Software Requirement Specification for TAC Portal

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Project ID	13
Problem Statement	Vehicle Management

1. Introduction

1.1. Purpose:

The purpose of the Vehicle Management System (VMS) for college staff is to streamline and automate the process of vehicle booking and management. This system is designed to facilitate the booking of college vehicles by staff members for official purposes, ensuring efficient allocation and utilization of the available transportation resources. By providing a centralized platform for booking requests and approvals, the VMS aims to reduce administrative overhead, minimize scheduling conflicts, and enhance overall operational efficiency.

1.2. Scope of Project:

The scope of the Vehicle Management System (VMS) project includes the development of a web-based application with separate interfaces for staff and administrators. For the staff interface, the system will allow users to submit vehicle booking requests, specifying the type of vehicle, number of seats required, and desired timing. Staff members will also be able to view the status of their booking requests. The admin interface will enable administrators to view all incoming booking requests, approve or reject them with appropriate reasons, and assign specific vehicles and drivers to approved requests.

2. System Overview:

2.1. Users:

1.Staff:

The User (Staff) Interface allows staff to easily book vehicles by specifying the type, number of seats, and timing. Staff can view the status of their requests—pending, approved, or rejected with reasons. Notifications are sent to users about the status and details of their bookings, including vehicle number and driver information.

2. Admins:

The Admin Interface gives administrators control over booking requests. Admins can view all pending requests, approve or reject them with reasons, and assign vehicles and drivers to approved requests. They can also send notifications to staff regarding the status and details of their bookings.

2.2. Features:

1. Login and Registration:

Staff can register for an account or log in with their existing account to access the Vehicle Management System.

2. Vehicle Booking Submission:

Staff can input relevant details for their vehicle booking request, including vehicle type, number of seats required, and the timing. Upon submission, the request is sent to the admin interface for review and processing.

3. Booking Status:

Staff can view the current status of their booking requests (pending, approved, or rejected) and see the history logs under the Activity section.

4. Notification System:

Staff receive notifications about the status of their booking requests and any additional details provided by the admin, such as vehicle number and driver information.

5. Admin Access:

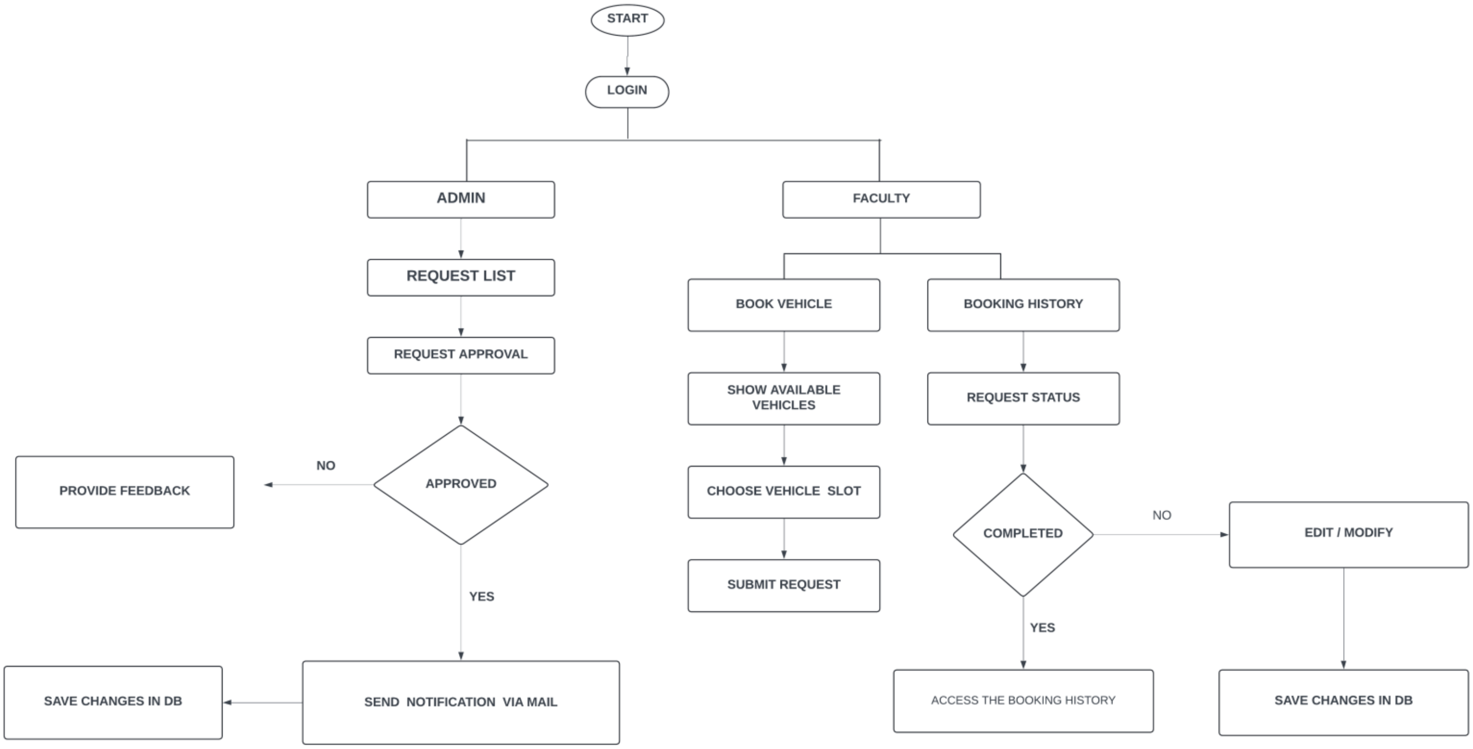
Admins can view all submitted vehicle booking requests, including details like vehicle type, number of seats, and timing. They can approve or reject requests with appropriate reasons and assign specific vehicles and drivers to approved requests.

6. Vehicle and Driver Assignment:

Admins can provide vehicle details (vehicle number) and driver information (name, contact number, license number) for approved requests.

7. Admin's Analytical Dashboard:

Admins can view the number of booking requests by category (e.g., type of vehicle), monitor appointment requests, and see the latest logs of booking activities. The dashboard provides a comprehensive overview of resource utilization and booking trends.



3. System Requirements Specification:

3.1 Functional Requirements:

- **User Management:**
  - ○ Staff members can register for an account.
  - ○Staff members can log in with their existing account.

- **Admin Access Control:**

○Admins have control over user access with an analytical dashboard and dedicated features.

- **Vehicle Booking Submission:**

●Booking Request Form:

●Staff can submit vehicle booking requests with the following details:

- Type of vehicle
- Number of seats required
- Timing of the booking

●**Form Details:**

●The booking form will contain:

- ○ Vehicle type
- ○ Number of seats
- ○ Requested timing

●**Admin Interface:**

●**View and Manage Requests:**

○ Admins can view a list of all submitted vehicle booking requests.

c Requests can be filtered by vehicle type.

○ Admins can view the details of each booking request.

○ Admins can approve or reject requests with suitable remarks.

○ Admins can assign specific vehicles and drivers to approved requests.

●**Vehicle and Driver Assignment:**

●**Assign Details:**

○Admins can provide vehicle details including vehicle number.

○Admins can assign driver information including name, contact number, and license number for approved requests.

● **Admin's Analytical Dashboard:**

●**Application Analytics:**

○Admins can view the number of booking requests by category (e.g., type of vehicle).

○Admins can monitor appointment requests.

○Admins can see the latest logs of booking activities and trends.

3.2. Non-Functional Requirements:

- **Performance**: The system must respond to user actions within 2 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.

- **Scalability**: The system should be designed to accommodate an increasing number of users and data volume over time, and it should be scalable to support additional features and functionalities as per future requirements.