Kingdom of Saudi Arabia
Ministry of Higher Education
Majmaah University
College of Science at Az-Zulfi
Department of Computer Science & Information

Online management and monitoring car rental platform

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Abstract

Nowadays, there are online car reservations which give much benefit to user.

A rental service is a service in which customers arrive to request the hire of a rental unit.

It is more convenient than carrying the cost of owning and maintaining the unit.

A car rental or car hire agency is a company that rents automobiles for short period of time for a fee whether in a few hours or a few days or week.

It is an extended form of a rental shop, often organized with numerous local branches (which allow a user to return a vehicle to a different location), and primarily 'located near airports or busy city areas and often complemented by a website allowing online reservations.

Car rental agencies primarily serve people who have a car that is temporarily out Of reach or out of service, for example travelers who are out of town or owners of damaged or destroyed vehicles who are awaiting repair or insurance compensation.

Because of the variety of sizes of their vehicles, car rental agencies may also serve the self-moving industry needs, by renting vans or trucks, and in certain markets other types of vehicles such as motorcycles or scooters may also be offered.

In short, It is a system design specially for large, premium and small car rental business.

The car rental system provides complete functionality of listing and booking car.

Chapter 1

1.1 INTRODUCTION

The administrator will register for staff and driver who works in the company, but client will register by their own. The client can login to the system with the internet. Client can search the type of car for their need to make booking of the specific car. When client choose the car, system will list out the car details and the bill to print. Car Rental Management System (CRMS) give a security to the confidential data. It's also preventing staff from make minor or major mistakes during managing the data.

1.2 Problem statement

The Process on searching the client details is slow if the company is using manual system and there are thousands of clients. Besides that, staffs have to record the booking manually and it is difficult to produce a monthly report or an annual report. Manual system does not allow client to booking online and hard to keep track on the record of rental cars.

1.3 This problem can be summarized as follows:

1. A lack of good services in that company.

2. At that time, I thought about going to other rent car but I don't know how much I pay and what the company need of me like papers or any guarantee to give me the car.

4. I thought in create a mobile-application that helps people to search about the cars and booked one.

1.4 Objectives

1. To transform the manual process of hiring car to a computerize system.

2. To validate the Rental Car system using user satisfaction test.

3. To produce the documentation such as Software Requirement Specification (SRS), Software Design Description (SDD) as system development references.

1.5 Feasibility Study

نظام لتأجير السيارات

1. كيف ترى الفرق بين النظام الحالى المتبع فى تاجير السيارات والنظام الرقمى

- ☐ النظام الدفترى يحقق السرية والامان
- ☐ النظام الرقمى يضمن السهولة والتيسير ويختصر التفاصيل الكثيرة
- ☐ النظام الدفترى له مخاطر مخاطر كثيرة على المستاجر
- ☐ النظام الرقمى له مخاطر كثيرة على صاحب السيارة

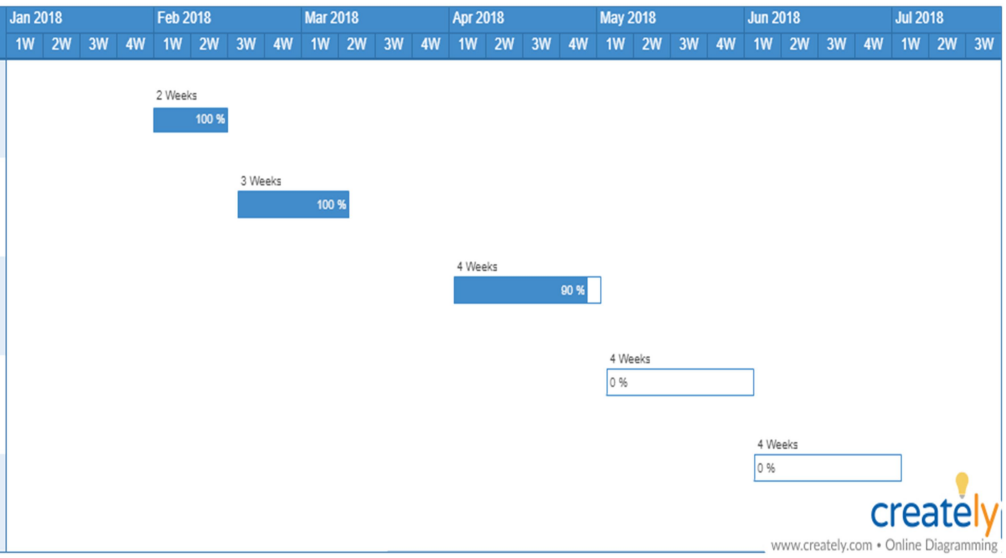
2. ماهو انسب نظام لتأجير السيارات من وجهة نظرك

- ☐ نظام الشركات
- ☐ النظام الفردى
- ☐ نظام التأجير الشهرى
- ☐ نظام التاجير طويل الامد

إنهاء الاستبيان

1.6 Project Scheduling

ID	Task Name	Duration
1	- Feasibility Study	2
2	- Requirments	3
3	- Design	4
4	Coding	4
5	Testing	4



Chapter 2

1.7 Introduction

CRMS improve the searching speed of staffs, drivers and client's details for the user because user can insert key word to search them. Besides that, Admin can get benefit because it manages the booking of cars by show available cars for client and always records every single booking to easy the company report so that admin can just print the report. Admin also does not have to calculate the profit for cars owner because the system will produce report and calculate the profit sharing. CRMS also give client benefit because allow them make booking at anywhere and anytime before they want it. Lastly car owner get benefit by every rental from the company from profit sharing.

1.8 Purpose

CRMS expected to be well managing car booking system. There should not have any errors occur on the financial part and it can generate report in simplest form for administrative purpose.

1.9 Scope

The system that is going to be developed is known as the CRMS whereas the system is a web based application system. The main users of this system are administrator, client (Renter) and staff. This system also includes yearly and monthly car rental report. There are seven modules in the CRMS. The modules are:

1. Client Information

User can register, login, view and update client information.

2. Staff Information

There are two users that are admin and staff. Admin can add, view, update and delete staff information, while staff only can view and update staff information.

3. Car Information

Admin and staff can add, view, update and delete car information.

4. Booking Management

Client can add booking information while admin will update booking information.

5. Renting Out

User can update rental information status to renting out and system will record the time and staff who take the car.

6. Returning

User can update rental information status to return and system will record the time and record the car is being returned.

7. Report

Producing the reports associated with the renting car.

The system is a multi-user system since it is used by different groups of users. It is developed to be used on any operating system platform. The database system that is going to be built for the system is using sql server. The methodology for developing this project is Software Development Live Cycle (SDLC). Besides that, the system is going to use the Wide Area Networking (WAN) where it can connect to people around the world. Therefore, the operation between users that involved distances can be easily done and managed.

1.10 Overview of Document

Manual System:

i. Difficulties in checking vehicle status whether the vehicle is being used, repaired or available for rental.

ii. Client does not know the detailed information about the car that they had rent.
iii. Mistakes in giving vehicle to the correct client due to data redundancies that occurred because of the manual way are high. iv. Difficulties in referring to the previous data had been recorded since all the checking is done manually.
iv. Searching client details are fast and easy.

System to be:

i. Provide convenient to user to do the car rental process.
ii. Customer can make vehicle rental anytime without relying to certain rules such as office hour.

1.11 Project Methodology

The SDLC method will be used to defining tasks performed at each step in the software development process. SDLC is a structure followed by a development team within the software organization. It consists of a detailed plan describing how to develop, maintain and replace specific software. The life cycle defines a methodology for improving the quality of software and the overall development process. The activities of the SDLC are planning, implementation, testing, documentation, deployment and maintenance and maintaining.

1.12

1.12.1 i. Planning

1.13

Gathering Cars Online Company's requirement and analyses the requirement by software engineers. After the requirements are gathered, a scope document is created in which the scope of the project is determined and documented.

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1.14.1 ii. Implementation

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Implement CRMS by using asp as programming language and sql server as the database.

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1.16.1 iii. Testing

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Finding defects or bugs by some software tester.

1.18

1.18.1 iv. Documentation

1.19 Product functions

With the proposed website and mobile app, the users will be able to search for cars. The result will be based on the criteria the user inputs. There are several search criteria and it will be possible for the administrator of the system to manage the options for those criteria that have that. The result of the search will be viewed either in a list view depending on what criteria included in the search.

The list view will have one list item for each car matching the search criteria and show a small part of the car information so the user can identify the car. The 4 map view will show each the warehouse location as a pin on the map as well as the user's own location. In both views the users will be able to either select a car as target destination or get information how to get there, or view the information of a specific car. The web portal will provide functionality to manage the system and the company information. It will also provide information about the system, for example show when there is a new update.

1.20 User characteristics

These two types of users has different use of the system so each of them has their own requirements. The website portal users can only use the website to find a car. This means that the user have to be able to search for cars, choose a car from that search and then navigate to it. In order for the users to get a relevant search result there are multiple criteria the users can specify and all results matches all of those. The administrators also only interact with the web portal. They are managing the overall system so there is no incorrect information within it. The administrator can manage the information for each hospital as well as the options for both the website portal users.

1.21 Constraints

The Internet connection is also a constraint for the website. Since the website fetches data from the database over the Internet, it is crucial that there is an Internet connection for the website to function. The web portal will be constrained by the capacity of the database

1.22 Assumptions and dependencies

One assumption about the product is that it will always be used on computer or mobile phones that have enough performance. If the computer or phone does not have enough hardware resources available and software for the website-portal. For example the users might have allocated them with website, must be the Google-map site work and Browser supports JavaScript, flash player to display allocation for customer using embed Google-map.

1.23 Apportioning of requirements

In the case that the project is delayed, there are some requirements that could be transferred to the next version of the website-portal. Those requirements are to be developed in the next release.

1.24 Specific requirements

This section contains all of the functional and quality requirements of the system. It gives a detailed description of the system and all its features.

1.25 External interface Requirements

This section provides a detailed description of all inputs into and outputs from the system. It also gives a description of the hardware, software and communication interfaces and provides basic prototypes of the user interface.

PROJECT PROFILE

Project Name	Online car rental system
Objective	It is a system design specially for large, Premium and small car rental business The car rental system provides complete functionality of listing and booking car. In this system, Tourism and Travelling Facilities also provide.
Platform	Website, android app
Front End	Asp . NET 4.0 with c#, java for mobile
Back End	Microsoft Sql Server 2016
Other Tools	MS Office 2007 , Crystal Report ,Visio 2010
Project Duration	120days

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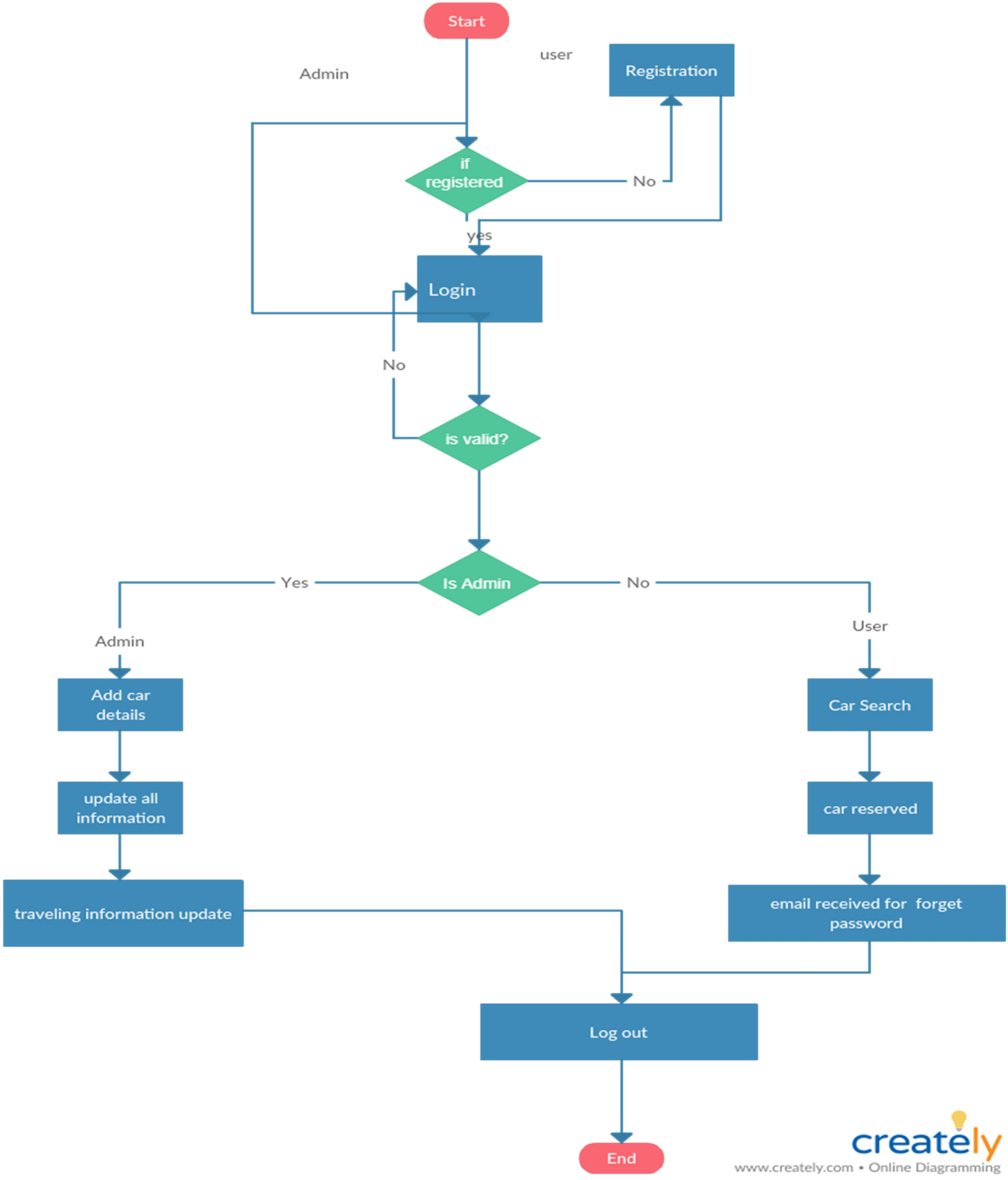
1.28 Hardware interfaces

RAM	4 G
Hard disk	10 GB
Processor	3.6 GHz

1.29 Software interfaces

Web Server	IIS 7.5
Framework	.NET 4.0 with C#
Database Server	MS SQL Server 2016
Web Browser	Internet Explorer 10 or any compatible browser
Operating System	Windows Server 2012

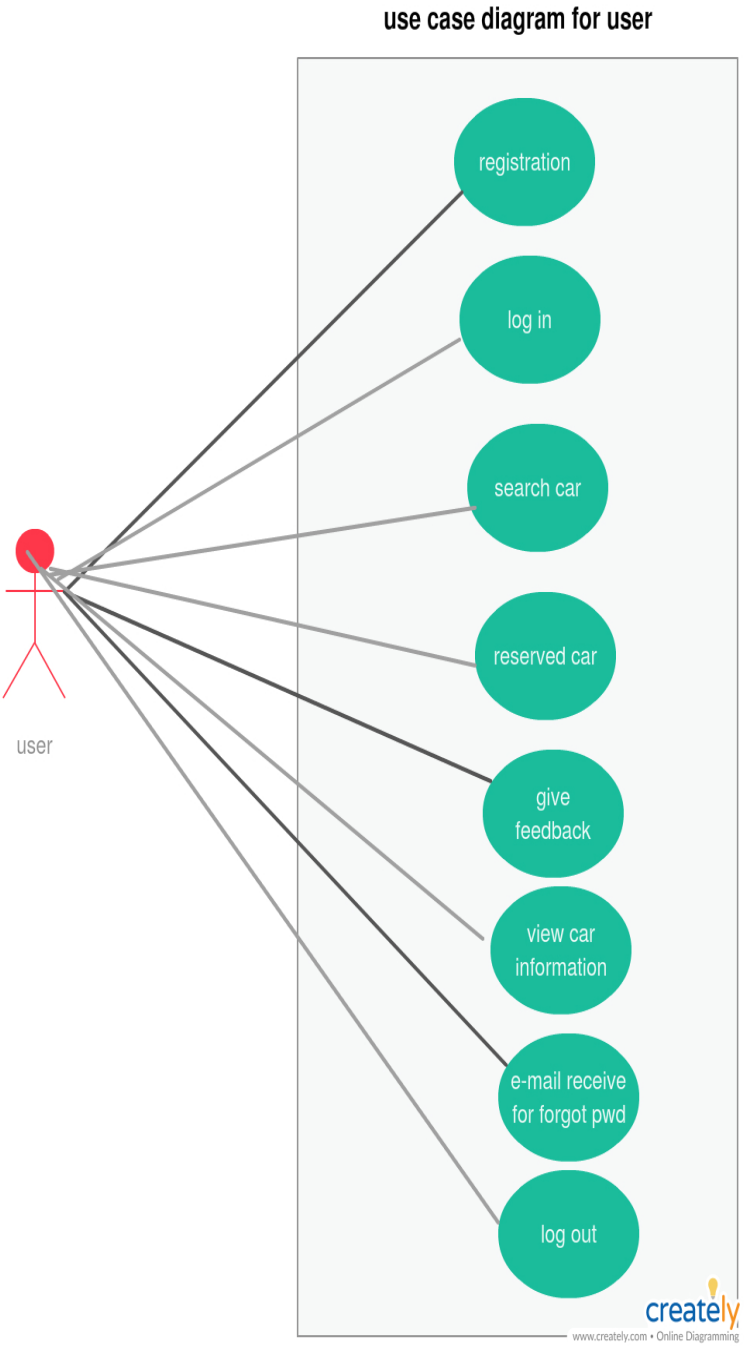
1.30 System UML Diagram 1(1)



SYSTEM FLOWCHAT

1.30.1

1.30.2 Use Case Diagram 1(1)



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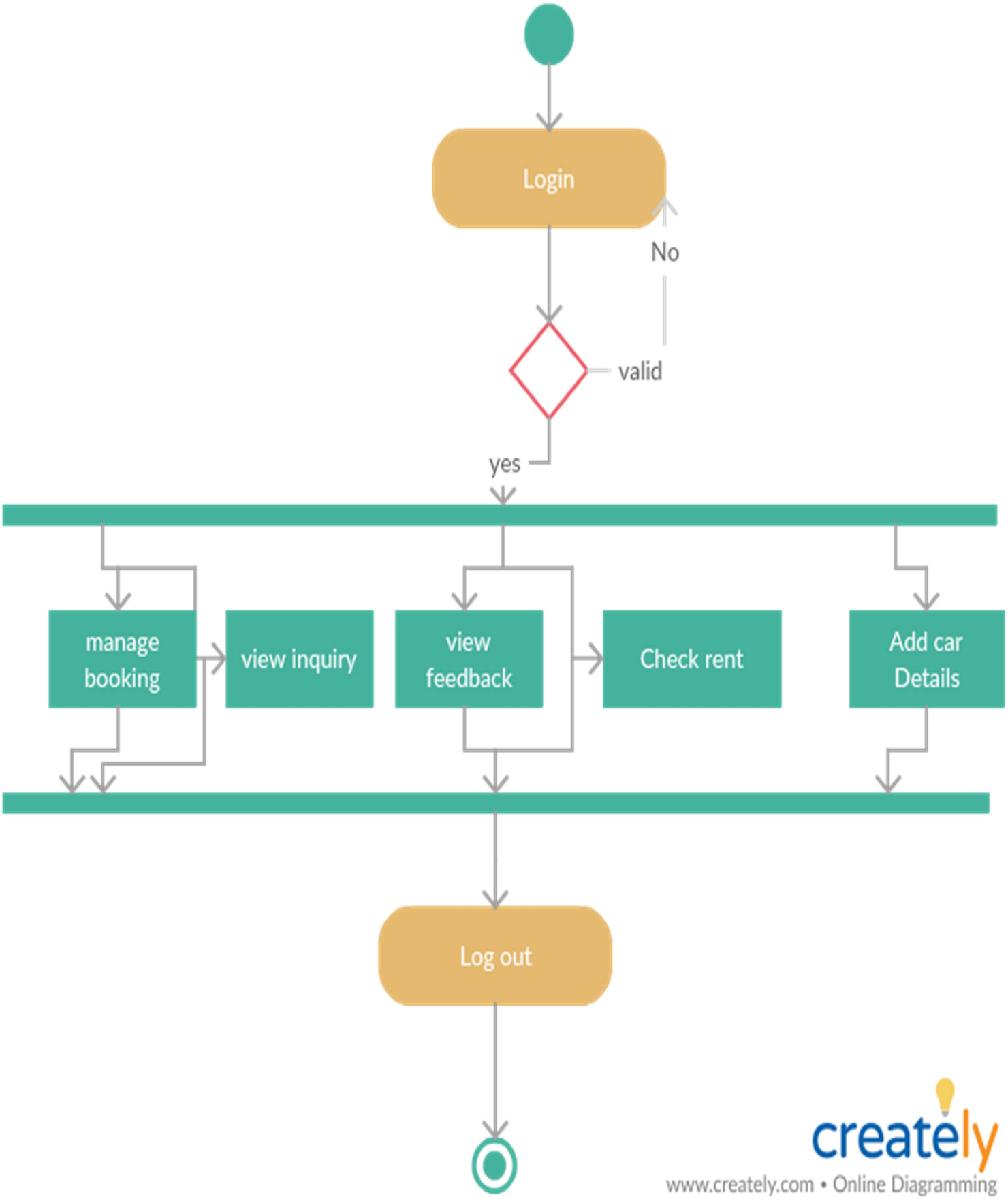
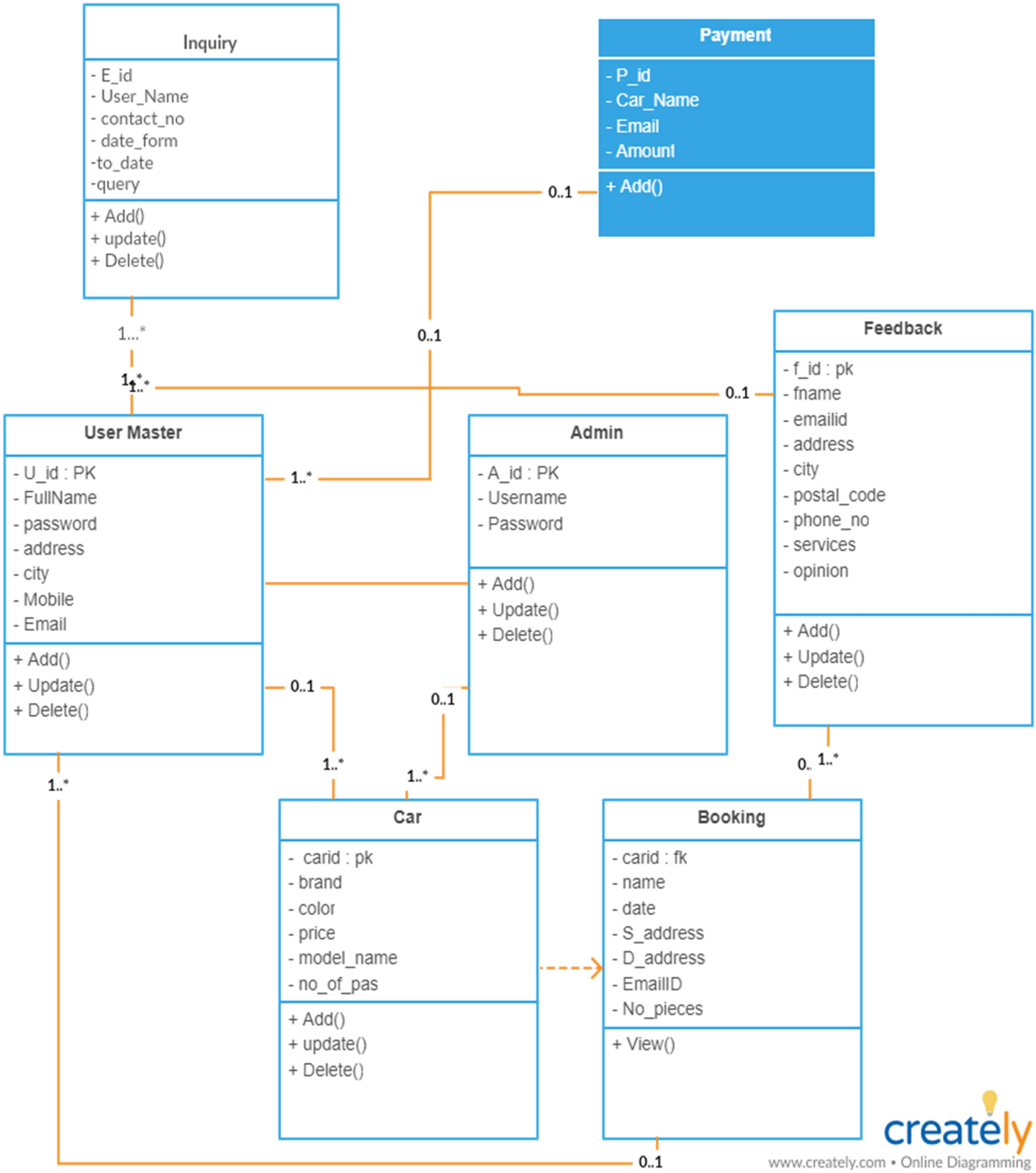
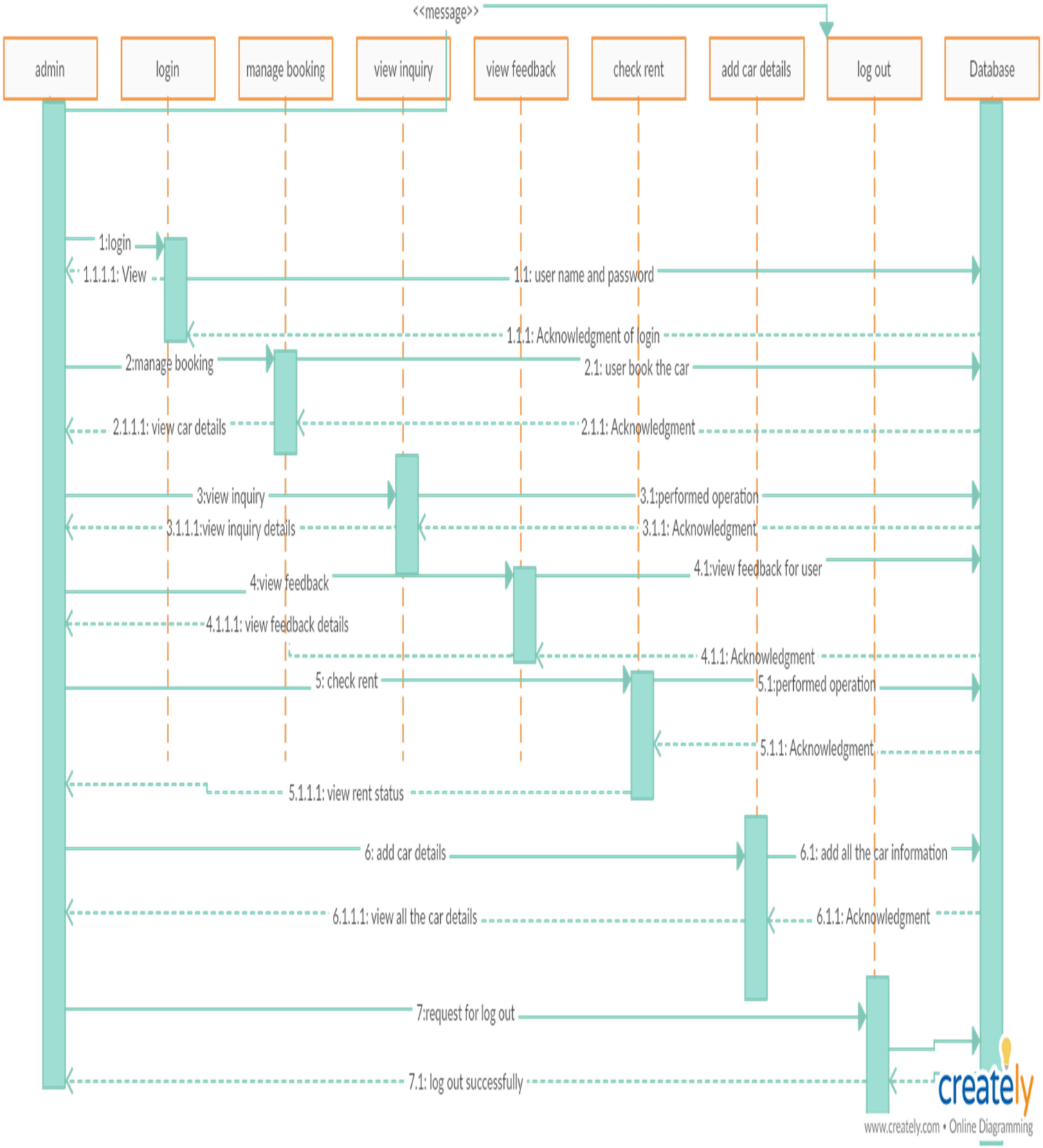
Activity Diagram 1(1)

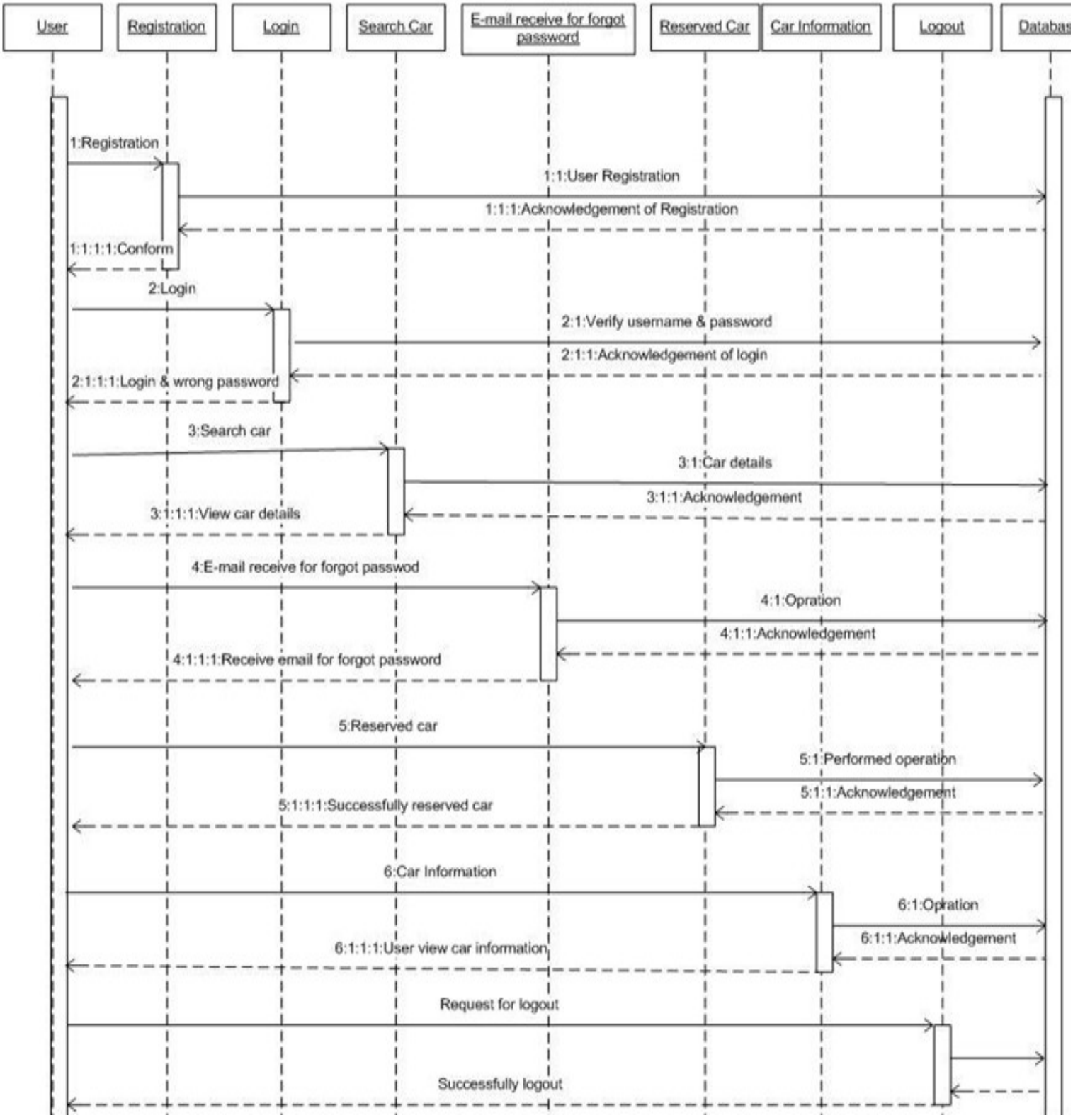


1.32 Class Diagram 1(1)



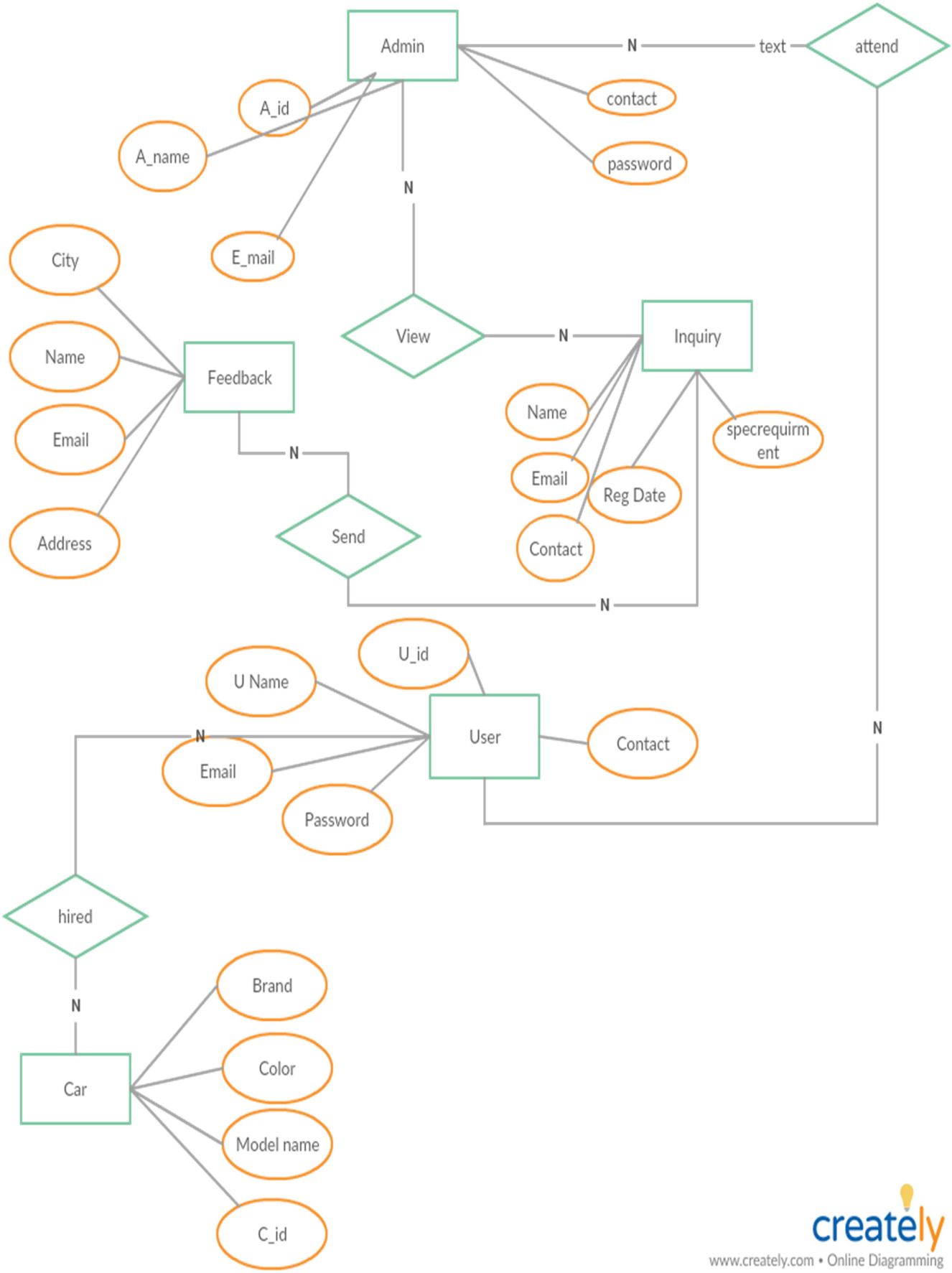
1.33 Sequences Diagram 1(1)



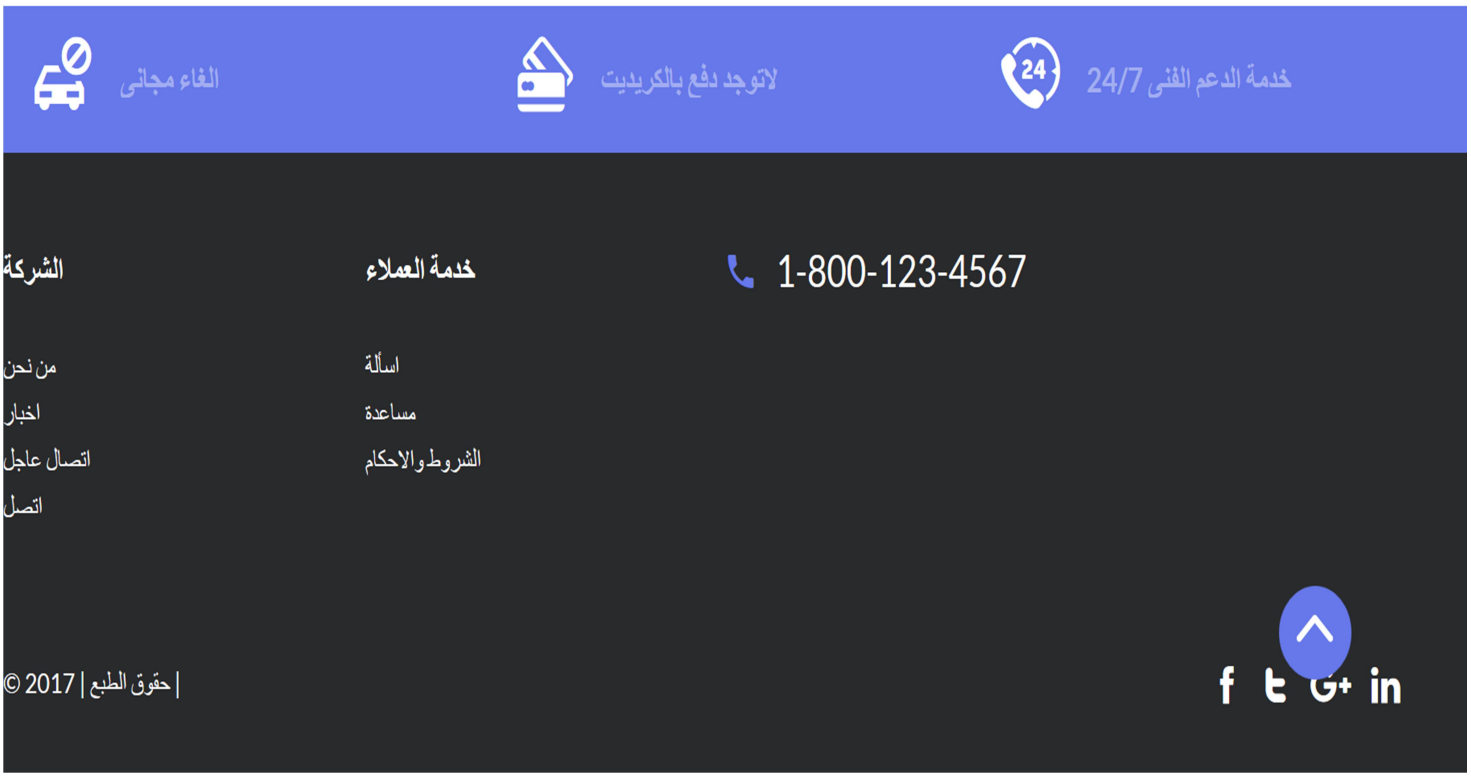

User
Registration
Login
Search Car
E-mail receive for forgot password
Reserved Car
Car Information
Logout
Databas
1:Registration
1:1:User Registration
1:1:1:Acknowledgement of Registration
1:1:1:1:Conform
2:Login
2:1:Verify username & password
2:1:1:Acknowledgement of login
2:1:1:1:Login & wrong password
3:Search car
3:1:Car details
3:1:1:Acknowledgement
3:1:1:1:View car details
4:E-mail receive for forgot passwod
4:1:Opration
4:1:1:Acknowledgement
4:1:1:1:Receive email for forgot password
5:Reserved car
5:1:Performed operation
5:1:1:Acknowledgement
5:1:1:1:Successfully reserved car
6:Car Information
6:1:Opration
6:1:1:Acknowledgement
6:1:1:1:User view car information
Request for logout
Successfully logout

2 Chapter 3 1(1)

2.1 ER Diagram



2.2 *Prototype Layouts 1(2)*

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2.3Bibliography

2.3.1 Reference

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I. ASP-NET the Complete Reference Matthew MacDonald.
II. University College of Southeast Norway http://home.hit.no/~hansha. ASP.NET. Web Programming. Hans-Petter Halvorsen, 2016.11.01.

III. Asp.net complete reference book pdf free download. Pro asp .net 4.5 in c , 5th edition. Pro asp.net mvc 5 5th edition

IV. ASP.Net: The Complete Reference by Matthew MacDonald.