**RENTAL VEHICLE SERVICE**

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# **1.Introduction**

## **1.1 Problem Statement:**

To design a Rental Vehicle Service system using c programming, which is used to maintain the rental records, here the user can add their information and vehicle details as well. This project is designed using strings concepts in c.

## **1.2 Project Description:**

In today’s world it’s not easy for everyone to have their own vehicles and everyone cannot afford one,in that case many platforms have come up who provide the rental services, they may be cars, bikes and even bicycles. In this project we are designing a system where we can add the vehicle number and user details, it also includes some mandatory requirements like name, address, mobile number and email address. The details entered are stored and can be later on changed or modified and these also can be deleted if needed. By using the vehicle number the user details can be searched and also the details can be viewed.

Here first the user needs to enter his/her username and password to login, once the user logins, They will get multiple options to perform they can select depending upon what task they need to do, user may want to add the details, either he may want to edit the details or just search for specific detail they want by using the vehicle number.

# **2.Requirements:**

## **2.1 Software Requirements:**

1. This project is designed in CodeBlocks Version 20.03.
2. Compiler: GNU GCC Compiler.
3. Windows Operating System.

## **2.2 Technical Requirements:**

The project is designed using C programming, for this project specific we should have proper knowledge about functions, structures, switch cases and basic concepts of C.

Some inbuilt functions:

* goto: This statement is used to transfer the control to some other part of the program or to the specific location.
* fopen: This is the library function that opens the file that is being pointed to, we can access the file by using the file name.
* fprintf: It acts the same as printf statement, this instead of displaying it on the console window it writes the data into the file.
* fscanf: This is used to read formatted data input from the file.
* fclose: It is used to close a file and all the structure associated with it.

## **2.3 Data Requirements:**

In this project to access the platform the user has to have an account to login. To book a vehicle the user has to provide some details such as name, address, phone number and email address.

# **3.Test Plan:**

## **3.1 Introduction:**

Test Plan provides the record of the test planning process and also describes the scope of the test effort, the test plan can be configured to meet the needs of the team or for any new implementations.

## **3.2 Test Objective:**

The main objective of the test plan is to verify the various functionalities of the designed project. For this project our main focus is to test whether the different options like add, edit, search and view options, are working properly without any errors for all the cases.

## **3.3 Test Strategy:**

Here strategy is designed for all cases the project needs to be tested.

Following below is the table for possible cases in the project.

|  |  |  |
| --- | --- | --- |
| Sl. No | Case | Description |
| 1 | Rent a vehicle | By selecting this option users can rent a vehicle, by entering the required details. |
| 2 | View the rental records | By selecting this option users can view all the available rental records. |
| 3 | Remove a rental record | Users can remove rental records by selecting this option and then entering the vehicle number whose record they want to remove. |
| 4 | Search a rental record | If the user wants to view a specific record, then the user can view that specific record by using this option and entering the vehicle number whose record they want to view. |
| 5 | Edit a rental record | If the user wants to edit a record,then the user can edit the record using this option and enter the vehicle number whose record they want to edit. |

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## **3.4 Suspension Criteria:**

Suspension criteria are met if more than the 40% of test cases provided are failed, it is suspended till all the test cases failed are fixed.

## **3.5 Exit Criteria:**

Exit criteria are met if all the provided test cases are tested successfully and all the test cases meet the expected results, then the project meets the exit criteria.

# **4.Test Cases:**

The test cases are designed for all the possible cases of the project and are tested for all the conditions.

|  |  |  |
| --- | --- | --- |
| **Test Case No.** | **Test Case** | **Test case description** |
| 1 | Enter Username and Password | Enter the correct username and password. |
| 2 | Enter Username and Password | Enter the wrong username or password. |
| 3 | Rent a vehicle | Enter a valid vehicle number and the required details. |
| 4 | Rent a vehicle | Enter the vehicle which is already booked. |
| 5 | View rental records | Select the given option. |
| 6 | Search the rental record | Enter the valid vehicle number that is in the rental record, record the user wants to view. |
| 7 | Search the rental record | Enter the vehicle number that is not there in the rental record. |
| 8 | Edit the rental record | Enter valid vehicle number, whose record the user wants to edit. |
| 9 | Edit the rental record | Enter the vehicle number whose record does not exist and thus cannot be edited. |

# **5.Expected Results:**

Expected results for the above test cases are provided below.

|  |  |
| --- | --- |
| **Test Case No.** | **Expected Outcome** |
| 1 | You are logged in, Welcome to the system. |
| 2 | Login is unsuccessful. |
| 3 | Your vehicle is rented successfully. |
| 4 | This vehicle is already on rent. |
| 5 | List of the rental vehicles is displayed. |
| 6 | Record found, all the details of the vehicle are displayed. |
| 7 | Requested customer could not be found. |
| 8 | Existing records are displayed and the details are to be entered. |
| 9 | The record doesn’t exist. |

# **6.Conclusion:**

In this project when the user login with correct user id and password they get access to the platform, then the user gets various options they can select depending upon their requirement.If the user selects the option to rent a vehicle they can then book the vehicle they want to book using the vehicle number and entering the required details, once all the required details are entered and if they are in valid, then that particular vehicle is booked and the user gets message on the console window stating that the vehicle is booked successfully.

If the user wants to edit the record, they have to select the edit option and then enter the vehicle number whose detail they want to edit, once the user enters the vehicle number all the available records of that vehicle number are displayed and depending upon what they want to change they can enter the details they want and then message is displayed stating that the details are updated. If the user just wants to view the record, they have to just select the view option that displays all the available records. If the user wants to view a specific record, they can do it just by using the search option and entering the vehicle number whose record they want to view, then the record details of the specific vehicle are displayed.

# **7.Reference:**

1. <https://www.tutorialspoint.com/software_testing_dictionary/exit_criteria.htm#:~:text=Examples%20of%20Exit%20Criteria%3A,risk%20areas%20are%20completely%20tested>.
2. <https://software-testing-clinic.net/2018/03/14/what-is-entry-criteria-exit-criteria-and-suspension-criteria-2/#:~:text=If%20the%20suspension%20criteria%20are,fixes%20all%20the%20failed%20cases>.
3. <https://softwaretestingfundamentals.com/test-plan/#:~:text=A%20TEST%20PLAN%20is%20a,software%20%2F%20product%20in%20a%20project.&text=test%20plan%3A%20A%20document%20describing,schedule%20of%20intended%20test%20activities.&text=It%20is%20a%20record%20of%20the%20test%20planning%20process>.
4. <https://overiq.com/c-programming-101/fprintf-function-in-c/#:~:text=The%20fprintf()%20function%20is,formatted%20output%20will%20be%20written>.
5. <https://www.tutorialspoint.com/c_standard_library/c_function_fclose.htm>
6. <https://www.tutorialspoint.com/c_standard_library/ctype_h.htm>
7. <https://www.tutorialspoint.com/c_standard_library/time_h.htm>
8. <https://www.tutorialspoint.com/cprogramming/c_structures.htm>
9. https://www.programiz.com/c-programming/c-dynamic-memory-allocation