# 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?*

* To design a software system that fulfills the client’s, DriverPass’, needs
* To make online and in-person driver training available to everyone
* To provide the tools necessary to pass the DMV Driver Test
* To provide everyone with the most up to date DMV information

### 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?*

* Offer 3 packages to the customer for purchase
  + Package one: 6 hours in a car with a trainer
  + Package two: 8 hours in a car with a trainer and an in-person lesson on DMV rules and policies
  + Package three: 12 hours in a car with a trainer, an in-person lesson on DMV rules and policies, and access to online class with all content and material including practice tests
* DriverPass is seeking to increase the driver pass rate at the DMV
* Allow customers and the secretary to register for driving lessons as well as in-person classes
* Allow drivers to see driving schedule and add notes about the driving sessions

### 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?*

* Allow a customer to purchase one of the packages
* Once a package is purchased, allow the customer to register for driving lessons, either online directly or through the secretary.
* Allow the customer to input a pickup and drop-off location.
* Allow the customer to register for in-person classes
* Allow the customer to view online classes and take practice tests
* Allow the customer to see their progress through the online classes and practice tests
* Allow the drivers to see their schedules
* Allow the customers to choose a particular driver and car when scheduling their driving sessions
* Allow the secretary and customer to make, modify, and cancel appointments
* Allow the owner the ability to disable a package as needed
* Make the system updatable as the DMV changes their content
* Allow the owner to download reports for offline use as needed
* Maintain a database with student contact information
* Allow the student to reset their own password and allow the owner to reset a password for them if needed.

## 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 needs to run as a web-based platform that is mobile responsive to work on any device.
* The system should be able to run very fast to be able to handle the incoming requests as well as hosting and rendering online classes and tests.
* The system should be updated at least as often as the DMV updates their requirements.

#### 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 platform should be a serverless platform hosted on a site such as AWS
* A serverless platform would allow the server to run on a VM running any OS. I believe Unix would work fine for this application
* Yes, the back end would require a database to hold the customer information as well as using a payment gateway such as stripe. There will also need to be a back end platform to host the online classes and tests.

#### 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?*

* The users in the system will input a username to login by. The users will have a user type, either customer, secretary, driver, admin, and sysadmin
* The username does not need to be case sensitive, however the password should be case sensitive
* Anytime an error message is generated, or the system is down, the admin should be informed. The admin should also be informed of any transaction on the system or whenever user information or reservations are modified.

#### 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?*

* Yes, you can make changes to the user without changing code.
* If the DMV has an API that can be accessed from their servers, then anytime the content is changed, the new data can be automatically pulled in from the DMV servers.
* The sysadmin needs full access to the system to update or change any information in the system including users and their roles and the database

#### 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?*

* The user can either login via email or username and password. Multi-factor authentication should be setup for the user as well.
* We can use SSL to secure the connection between the client and server
* To prevent a brute force attempt, the number of login attempts before the account is locked should be limited to around 5. If a brute force attack is attempted, then the user account should be disabled until it can be investigated further.
* If the user forgets their password, then the user can input their email address for a secure password reset link that also generates a multi factor authentication request.

### 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 allow creating, modifying, and cancelling reservations for in person driving lessons
* The system shall render online classes to users that have purchased that package
* The system shall allow users to purchase available packages
* The system shall allow users to take online tests
* The system shall track user progress through online classes and tests
* The system shall allow drivers to input notes about in person driving lessons
* The system shall allow the admin to download reports for offline use for bookkeeping and other purposes.
* The system shall maintain a database of user contact information
* The system shall be updated with any new policies from the DMV
* The system shall allow resetting of user passwords

### 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 interface would best work as a responsive web-based application that will render on any device in the browser.

### 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?*

* The back-end logic and API interfaces that will be required for the application to function properly
* The users should have access to a computer, mobile device, or tablet with internet access. However, even if they don’t have this technology, the customer can call the company directly to schedule reservations

### 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?*

* Possible limitations with interfacing with the DMV for automatic updates of requirements
* We will need to compare the different serverless platforms to host app and choose the best one for our needs.

### 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.*

