TEAM NO. 4

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Table of Contents:

1. Overview
2. Problem Statement
3. Objectives
4. Individual Contributions
5. Entity Relationship Diagram
6. Business Rules
7. Views
8. Data flow Diagram
9. Flowcharts

**Overview**

Car rentals are one of the most reliable transportation systems in the world. People prefer rental cars over all other modes of transportation. Tourists often rely on these cars and other local transportation. Customer can drive without having to worry about the timing of the public transportation. Driving in a new city is fun when you have a short-term car rental lease. Customer can simply take the help of rental to drive on their own.

The **CarsHuB** is a database management system (DBMS) project that administers the reservation, rental, and restoration of Vehicles (Car). A database management system (DBMS) is a software application that interacts with databases to store, retrieve, and manage data. The database CarsHuB supports information about customers, vehicles, rental rates, and the reservation process. The system authorizes customers to hunt for available vehicles, make reservations, and carry out payments. The project further yields tools like managing the fleet, such as inspecting maintenance schedules and tracking rental activity. The intention of CarsHuB system is to streamline and automate the rental process, making it easier to manage the inventory, track the status of cars, process rentals and payments.

The CarsHuB is responsible for storing and managing information such as:

1. Customer details including name, address, contact information.
2. Vehicle information, including make, model, year, availability, rental pricing, insurance details.
3. Reservation and booking information.

The CarsHuB database enables real-time availability and pricing information, process payments, and supervise customer bookings. Additionally, it allows easy retrieval of customer and vehicle information for reporting and analysis purposes.

The result will be a database that provides real-time data and insights to help the company make informed business decisions and improve customer experience.

**Problem Statement**

1. Fleet management is the leading issue while administrating vehicle inventory across different locations leads to mishandling of stock usage.
2. There is no proper allocation of cars by keeping their location and availability in mind.
3. Making sure the customer doesn’t get faulty vehicles while making the reservation.
4. Updating the fleet buy getting cars from appropriate segment and moving them based on the customer analysis.

**Objectives**

1. Entails day-to-day operations, during which the fleet's deployment within each pool and among its locations is determined.
2. Creating a centralized inventory management system that provides proper information about under stocking and over stocking at multiple locations.
3. Providing a base for analyzing and implementing proper and dynamic utilization of stockpile on demand basis. Thus, reducing wastage and increasing the profitability for the company.
4. Providing proper access of data to appropriate personnel by implementing security features to the database.
5. Improve accuracy with tracking.
6. Stay in control with transactional analytics.

**Individual Contributions**

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| --- | --- |
| ADWAITH KORAPATI | Table initialization, insert proc, update proc, creating views, function, exception handling, reports. |
| BHAKTI BHARAT DESAI | Table initialization, User creation, insert proc, Role creation and User creation, exception handling, reports. |
| SHREEMOY NANDA | Table initialization, insert proc, creating views, sequences, exception handling, reports. |

**ER Diagram**

**Diagram, table

Description automatically generated**

**Business Rules:**

1. The customers will have the ability to sign up on their own.
2. The customer will have the freedom to choose the car themselves.
3. Each customer is limited to booking only one vehicle at a time, but they can have multiple orders and cards on file.
4. A single store can have multiple employees, but each employee is assigned exclusively to one store.
5. There is a single store that falls under each manager’s administration.
6. The status of a customer in the Customer table is linked to their payment history. If a customer fails to pay for a ride, their status will be suspended until the outstanding payment is successfully settled.
7. The tracking information is purged once the order has been successfully accomplished.
8. Following every order, employees are forced to update the Car health status. If the health status of a car is not adequate, the car must be inspected by a mechanic prior to lending it to another order.
9. Additional charges will be incurred if the customer goes beyond the scheduled booking duration.

**Views:**

1. **user\_preferences\_view**:

This view will show car preferences based on customer’s gender, age, season.

1. **car\_availability\_view**:

This view will show the availability of cars based on dates and location selected.

1. **manager\_and\_employees\_view**:

This view will show employee details and store details.

1. **customer\_order\_history\_view**:

This view will show the order history of a particular customer.

1. **tracking\_view**:

This view will show tracking of vehicles and orders in progress.

1. **delayed\_order\_view**:

This view will show all the orders which have exceeded the booking time.

**Data Flow Diagram:**

Diagram, schematic

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**Flow Chart:**

Diagram

Description automatically generated

Placing order flow chart

Diagram, schematic

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payment and tracking flow chart