Software Requirement Specification for vehicle booking

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Project ID	13
Problem Statement	Vehicle booking

1. Introduction

1.1. Purpose:

The purpose of this document is to present a detailed description of the vehicle booking portal. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli.

1.2. Scope of Project:

- This software system will serve as a portal for faculty members who require the institute's vehicle for industrial visits or for transporting chief guests. It enables faculty members to submit their vehicle requests efficiently and manage bookings seamlessly.
- Administrators have the authority to approve or reject vehicle request forms based on the availability of institute vehicles. Once a request is processed, the faculty member can view the status of their request on the portal dashboard. Faculty members will enter

their requirements, such as the number of seats and the duration of vehicle use, in the request form.

2. System Overview:

2.1. Users:

1. **Faculties**:

They have the ability to submit vehicle booking forms, specifying the required duration and number of seats. This facilitates planning for industrial visits. All necessary details can be uploaded directly into the system.

2. **Admins:**

Review the submitted vehicle booking forms, approve or reject applications (with remarks), manage and schedule days, and access analytical dashboards for project oversight.

2.2. Features:

1. Login and registration:

Faculties can register for an account or login with their existing account

2. Vehicle Booking Submission:

Faculty members can input relevant details regarding their vehicle booking request, including the purpose of the trip, duration, and number of seats required. Upon completion, the request is submitted to the admin interface for review and further processing.

3. Booking Status:

Faculty members can view the current status of their vehicle booking request and also see the history logs in the "Activity" section.

4. Admin Access:

Admins can view all submitted vehicle booking requests, categorized by purpose. They can view request details, approve or reject the booking with suitable remarks, and schedule vehicle usage accordingly.
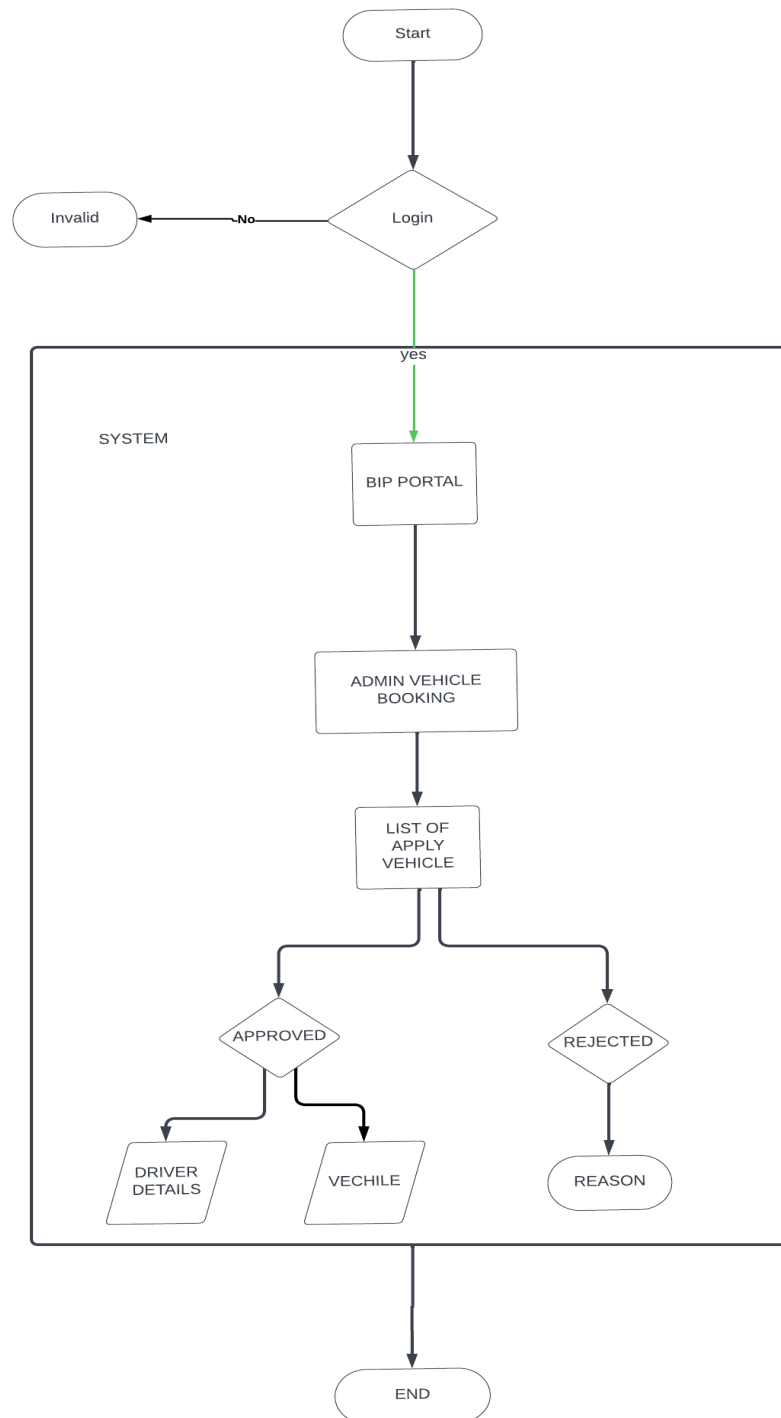
5. Admin's Analytical Dashboard:

Admins can view the number of vehicle booking requests by category, monitor appointment requests, and see the latest log of bookings.

FLOW CHART:

FACULTY FLOW CHART:
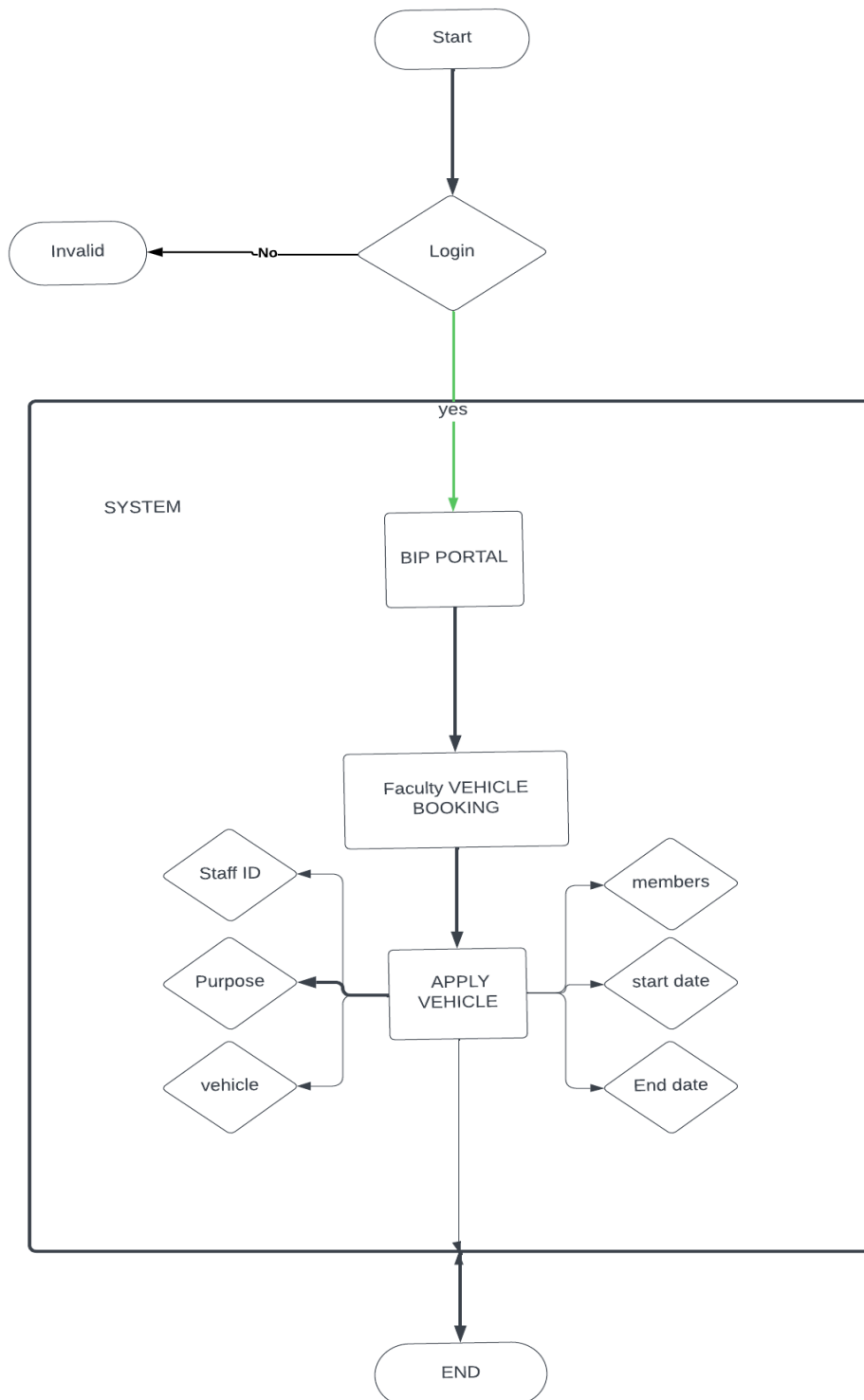
ADMINS FLOW CHART:

PROTOTYPE:

SIGN IN

| 👤 | username |
| 🔒 | password |

Fram...

log in

Vehicle Booking Portal

N ⌄

- 🔲 Dashboard
- 🧾 Vehicle booking
- 👤 Faculties

Faculty Id	102 ▼
Faculty name	Kumaresan
Department	AI & DS ▼
Purpose	Industrial Visit ▼
No. of students:	120
Mode of transport	Bus
Starting date	03-05-2024 ▼
Return date	13-05-2024 ▼
Proof*	___

cancel   create and add another   create task

⚙ settings
⏻ log out

FACULTY VIEW:

Vehicle Booking Portal

Dashboard

- Dashboard
- Vehicle booking
- Faculties

Dashboard

search

	Id	Faculty	Department	PURPOSE	Status	Remarks
☐	101	Jack	AI&DS	Industrial visit	Initiated	👁 ✏
☐	102	Charlie	AI&ML	Chief Guest	Rejected	👁 ✏
☐	103	John	CSBS	Chief Guest	Verified	👁 ✏
☐	104	Nick	IT	Chief Guest	Verified	👁 ✏

items per page : 4 ⌄   1-4 of 80 items   12 ⌄ of 40 pages

- settings
- log out

TASK BOARD

Vehicle Submission :

⊞ Dashboard

➡ Vehicle
submission

Faculty Id 102

Faculty name Jack

Date 03-05-2024 ⌄

Vehicle Bus

proof* choose document ⌄

cancel submit

? help
⚙ settings
⬅ log out

1. System Requirements Specification:
1.1. Functional Requirements:

- **User Management:**
  - ○ Faculties can register and login.
  - ○ Admins have access control with an analytical dashboard and dedicated features .

- **Request form:**
  - ○ Faculties can submit form with appropriate details ○ Request form contains:
    - ■ Reason for the vehicle needs
    - ■ Number of seats needed
    - ■ Number of days
    - ■ Vehicle details

- **Application Status:**
    - Faculties can view the current status of their requests
    - If the request is rejected then the remarks is shown
    - Faculties can also see the logs of their applications

- **Admin Dashboard:**
    - Admins can view a list of all requests forms.
    - Requests can be filtered by category (cheif guests, industrial visits).

    - Admins can view details of each requests.
    - Admins can approve or reject requests with suitable remarks.
    - Admins can schedule meetings for accepted appointments.

- **Analytics Dashboard:**

    - Admin can view the number of requests by its category   ○ Number of appointments is requested based on the category

1.2. Non-Functional Requirements:

- **Performance**: The system must respond to user actions within 4 seconds to ensure efficient usability and must handle a concurrent user load of at least 100 users without significant performance degradation.
- **Security**: User data must be encrypted during transmission and storage, and access to sensitive functionalities should be restricted to authorized admin users through secure authentication mechanisms.
- **Usability**: The user interface should be intuitive and user-friendly, with clear and concise error messages provided to guide users in case of input errors or system failures.
- **Reliability**: The system should be available 24/7 with minimal downtime and should have a backup and recovery mechanism in place to prevent data loss in case of system failures or crashes.

Stack:

Front End	Angular
Backend	Node Js, Express
Data Base	MongoDB
Authentication	Google Authentication