**Business Requirements Document**

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CS 255: System Analysis and Design

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# CS 255 Business Requirements Document Template

Complete this template by replacing the bracketed text with the relevant information.

This template lays out all the different sections that you need to complete for Project One. Each section has guiding questions to prompt your thinking. These questions are meant to guide your initial responses to each area. You are encouraged to go beyond these questions using what you have learned in your readings. You will need to continually reference the interview transcript as you work to make sure that you are addressing your client’s needs. There is no required length for the final document. Instead, the goal is to complete each section based on your client’s needs.

**Tip:** You should respond in a bulleted list for each section. This will make your thoughts easier to reference when you move into the design phase for Project Two. One starter bullet has been provided for you in each section, but you will need to add more.

## System Components and Design

### Purpose

*What is the purpose of this project? Who is the client and what do they want their system to be able to do?*

* This project is for our client, DriverPass. The purpose is to enable DriverPass to fill a void in the training available for the driver test at the Department of Motor Vehicles. DriverPass would like their customers to be able to schedule and modify appointment reservations and access training materials through an online interface.

### System Background

*What does DriverPass want the system to do? What is the problem they want to fix? What are the different components needed for this system?*

* DriverPass has noticed a trend of too many students failing the driver test at the DMV.
* DriverPass wants to fill the gap in driver education by providing driving lessons, in-person rules and policy lessons, and online lessons and practice tests.
* DriverPass needs a system to make, modify, and cancel reservations.
* The system will allow users to make their own reservations online or through the company secretary.
* The system will reside in the cloud to reduce maintenance and security requirements.

### Objectives and Goals

*What should this system be able to do when it is completed? What measurable tasks need to be included in the system design to achieve this?*

* The system will provide users with the proper level of access the ability to:
* Create a reservation
* Modify a reservation
* Cancel a reservation
* The system will have the following user types
* Owner – Allows modification of users.
* Administrator – Allows modification, maintenance, and update of system.
* Secretary – Allows creation, modification and cancellation of all reservations.
* User – Allows creation, modification, and cancellation of own reservations only.
* The system will collect the following user data from an input interface:
* First Name
* Last Name
* Address
* Phone Number
* State
* Credit Card Number
* Credit Card Expiration Date
* Credit Card Security Code
* Pick-up Location
* Drop-off Location – Defaults to pick-up location unless otherwise noted
* The system will have three package levels, each of which can be disabled by owner. These package levels are:
* Package One: Six hours in a car with a trainer.
* Package Two: Eight hours in a car with a trainer and an in-person lesson about DMV rules and polices.
* Package Three: Twelve hours in a car with a trainer, an in-person lesson about DMV rules and policies, and access to an online class with content, material, and practice tests.
* The system will maintain records of each modification made to each reservation. These changes will be available on a report.
* The system will be available from any web-connected computer or mobile device.
* The system will allow the user to select the date and time for a reservation. The system will then assign an available driver and car to the reservation.
* The system will communicate with the DMV to determine if any updated rules, polices, or sample questions exist. If there are, the system will notify the Administrator.
* The system will run in the cloud with backup and security functions handled by the provider.
* The system will have a test progress interface that displays test name, time taken, score, and status. Status options include taken, in progress, failed, or passed.
* The system will have a driver notes interface that shows lesson time, start hour, end hour, and driver comments for each driving lesson.
* The system will have an interface for students to contact DriverPass.
* The system will have an interface for DriverPass to contact students.
* The system will have the ability to download reports and information for the Owner to work on them offline, possibly using Excel.

## Requirements

### Nonfunctional Requirements

*In this section, you will detail the different nonfunctional requirements for the DriverPass system. You will need to think about the different things that the system needs to function properly.*

#### Performance Requirements

*What environments (web-based, application, etc.) does this system need to run in? How fast should the system run? How often should the system be updated?*

* The system should be web-based.
* All interaction with the system by a user should be performed in less than three seconds.
* The system should receive updated scheduling information when added by a customer or driver.
* The system should be available 24 hours a day and 365 days a year.

#### Platform Constraints

*What platforms (Windows, Unix, etc.) should the system run on? Does the back end require any tools, such as a database, to support this application?*

* The system should run in the cloud. The cloud service needs to cover backup and security.
* The system should have a database to store user information, schedules, and DMV information.
* The system should run on any web browser from any internet connected mobile device or computer.

#### Accuracy and Precision

*How will you distinguish between different users?* *Is the input case-sensitive? When should the system inform the admin of a problem?*

* All users should be authenticated using username and password.
* Username should not be case sensitive.
* Passwords should be case sensitive and have a complexity requirement.
* Users should be separated into roles to determine authorization.
* The system should notify administrator of problems as they occur, including new policies or rules from the DMV.

#### Adaptability

*Can you make changes to the user (add/remove/modify) without changing code? How will the system adapt to platform updates? What type of access does the IT admin need?*

* New users should be addable, removable, and modifiable without changing code.
* Package availability should be updatable without changing code.
* Adding or changing modules should require code modification.
* Administrator should have access to rights over all accounts, maintenance, and modification.
* Big boss should have access over all accounts.
* Secretary should have access to make, modify, and cancel appointments.
* Users should have access to make, modify, and cancel appointments for their own account only. They should only be allowed access to the system through the online interface.
* Online users should be able to create an account.
* Drivers and cars should be modifiable.
* The system should be served from multiple cloud locations to avoid a denial of service attack.

#### Security

*What is required for the user to log in? How can you secure the connection or the data exchange between the client and the server? What should happen to the account if there is a “brute force” hacking attempt? What happens if the user forgets their password?*

* User should be required to enter their unique username and their password to log into the system.
* The connection between the system and the user’s client should be encrypted.
* The user’s account should be frozen from access after five unsuccessful login attempts.
* Users should have the ability to reset their password.

### Functional Requirements

*Using the information from the scenario, think about the different functions the system needs to provide. Each of your bullets should start with “The system shall . . .” For example, one functional requirement might be, “The system shall validate user credentials when logging in.”*

* The system shall validate user credentials when logging in.
* The system shall check the DMV for updated rules, policies, and sample questions. The system shall notify the administrator if there are any updates.
* The system shall collect each user’s:
  + First Name
  + Last Name
  + Address
  + Phone Number
  + State
  + Credit Card Number
  + Expiration Date
  + Security Code
  + Pick-up Location
  + Drop-off Location
* The system shall export reports in Excel format.
* The system shall allow users to make reservations for driving lessons in two-hour increments.
* The system shall have three packages for purchase.
  + Package One: Six hours in car with a trainer.
  + Package Two: Eight hours in a car with a trainer and an in-person lesson about DMV rules and policies.
  + Package Three: Twelve hours in a car with a trainer, an in-person lesson about DMV rules and policies, and access to an online class with content, material, and practice tests.
* The system shall have four user roles:
  + Owner
  + Administrator
  + Secretary
  + User
* The system shall have the ability to enable and disable packages for purchase.
* The system shall keep revision history on all reservation creation and modification. This shall be available in a report.

### User Interface

*What are the needs of the interface? Who are the different users for this interface? What will each user need to be able to do through the interface? How will the user interact with the interface (mobile, browser, etc.)?*

* The user interface should have a form for entering user information.
* The UI should have a form for students to contact DriverPass.
* The UI should have a form for DriverPass to contact students.
* The UI should have a driver notes page that shows lesson time, start hour, end hour, and driver comments.
* The UI should have a test progress interface that shows taken, in-progress, failed, or passed.
* The UI should have a reservation page that allows students to schedule driving lessons and in-person classes.
* The UI should have a page specifically for the secretary to create user accounts and schedule appointments.
* The UI should have an online course.

### Assumptions

*What things were not specifically addressed in your design above? What assumptions are you making in your design about the users or the technology they have?*

* DMV has the ability to send notifications of updates.
* DriverPass has course materials and practice test information available.
* Course information is not copyrighted by another organization.
* Users will have access to a mobile device or computer with internet access.
* Users will be able to pay with a credit card.
* Users do not have need for handicap accessibility options.

### Limitations

*Any system you build will naturally have limitations. What limitations do you see in your system design? What limitations do you have as far as resources, time, budget, or technology?*

* The system is only available online.
* New material cannot be added to the online course without code changes.
* There is a week-long holiday near the beginning of the project.
* John is not available until March 1.
* There are only five people on the development team.

### Gantt Chart

*Please include a screenshot of the GANTT chart that you created with Lucidchart. Be sure to check that it meets the plan described by the characters in the interview.*

