ASSIGNMENT
ON
ADVANCED SOFTWARE ENGINEERING

Submitted to,   Submitted by,

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Software Requirements Specification
For
Online Car Rental System

1. Introduction

Transport facility is a matter of headache for those people who do not have any personal transport in Dhaka city. On occasions like Wedding, Vacation, house shifting, and tour outside Dhaka 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 web based application for availing transport whenever and wherever possible, then it will be beneficial for both renter and transport provider. Now a days, by some clicks only, we can get whatever you want at home. We already know about the 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.

1.1 Document Purpose

The advancement in Information Technology and internet penetration has greatly enhanced various business processes and communication between companies (services provider) and their customers of which car rental industry is not left out. This E-Car Rental System is developed to enhance business processes, online vehicle reservation, customer's registration etc..

1.2 Scope

This project traverses a lot of areas ranging from business concept to computing field, andrequired to perform several researches to be able to achieve the project objectives. The areacovers include:

- Car rental industry: This includes study on how the car rental business is being done, process involved and opportunity that exist for improvement.
- PHP Technology used for the development of the application.
- General customers as well as the company's staff will be able to use the system effectively.
- Web-platform means that the system will be available for access 24/7 except when there is a temporary server issue which is expected to be minimal.

1.3 Definitions and Acronyms

The following table explains the terms and abbreviations used in the   document.

- GUI - Graphical User Interface
- XAMPP - A server that is running Linux, Apache, My-SQL and PHP
- DBMS - Database Management System

1.4 References

- PHP and MySQL Web Development: Luke welling and Laura Thomson
- https://www.developerdrive.com

1.5 Overview

The purpose of this document is to identify unambiguously the user requirements and clearly define both functional and non-functional requirements of car rental system. In addition, this document is intended to cover technical goals as well as objectives of the proposed System.

2 Overall Description

2.1 Product Perspective

CRMS will automate the manual car reservation process. It will be easy to admin for handling customer registrations, present the car details, handling reservations. The new system will consist as a business system. The system will handle all the functionalities related to the car renting company. It will be able to undergo evolution in a much simpler way and will be more adaptable to the changing systems. The upcoming changes in the future will be predicted and the system will be designed in a way to adapt to the changes that will occur over the years.

2.2 Product Functions

2.2.1 Supported Functions

Car Rental Management:

It provides car reservation facility online. Customer can visit the website and check for various cars. If they are feasible with requirement, then booking can be done.

Checking For Availability:

Employee can check for the availability of the car. He/she maintains the database of car. If no car is available it is the responsibility of the employee to provide alternative options.
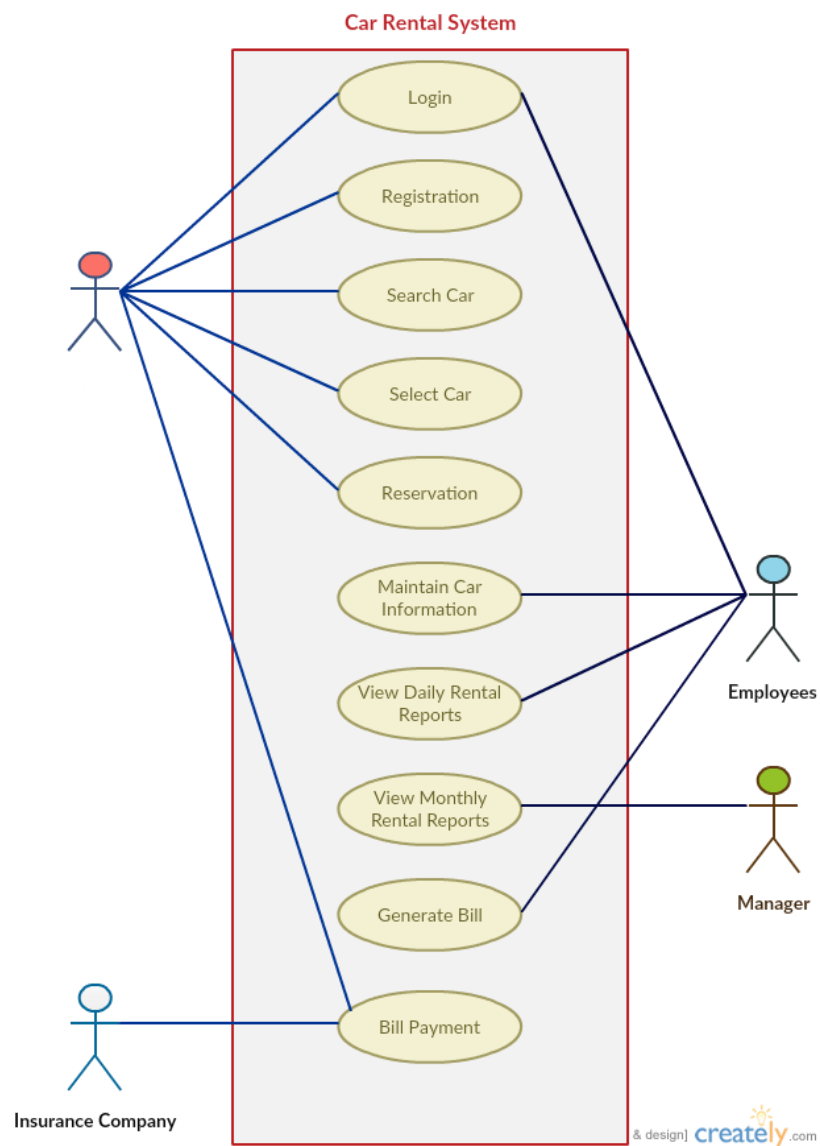
Payment system:

Administrator/owner of the applications responsible for payment to the employee. Order cancellation, order finalize, these all activities are done by the administrator of the application.

Maintenance Manager

If any car requires maintenance like repair or replacement of any parts, then maintenance manager maintain the data about that. Payment of maintenance are done by the administrator of the application.

2.2.2 Use Case Diagram

2.3 User Characteristics

2.3.1 Admin:

- Admin can login to the system.
- Verify the car information database.
- Generate price strategy.
- Handle the payment system.
- Finalize the order.
- Cancel the order.

2.3.2 Employee:

- It updates the database.
- Give information to the customer about the car.
- Provides the alternatives.
- Maintain contacts.

2.3.3 Maintenance Manager:

- It checks for the maintenance.
- Give to the maintenance.
- Give information to the admin.
- Update the database.

2.3.4 Customer:

- Customer can login to the system.
- Visit the website.
- Place the order.
- Cancel the order.

2.4 General Constraints

- The application will use php, Ajax, javascript, jQuery and css as main web technologies.

- HTTP and FTP protocols are used as communication protocols. FTP is used to upload the web application in live domain and the client can access it via HTTP protocol.
- Several types of validations make this web application a secured one and SQL Injections can also be prevented.
- Since Car Rental system is a web-based application, internet connection must be established.
- The Car Rental System will be used on PCs and will function via internet or intranet in any web browser.

2.5 Assumptions and Dependencies

2.5.1 Regularity Policies

Each center user has account created and authenticated by admin. This website can be accessible within company's intranet and other user can see the all details about the franchisee. Each user has to first login itself to present him/her after entry in franchisee. This will be done automatically.no user can share their username and password to each other.

2.5.2 Hardware Limitations

There is no limitation in the operating system in which Car Rental System will work. However, the Car Rental System and the database will work on a server that needs to be always online. Users can access the system with any internet browser.

3. Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces:

- All the users will see the same page when they enter in this website. This page asks the users a username and a password.
- After being authenticated by correct username and password, user will be redirect to their corresponding profile where they can do various activities.
- The user interface will be simple and consistence, using terminology commonly understood by intended users of the system. The system will have simple interface, consistence with standard interface, to eliminate need for user training of infrequent users.

3.1.2 Hardware Interfaces:

- No extra hardware interfaces are needed.
- The system will use the standard hardware and data communication resources.
- This includes, but not limited to, general network connection at the server/hosting site, network server and network management tools.

3.1.3 Application Interfaces

OS: Windows 7, Linux

Web Browser: The system is a web based application; clients need a modern web browser such as Mozilla Firebox, Internet Explorer, Opera, and Chrome. The computer must have an Internet connection in order to be able to access the system.

3.2 Functional Requirements

These are statements of services the system should provide, how the system should react to particular inputs, and how the system should behave in particular situations. It specifies

the application functionality that the developers must build into the product to enable users to accomplish their tasks.

3.2.1 Reservation

- The system must allow the customer to register for reservation.
- The system shall allow the customer to view detail description of particular car.
- The system must notify on selection of unavailable cars while reservation.
- The system shall present an option for advanced search to limit the car search to specific categories of car search.
- The system must allow the customers to select specific car using different search category while reservation.
- The system must view list of available car during reservation.
- The system shall allow the customers to cancel reservation using reservation confirmation number.
- The system shall allow the employee to update reservation information.
- The system shall allow the employee to view reservations made by customers.
- The system shall presents information on protection products and their daily costs, and requests the customer to accept or decline regulation terms during reservation.
- The system must be able to provide a unique reservation conformation number for all successfully committed reservations.
- The system must be able to display reservation summary for successfully committed reservation.

3.2.2 Log in:

- The system should allow manager to login to the system using their username and password.
- The system should allow employee to login to the system using their username and password.
- The system shall allow the manager to create new user account.
- The system shall allow manager to change account password.

3.2.3 Car

- The system should allow staff to register new cars.
- The system shall allow staff to select cars in the list.
- The system shall allow customer to select cars in the list.
- The system shall allow staff to Search cars by specific record.
- The system shall allow customer staff to Search cars by specific record.
- The system shall allow staff to update information of the car in need of modification.
- The system shall allow staff to display all lists of car.
- The system shall allow staff to display all available car.
- The system shall allow customer to display all available car.

3.2.4 Rent

- The system shall allow staff to register customers into rental list.
- The system shall allow staff to update about customer rent record details in the rental list.
- The system shall be able to save all changes made on the customer rent list.
- The system shall allow staff to select customer rent record by specific search category.
- The system shall allow staff to search rent record of customers using specific categories.
- The system shall allow staff to display customers, who rent cars.
- The system shall allow staff to display all customers rent record.
- The system must provide printable summary for successful committed rent.