Software Engineering Project

SRS Document

Topic : Vehicle Rentals

Group : G8

Team Members :

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Introduction

Purpose :

▪ The system's aim is to provide better business management and customer satisfaction by providing the following services such as

▪ **-Enhance Business Processes**: to be able to use internet technology to project the rental company to the global world instead of limiting their services to their local domain alone and providing services 24/7, thus increasing their return on investment (ROI).

▪ **-Online Vehicle Reservation**: A tool through which customers can browse the catalog of the business online and reserve available cars online and can pick-up from their respective nearest station and return it back to the nearest one from its destination.

▪ **-Customers Registration**: A registration portal to hold customer's details, monitor their transactions and uses the same to offer better and improved services to them.

▪ **-Management Module** through which an admin of the System can add, edit, update and delete(perform CRUD operations) different categories of cars/bikes and their corresponding information , as well as customer's information .

▪ **- A rating system** through which customers can leave their feedback for the platform as well as the service they availed.
▪ **-Data Security** by keeping user's data in a secured database and controlling access levels to the data based on user rights.

Scope

By the scope of our platform, a consumer can book his ride without being present physically at the counter by connecting him to the nearest substation and at the time of return, he can submit the vehicle at the nearest substation of his/her destination. In this way, he/she won't have to come back to the counter from where he had picked the vehicle.
And also, at the same time reducing the cost of the middleman and hence reducing the consumer's cost in his final expenses.

Existing System

1. The existing system involves the pickup and return of the vehicle at the same place from where the vehicle was picked up.
2. The existing system includes the rentals of only cars.
3. The existing system doesn’t involve eco-friendly vehicles.

Proposed System

1. In the proposed system, a consumer can book his ride without being present at the counter by connecting him to the nearest substation and at the time of return, he can submit the vehicle at the nearest substation of his/her destination. In this way, he/she won’t have to come back to the counter from where he had picked the vehicle.
2. Our proposed system can handle rentals of both cars and bikes at the same time.
3. Our proposed system will contain only eco-friendly vehicles.

Advantages:

1. Environment friendly system.
2. Pay after service.
3. User-friendly interface.
4. Highly secured with encrypted user data.
5. Time and cost saving.
6. Efficient business policy.

Functional Requirements

(i) Vehicle Management

1. **Manage Vehicles :** This use-case allows admin to manage vehicles and do tasks such as edit, remove and add on the details.

2. **Controller** : Admin

3. **Pre-condition :** Admin must have a valid user name and password

4. **Post-Conditions** Updated list of vehicles is available to customers.

5. **Business Rules** Only an employee of the car rental company who is an authorized admin can make changes to the list of vehicles.

(ii) Renting a Vehicle

1. **Rent a vehicle** The use case allows customers to check-out/reserve vehicle/s.

2. **User** Customer

3. **Pre-Conditions** Customer must access our website

4. **Post-Conditions** New check-out record is added to the Rental DB whenever the checkout is successful.

(iii) Returning the Vehicle

1. **CHECK IN / RETURN A VEHCILE** THIS USE CASE ALLOWS THE ADMIN TO RETURN A RENTED CAR

2. **USERS** ADMIN

3. **PRE- CONDITIONS** The Admin must be logged in

4. **POST- CONDITIONS** The customer Db will be updated to reflect that he has no rented Cars when the Check In is successful

5. **BUSINESS RULES** only valid customers can return a vehicle

6. **ALTERNATE FLOWS**

    1) **Customer Not Found** If the member id does not exist, the system displays a message that the user id cannot be found.

Non-Functional Requirements:

1. Secure access of confidential data(user's details).
2. 24/7 availability.
3. Better component design to get efficiency at peak time.
4. Highly efficient model which can be easily extended.

SOFTWARE TOOLS :

Database Server: MongoDB

Server Client: Any web browser

Development Tools: VS Code
Programming Language: JAVASCRIPT
Frameworks/Libraries: ReactJs, ExpressJs, NodeJs

DEPLOYMENT :

Operating System Server: Window 10, Linux, UNIX

HARDWARE SPECIFICATION :

Processor: Intel Core i5
RAM: 8GB
Hard Disk: 512 GB