User Guide: Car Rental Management System

1. Introduction:

Welcome to the Car Rental Management System user guide. This document provides instructions on how to use the software efficiently. The system allows three types of users: customers, employees, and a manager, to perform various operations related to renting and managing cars.

2. User Roles:

1.Customer:

To access customer functionalities, log in using your unique customer ID.

Upon successful login, you can perform the following actions:

2.Employee:

Access employee functionalities by logging in with your unique employee ID.

Upon successful login, you can perform the same actions as customers with an additional 15% discount on rental prices.

3.Manager:

Access manager functionalities by logging in with your unique manager ID.

Upon successful login, you can perform administrative tasks such as adding/deleting cars, customers, employees, updating details, and more.

- Customer Operations:

1.View Available Cars:

Enter your customer ID.

If the ID is valid, you'll see a list of available cars in the store.

2.Rent a Car:

Follow the same steps as viewing available cars.

Select a car by its ID and enter the booking date to rent it.

3.View Due Dates:

Simply view the due dates of the cars you've rented.

4.Return a Car:

Enter the car model you want to return.

Confirm the return date and update the car's condition if necessary.

5.Clear Dues:

Pay off any outstanding dues using the provided option.

6.View Rented Cars:

See a list of cars currently rented by you.

- Employee Operations:

Employee operations are identical to customer operations with an additional 15% discount on rental prices.

- Manager Operations:

1.Add New Car/Customer/Employee:

Access the respective option to add new entries.

Provide necessary details such as car model, customer name, employee details, etc.

2.Update Details:

Navigate to the update option and enter the ID of the entity to be updated.

Provide the updated details as prompted.

3.Delete Entries:

Select the delete option and enter the ID of the entity to be removed from the database.

4.View All Cars:

Choose the option to view all cars in the store.

5.View Rented Cars:

Access the option to see which cars are currently rented and to whom.

6.Find a Car:

Utilize the search option to find a specific car by its ID.

- Assumptions:

1.Unique IDs:

Each car, customer, employee, and manager has a unique identification number (ID).

2.Fine Calculation:

A fine of Rs. 1 per day is imposed on customers for each day the car is overdue.

3.Rental Limits:

Customers and employees cannot rent more cars than their respective rental records allow.

4.Manager Count:

There is only one manager in the system.

5.Return Condition:

When returning a car, it is assumed that the user will not repair the car to improve its condition beyond what it was at the time of booking. So, during return, I want the condition of car to be worse or same.

- Error Handling:

The system is robust and provides error messages for invalid inputs, incorrect IDs, and out-of-range values to guide the user appropriately.

- Manager Privileges:

The manager has exclusive privileges to perform administrative tasks such as adding, updating, and deleting entries in the database.

- Data Integrity:

The system ensures data integrity by verifying the uniqueness of IDs before adding new entries to the database.

- Conclusion:

The Car Rental Management System offers a user-friendly interface to facilitate smooth operations for customers, employees, and the manager. With clear instructions and robust error handling, users can efficiently perform their tasks and manage the car rental process effectively.

- Execution Instruction:

  We have created the software using C++ and haven't used other utilities/database management tools for storing our database. We have simply used data structures like maps and vectors for storage.

Compilation instruction: g++ filename.cpp

Execution instruction: .\a.exe