Car Renting System

1-Introduction:

The transport facility is a matter of headache for those people who do not have any personal transport. On occasions like Wedding, Vacation, house shifting and on many other situations they feel the necessity of a vehicle to sort out the problems. So if it is possible to design or develop a system, it will be beneficial for both renter and transport provider. Nowadays, a day, by some clicks only, we can get whatever you want at home. We already know about online shopping, e-banking etc. Similarly, The Car Rental System is the online facility to book cars online within few clicks only. Some people cannot afford to have a car, for those people this system becomes very helpful. This system includes various cars, as per the customer order and comfort, it place the order and deliver the car as per the location within the area. For travelling a long distance, booking can be done via internet service only.

2-User requirement:

1- A fine or luxurious car to use as a personal vehicle.

2- Reasonable price for equivalent amount of time.

3- Safe vehicle to use.

4- Easy to use application that is clear and sample.

5- Safe application that will not leak the personal information.

3-Functional requirements:

- **View cars:**

Description:

the user will be able to check the available cars to rent and during this the user can sort it by price.

Input: ascending or descending.

Source: user.

Pre-condition: the car stock isn't empty.

Post-condition: the cars will be shown to the user.

Output: All the cars in the stock.

- **Register** :

Description: let the user input his data in order to sign up.

Input: user's data.

Source: user.

Pre-condition: entering valid data.

Post-condition: The account should be created in the database.

Output: the account has been created.

- **search by model**:

Description: the user searches for a certain car with specific model.

Input: car’s model

Source: user

Pre-condition: the user entered a valid car model. Post-condition:

the specified car model chosen by the user.

output: the car model.

- **Login:**

Description: The user will be able to log into his account if he already has an account.

Input: user’s data.

Source: user.

Pre-condition: entering valid data that is stored in our databases.

Post-condition: account should be logged in.

Output: The personal profile.

- **Select Car**:

Description: The user will be able to select a car to rent.

Input: The chosen car.

Source: user.

Pre-condition: choosing a car that is available in our stock.

Post-condition: Car should be rented and out of stock.

Output: You have rented the car with this specific model.

4-Non-functional requirements:

Usability:

The system provides a help and support menu in all interfaces for the user to interact with the system. The user can use the system by reading help and support.

Security:

The system provides username and password to prevent the system from unauthorized access. The staff's password must be greater than eight characters. The subsystem should provide a high level of security and integrity of the data held by the system, only authorized personnel of the company can gain access to the company's secured page on the system; and only users with valid password and username can login to view user's page.

Performance:

The system response time for every instruction conducted by the user must not exceed more than a minimum of 10 seconds. The system should have high performance rate when executing user's input and should be able to provide response within a short time span usually 50 second for highly complicated task and 20 to 25 seconds for less complicated task.

Availability:

The system should always be available for access at 24 hours, 7 days a week. Also, in the occurrence of any major system malfunctioning, the system should be available in 1 to 2 working days, so that the business process is not severely affected.

Error handling:

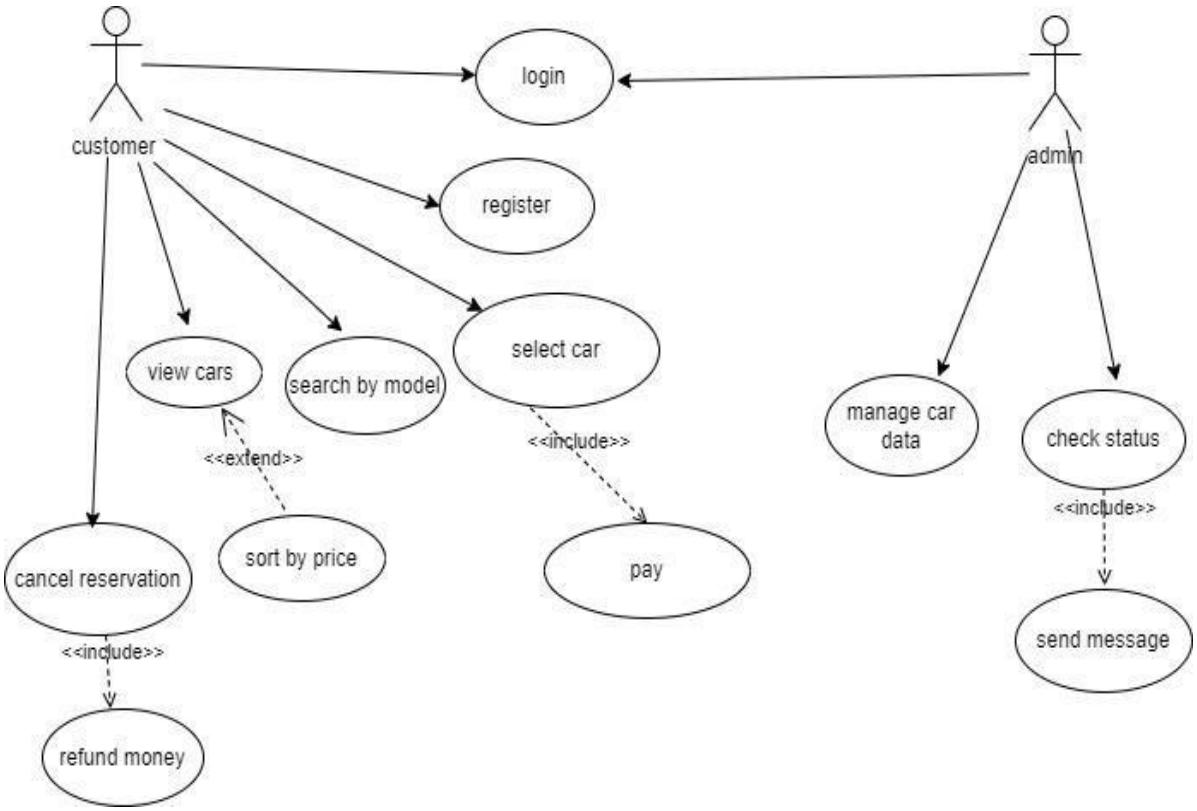
Error should be considerably minimized and an appropriate error message that guides the user to recover from an error should be provided. Validation of user's input is highly essential. Also, the standard time taken to recover from an error should be 15 to 20 seconds.

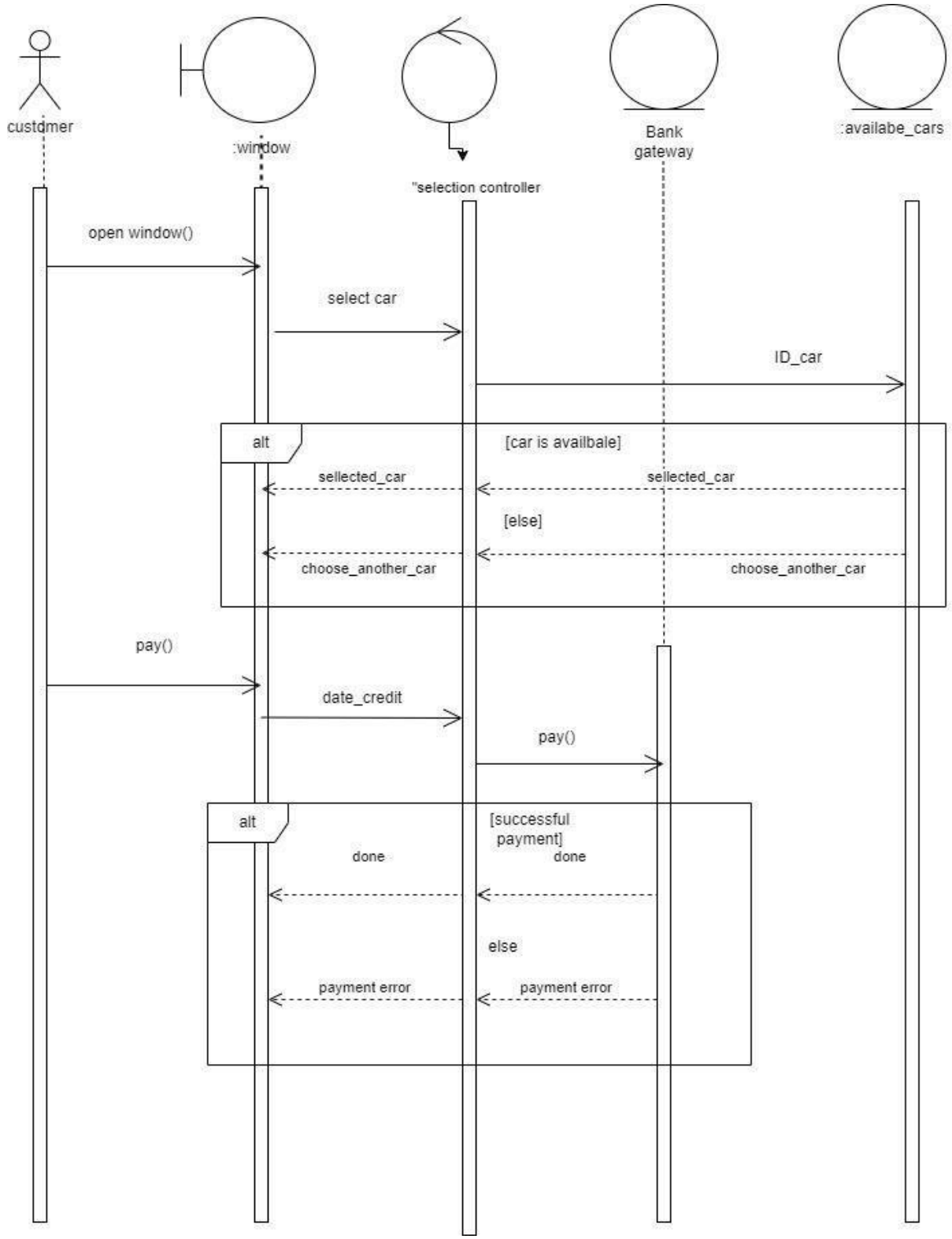
Ease of use:

Considered the level of knowledge possessed by the users of this system, a simple but quality

user interface should be developed to make it easy to understand and required less training.

Use case diagram





Sequence diagram for select car use case