Software Requirements Specification

Version 1.0

WEB-BASED CAR RENTAL BROKER MANAGEMENT SYSTEM

Prepared by

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Document history

Date	Version	Description	Author
09/15/2019	1.0	Introduction	Sahana Shankar
10/04/2019	1.1	Overall Description Specific requirements Analysis model	Rajasekhar Reddy Guntaka

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1. Introduction

The introduction of the Software Requirements Specifications Document provides an overview of the entire document.

Purpose

This section defines the role or purpose of the Software Requirements Specifications Document and briefly describes the structure of the document. Identify the intended audience for the document is identified, with an indication of how they are expected to use the document.

Scope

A brief description of what the Software Requirements Specifications Document applies to; what is affected or influenced by this document.

Definitions, acronyms, and abbreviations

Provides the definitions of all terms, acronyms, and abbreviations required to properly interpret the Software Requirements Specifications Document. This information may be provided by reference to the project's Glossary.

References

Provide a list of all documents referenced in the SRS.

2. Overall description

The overall description of project specifies about product perspective, product functions, user characteristics, constraints, Assumptions and dependencies.

Product perspective

Web based car rental Broker Management system is a web application. The main purpose of this application is to provide the vehicle company to rent the vehicles to customers based on some certain requirements. This application will run on device that connected with the internet.

Product Functions

This application has various functions, As there was different functionalities in it they varies from each other. There are 3 primary actors 1. Clerk 2. Client and 3. Admin

1. Registration of customers to be done.
2. Reserve a vehicle to the user as per the start date and time.
3. Clerk should be able to manage the client data, Clerks additionally choose the order by which they view a result set: random order or sort according to some criteria.
4. Clerk can able to view the bookings and availability of vehicle.

User characteristics

Client

Client uses the web based car rental system for vehicle registration, return vehicle. Client need to register with the system.

Clerk

Clerk is the systems employee who can manage a client record(create new, modify, delete), create a rental of a vehicle for a client, create or cancel a reservation of the vehicle for a given client, or handle the return of the given vehicle. Clerks should be able to view the contents of the catalog, either in a random order or by creating a result set through a selection of filtering criteria. Clerks may additionally choose the order by which they view a result set: random

order, or sort according to some criteria. The clerk can subsequently proceed to next item in detail view or go back to the initial result set view.

Administrator

Admin is responsible for managing vehicle record (create new, modify, delete). Admin can additionally view the contents of the catalog and perform searches but cannot perform a booking or return vehicle. Admin should have idea on how application is working and should know the functionalities of the system.

Constraints

User Interface The client can be able to open the application in any browser. Interface to be implemented in java.

Safety The data of the clients to be kept in a safer place so that it cannot be accessed by outsiders.

Security Administrator should monitor all the reservations that have been made and the data should not be shared.

Assumptions and Dependencies

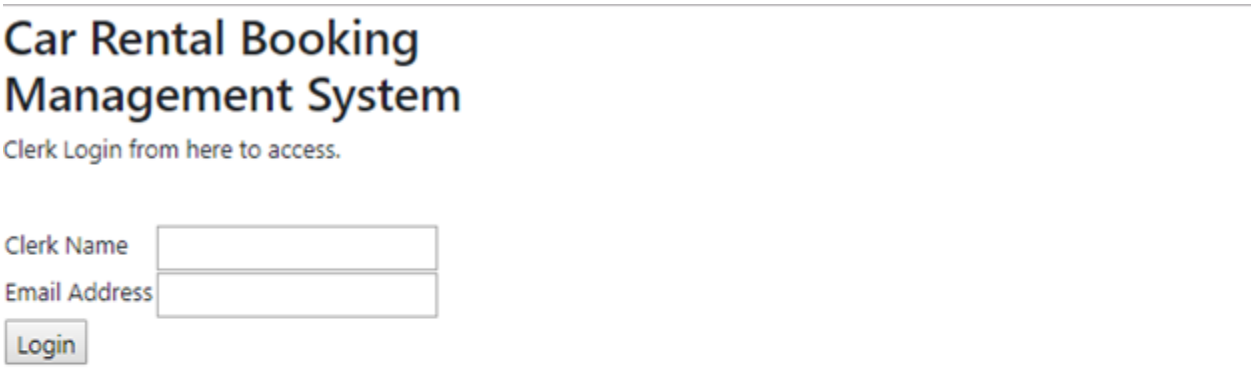
Assumptions	Dependencies
This application to be used in web browser only because it is designed for PC	Almost all the clients should have to use only PC's.
The PC should have an active internet connection	So that clerks can modify the changes if required.
Conform booking of the vehicle for the required date.	It requires the availability of the vehicle for that specific date and time

3. Specific requirements

All the requirements are classified to Functional as well as Non - Functional requirements(quality attributes and constraints). The quality attributes are listed according to the ISO/IEC 25010 standard that classifies software quality in a structured set of characteristics and sub-characteristics.

3.1 External Interfaces

These are the



Clerk Home page

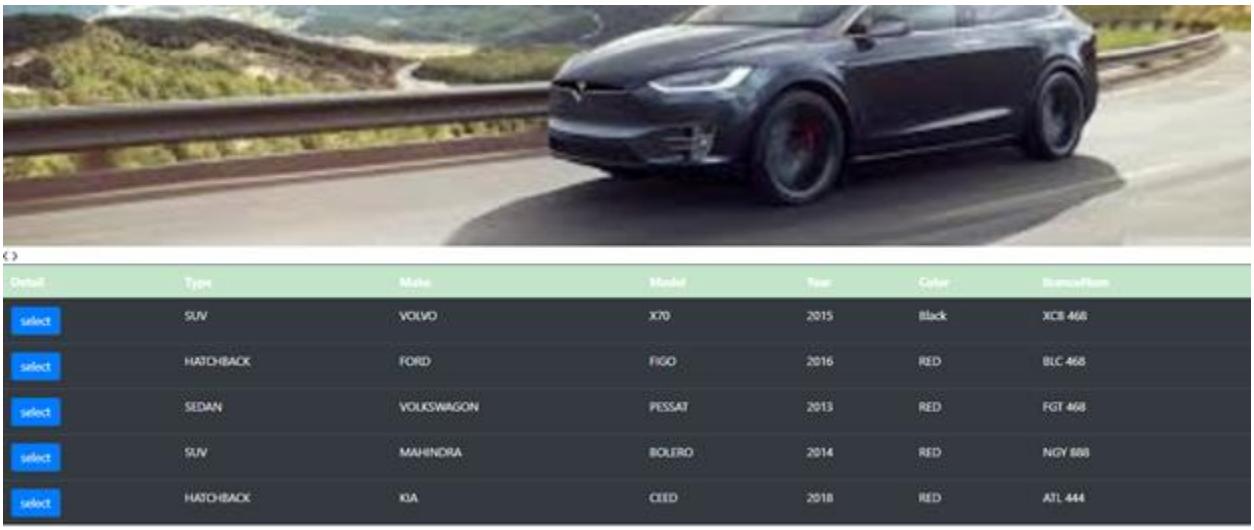
WELCOME

CLERK HOME PAGE

CAR CATALOG PAGE

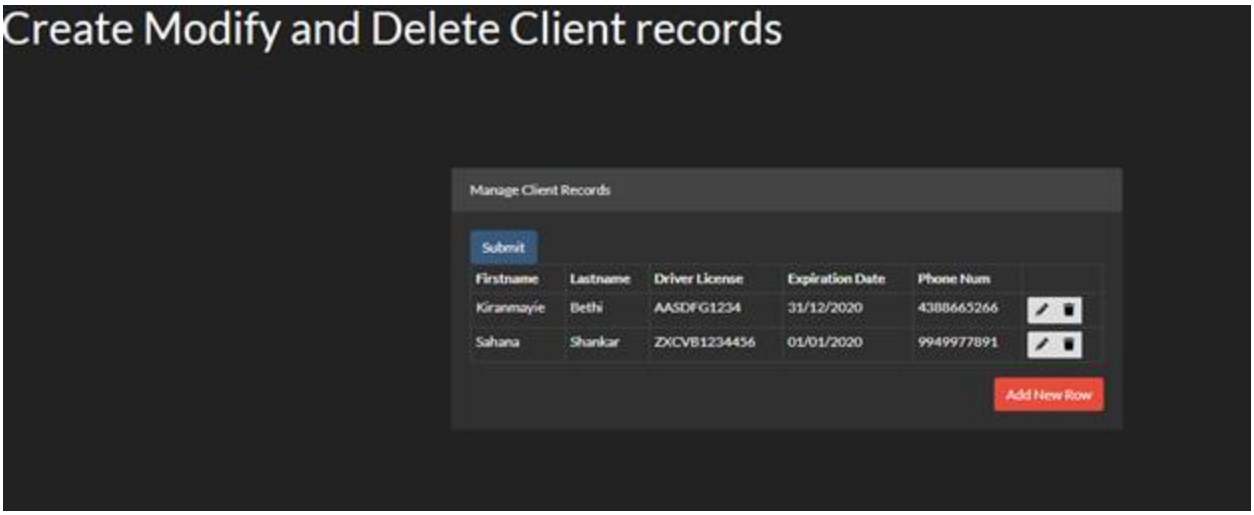
MANAGE CLIENT RECORDS

Car catalog page

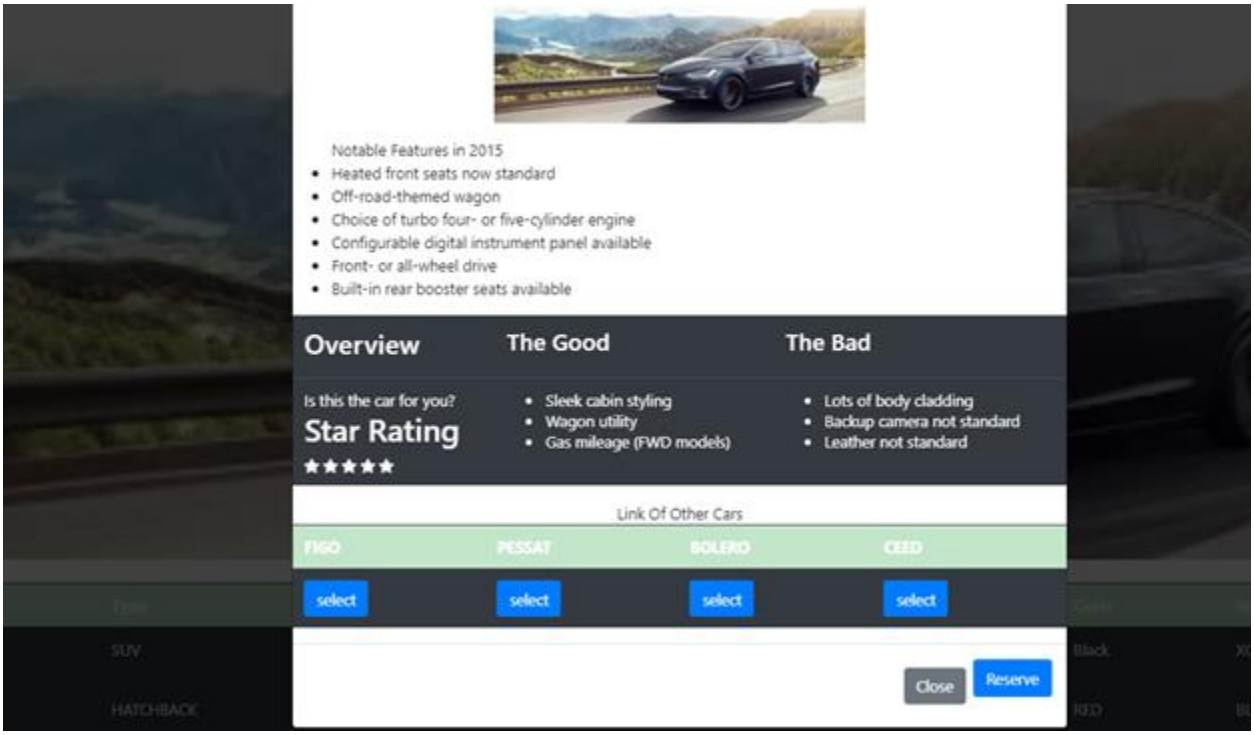


Detail	Type	Make	Model	Year	Color	Stock/Rent
select	SUV	VOLVO	X70	2015	Black	XCB 468
select	HATCHBACK	FORD	FIGO	2016	RED	BLC 468
select	SEDAN	VOLKSWAGON	PESSAT	2013	RED	FGT 468
select	SUV	MAHINDRA	BOLERO	2014	RED	NGY 888
select	HATCHBACK	KIA	CEED	2018	RED	ATL 444

Managing client records



Reservation



3.2 Functional requirements

Functional requirements defines a function of a system or its function.

Viewing and searching the catalogs

Clerks should be able to view the contents of the catalog, either in a random order, or by creating a result set through a selection of filtering criteria, e.g. “View all SUV models not more than 3 years old .” Clerks may additionally choose the order by which they view a result set: random order, or sort according to some criteria, e.g. “View sorted by year.” From a given result set, a clerk may choose an item to view in detail. In this view, the system should provide an indication of whether the vehicle is available or is rented out. The clerk can subsequently proceed to the next item in detail view, or go back to the (possibly filtered) initial result set view.

Renting reserving and returning vehicles

A clerk can manage a client record (create new, modify, delete), create a rental of a vehicle for a given client, create or cancel a reservation of a vehicle for a given client, or handle the return of a given vehicle. The system maintains a record for every transaction (rental, reservation, or return) that includes client and vehicle information, together with a timestamp. In the case of a rent or a reservation, the record will include the due date for each item. Administrators can access, view and search the history of transactions per client, per vehicle or per due date. For example, ‘Show all vehicles currently out’, ‘When is a given vehicle due’, ’Is a given vehicle available on a given date or over certain dates?’, or ‘What vehicles were due yesterday(and they have all been returned)?.’

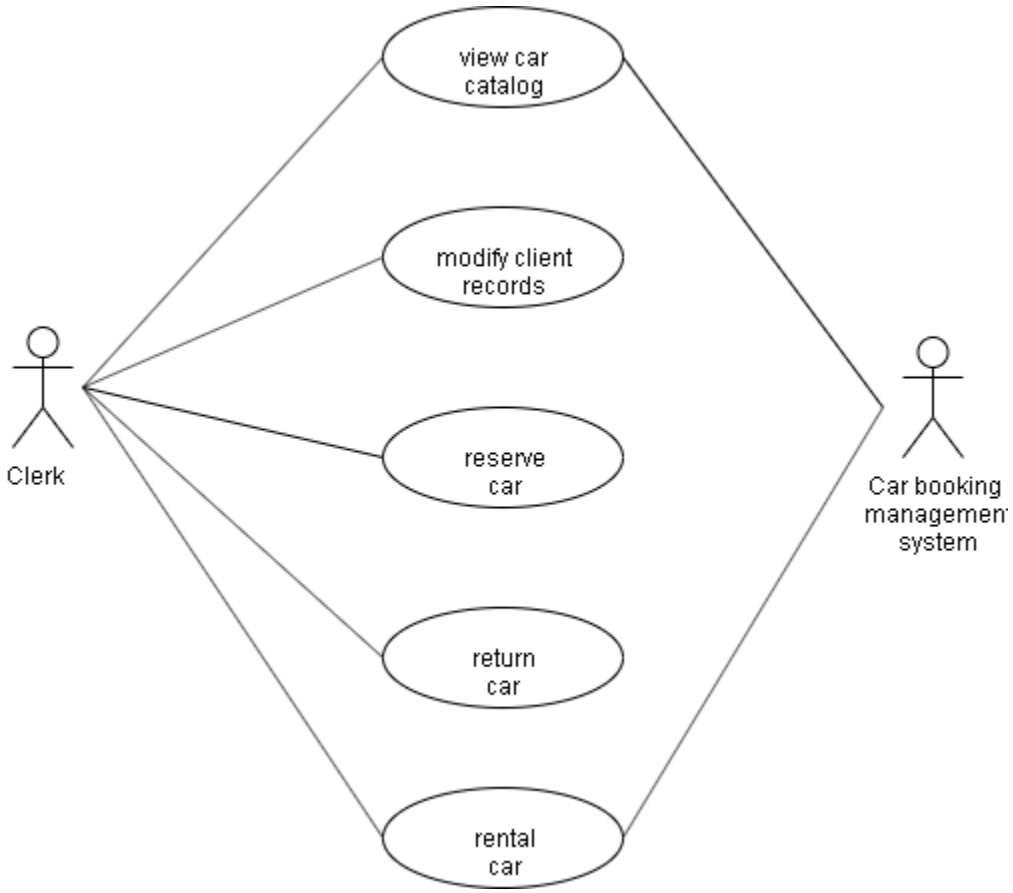
Administering the database

An administrator can manage a vehicle record (create new, modify, delete). An administrator can additionally view the contents of the catalog and perform searches, but cannot perform a rental, a reservation, or a return.

Actor goal list

Actor	Goal
Client	View Client Catalog
Clerk	Create, Modify, Delete Client Records, View Car Catalog, Handle Return and Reservation of the Car
Administrator	should be able to view the content of. Manages vehicles record in the catalog

Use case view



3.3 Non-Functional requirements

Performance efficiency

1. The usual load time of each webpage takes approximately 0.5 sec to 2 sec depending on the internet speed
2. The system's core is powered by Tomcat Server

Compatibility

1. As we are using bootstrap 4.5 design in the html web page design, this can damage the design whenever the application is opened in different web browser

Usability

1. This web applications is designed with simple GUI in which clerk functionality is self explanatory.
2. As it has a simple GUI, anyone with a minimum knowledge of web site browsing can access the application

Reliability

Stability: The application won't crashes, they won't be any unhandled exceptions and script errors.

Data integrity: All types of data remain intact throughout the product.

Recoverability: It is possible to recover and continue using the product after a fatal error.

Security

Authentication: Clerk has been given Unique Name and Email Address to login to ensure that an authenticated clerk has been logged in.

Privacy: An authenticated clerk is logged in to ensure that the client records are secured.

Maintainability

The web application has a simple GUI, so it's easy to extend the functionality and give new responsibilities to the use case actors i.e., Client, Clerk and Admin.

Portability

This web application is portable with both ios and windows.

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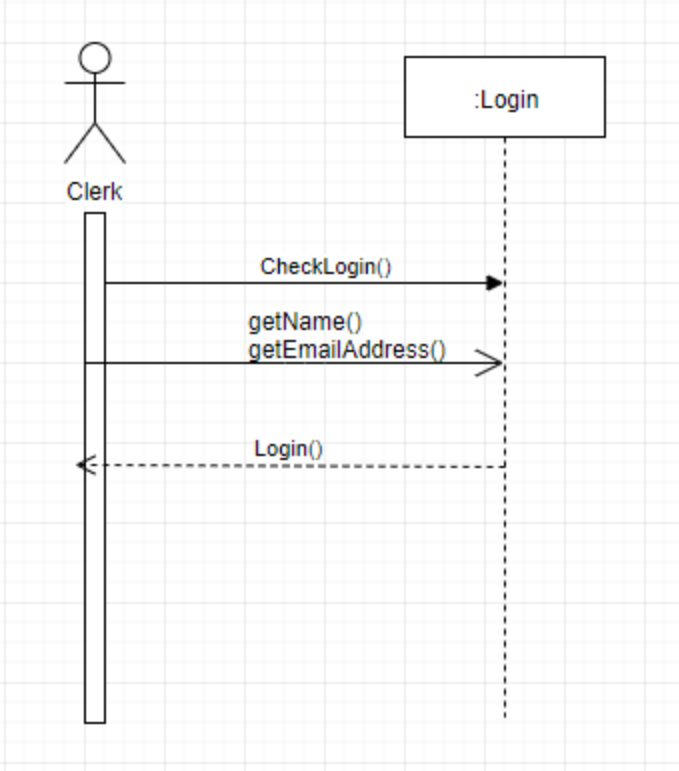
4. Analysis models

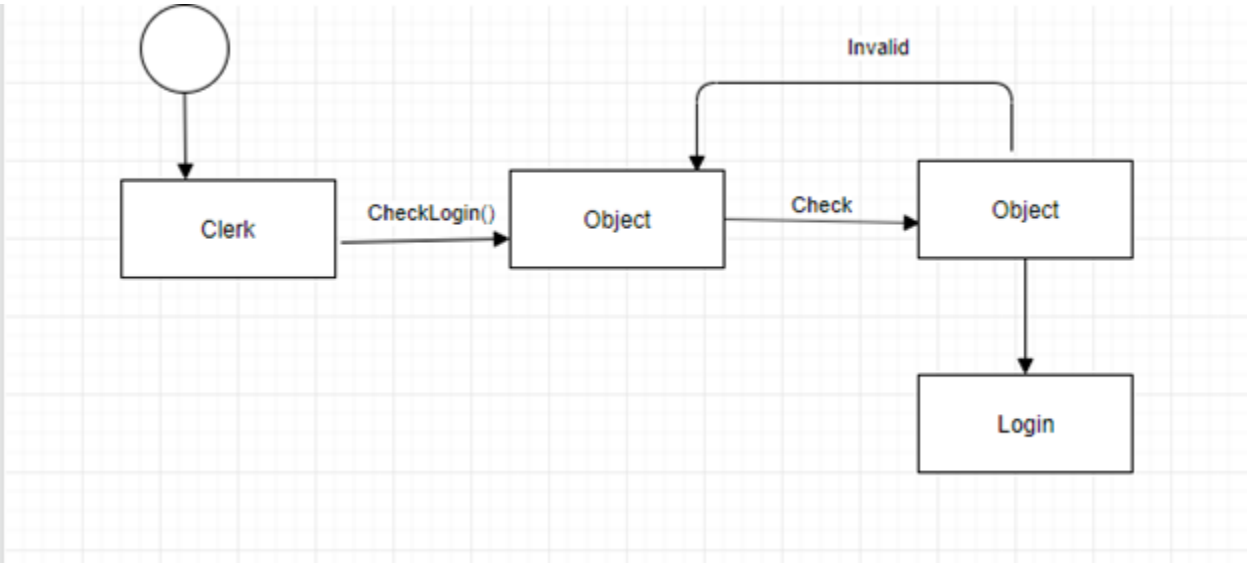
Below we have illustrated some critical scenarios

1. Login

Sequence diagram for login

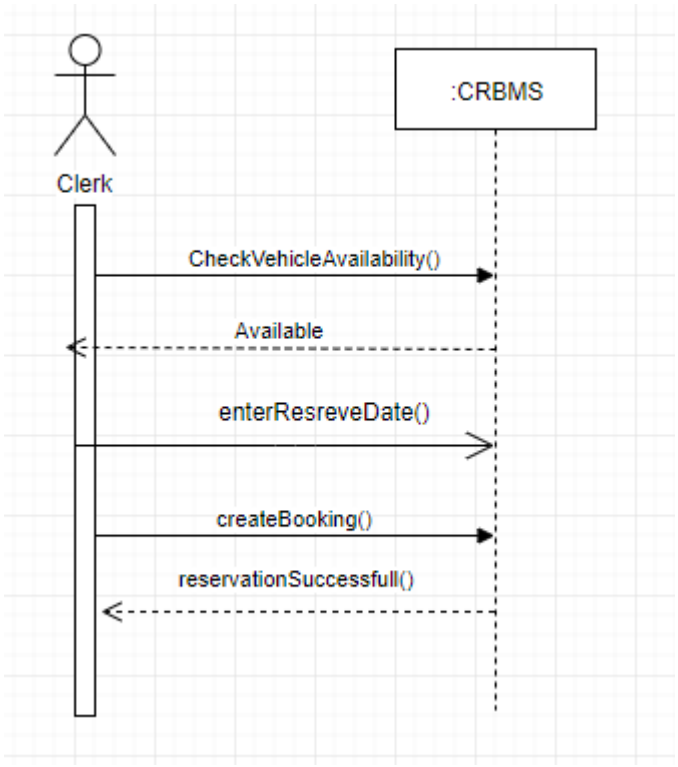


State diagram for Login

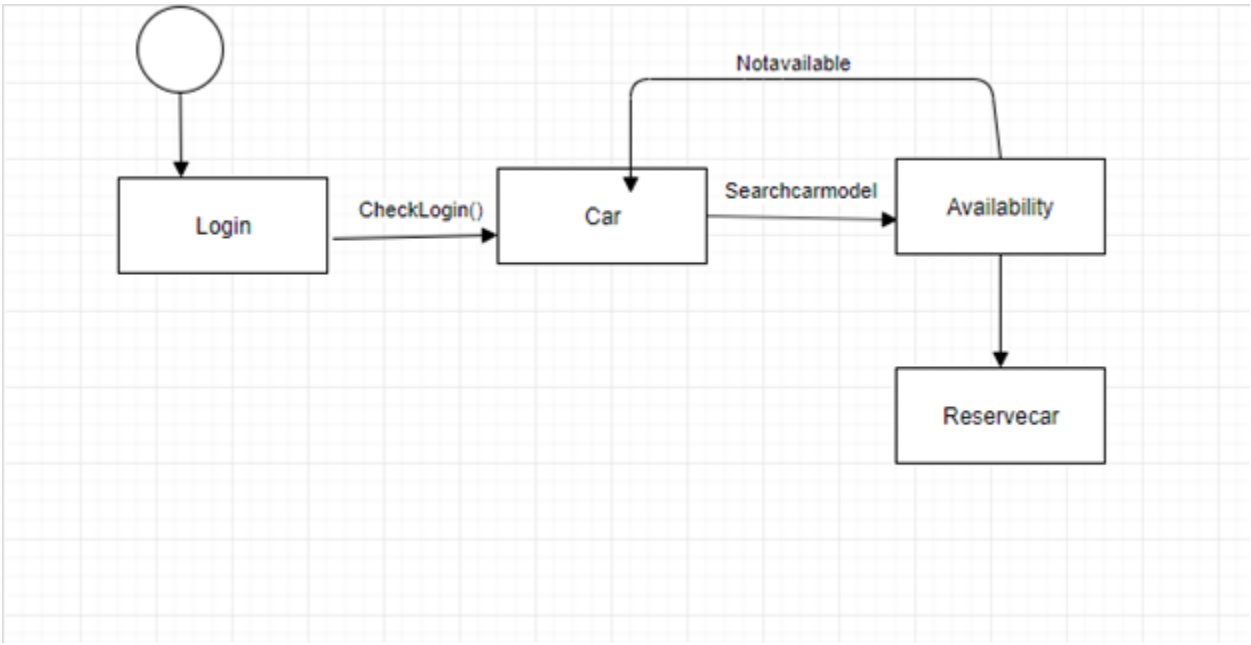


2. Reserving Vehicle

Sequence diagram for Reserving vehicle

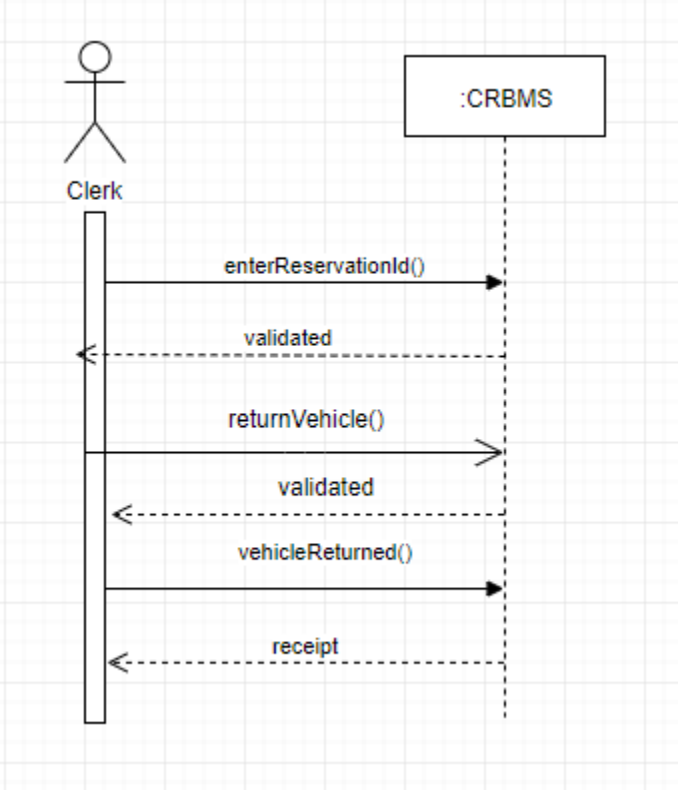


State diagram for Reservation of vehicle



3. Return of vehicle

Sequence diagram of return of a vehicle



Domain Model