

# **Requirements Specification – Car Rental Service**

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## **1) Introduction and Overview**

The Car Rental Service facilitates the renting and returning of cars from a San Diego-based company that owns all the cars that are borrowed. The software provides accurate information on which cars are available to borrow, the conditions of all the cars, and the price of borrowing certain cars. In this document, the requirements and specifications of this software will be expanded on and discussed in great detail.

## **2) User Requirements**

Users will be able to access the Car Rental Service from the website on both desktop or mobile, but mobile users have the option of downloading the app to streamline the car rental process. The website has the feature of browsing through the catalog of vehicles provided, and allows users to look at the reported condition and price of the car they are looking at. From there, a user can choose to continue browsing or rent the selected car. If one wants, they may also call the service's phone number to rent a car, which can be found on the service's website or various advertisements. However, one key difference between renting a car through the website/app compared to calling in, is that the website/app allows users to browse different cars that are provided.

To rent a car, users must be above the age of 25 and possess a credit score upwards of 650. Users must submit to a credit score check as well as provide proof of their age. Repeat customers are only required to submit these materials once. The company stores the user information and car information securely in their database which only high-level administrative staff are able to access.

Once a car is chosen, the cost per day starts at \$100 per day for the lower-end cars, and can reach up to \$170 per day for a higher-end car. Users must select how long they will borrow the car before they pay, and each day that they do not return the borrowed car past that date results in a penalty of double the time the infringing user had the car after their given return date. Scheduling the amount of time a car is rented allows for other users to have a rough estimate of when a car will be available. The Car Rental Service takes both credit and debit card, as well as PayPal, Venmo, Apple Pay, or Google Pay. Rented cars are tracked to allow the company to track a vehicle down if needed to. However, in the case that a car is legitimately stolen or the car has broken down, the user will be issued a full refund.

## **3) System Requirements**

### **3.1) Functional Requirements**

There are several functions on the Car Rental Service website/app, the main function being the ability to rent and return cars. Users can also add reviews for the cars that they have rented, as well as check the information of the various cars on the catalog. Employees can verify returned cars, view the status of any of the cars, as well as update the directory of cars.

Figure 1: Case diagram for a user of the Rental Car Service

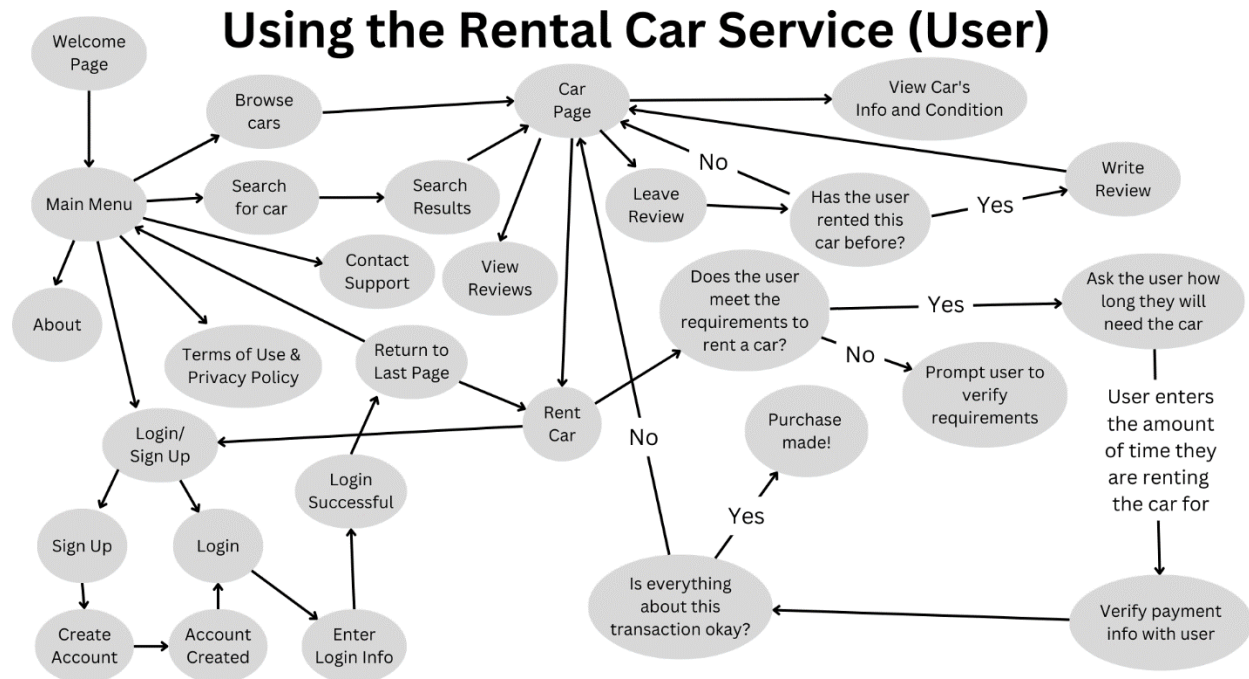
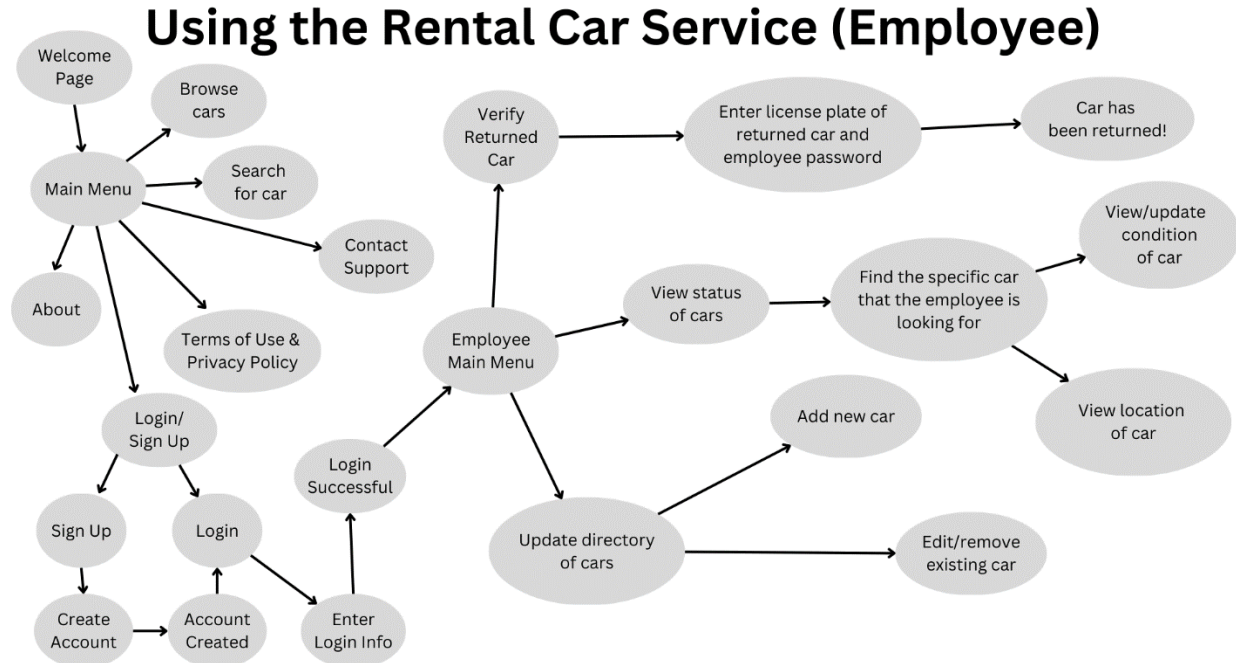


Figure 2: Case diagram for an employee working for the Rental Car Service



### 3.2) Non-functional Requirements

The most useful quality in a car rental service is its reliability. None of us would want to deal with an unreliable car rental service that gives us a rental car that does not look to be in the same condition as

reported on the website. Users may be looking for a specific car to rent, but an unreliable car rental service would not reliably have the car that a user is looking for. A reliable car rental service would be able to provide a user with the car that they are looking for with an accurate condition as posted on the website.

After reliability, the next most useful quality would be the security of the car rental service. Users want to be able to enter their payment info onto the service without having to worry about their info getting stolen. Beyond the website's security, users also want to ensure that there are security measures in place in case of anything happening to the rental car out of the user's control. Car break-ins (especially in some parts of San Francisco) have been on the rise in recent years. Users want to be able to rent a car knowing how the company will deal with a stolen car or a car's catalytic converter being stolen.

A car rental service also needs to have a high performance to sustain itself. A car rental company cannot sustain itself without a manner of obtaining more rental cars. If a car rental company does not have enough rental cars, it will not be able to make a profit. In addition to obtaining more rental cars, the car rental service also must be effective in finding new customers. Car maintenance is expensive, and the costs can pile up.

Other important qualities a car rental service needs include the learnability, user efficiency, and privacy of the system. The car rental service needs to be easy to use so that users can quickly do what they need to do on the platform. Also, this is similar to security but the privacy of the users is important, user information should be securely kept from others, even most employees.

#### **4) Other**

##### **4.1) Risks**

It would be quite difficult to retrieve a stolen car if a thief figures out how to remove the tracking chip on the cars. To help prevent this, the company may have to introduce collateral for users before renting a car.

##### **4.2) Constraints**

One possible constraint that the Car Rental Service suffers from is the lack of locations to return vehicles. The company will have to find a very good starting location to alleviate some of the concerns of the inaccessibility.