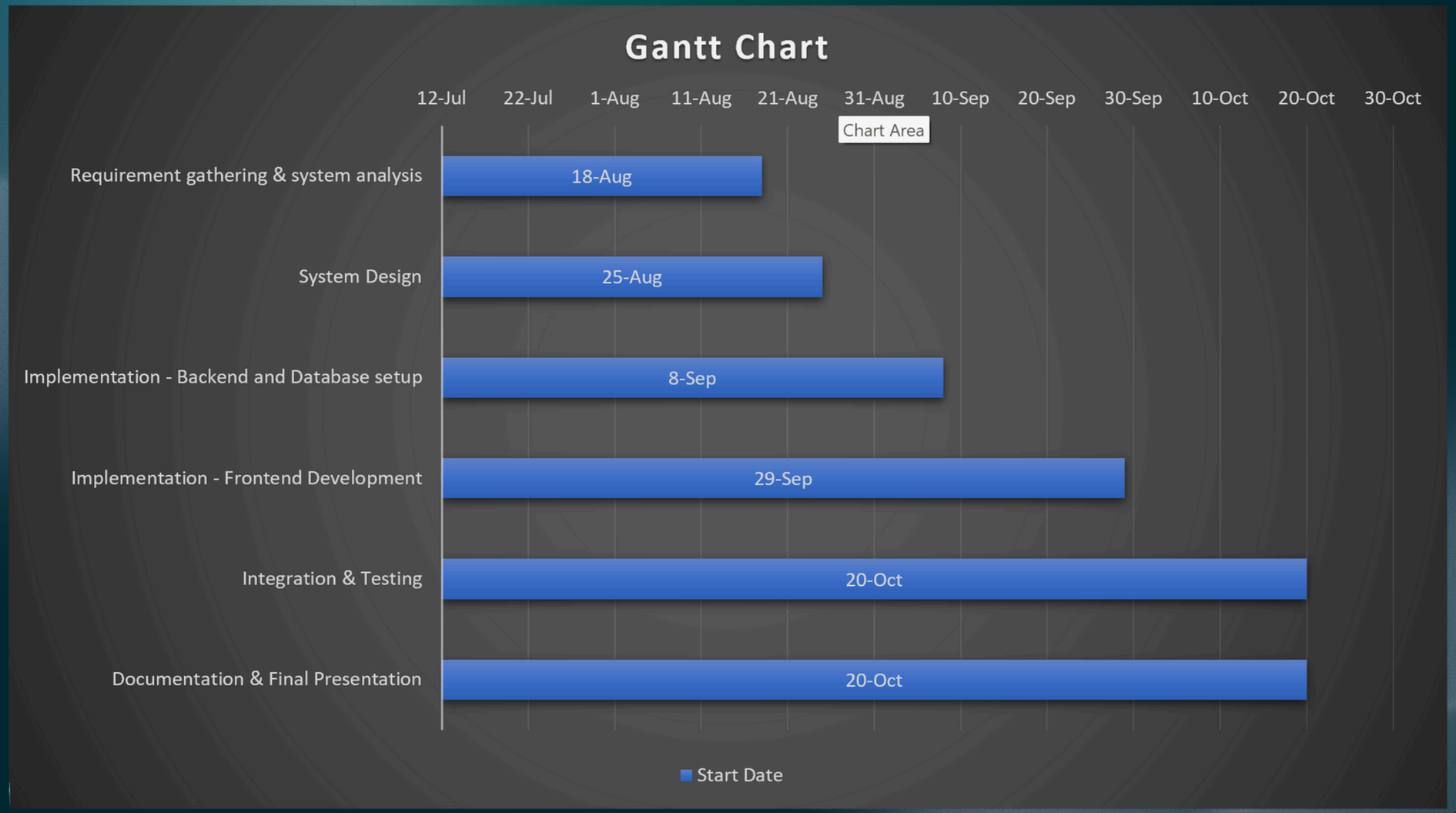
PROJECT TIMELINE

13 WEEKS

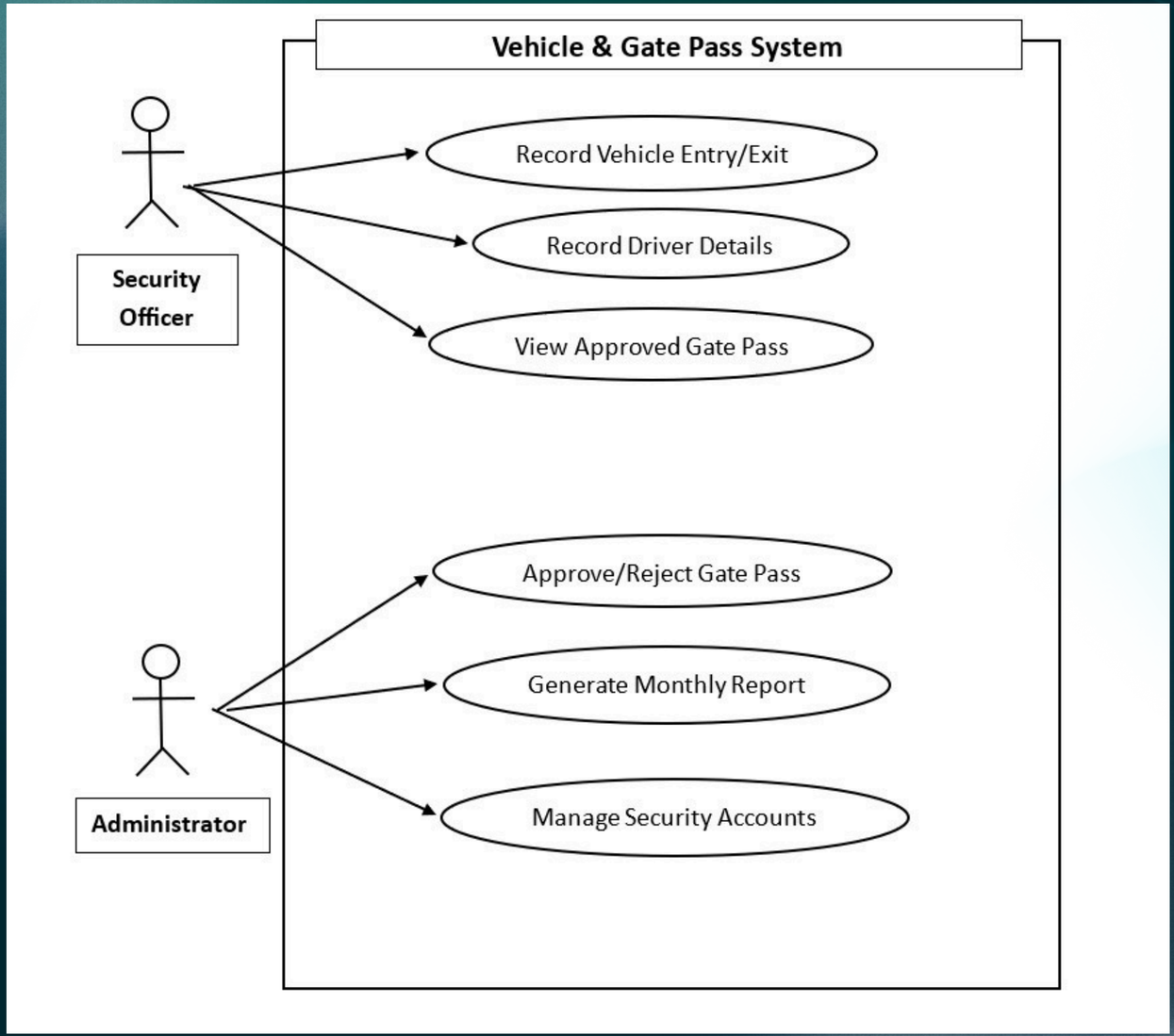


Requirement gathering & analysis	2 weeks
System design	2 weeks
Backend and database setup	3 weeks
Frontend development	3 weeks
System integration & testing	2 weeks
Documentation & final presentation	1 week

GANTT CHART


Gantt Chart
12-Jul
22-Jul
1-Aug
11-Aug
21-Aug
31-Aug
10-Sep
20-Sep
30-Sep
10-Oct
20-Oct
30-Oct
Chart Area
Requirement gathering & system analysis
18-Aug
System Design
25-Aug
Implementation - Backend and Database setup
8-Sep
Implementation - Frontend Development
29-Sep
Integration & Testing
20-Oct
Documentation & Final Presentation
20-Oct
Start Date

Use case diagram



Conclusion

The system will:

- Digitalize gate pass management
- Enhance security and accountability
- Simplify tracking of vehicles and drivers
- Automate report generation

Outcome: Improved efficiency at the University of Vavuniya.

OUR TEAM

2021/ICT/06
M.Y.M.Pinthu

2021/ICT/29
H.A.K.C.Madushanka

2021/ICT/32
M.A.M. Vijerathna

2021/ICT/52
B.S.M.P.Jayathilake

2021/ICT/86
A.Shiromi

2021/ICT/91
U.Rajeevni

2021/ICT/106
B.Vishnutharan

THANK YOU

Supervisor:
Dr. S. Kirushanth
University of Vavuniya