# 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?*

* The client is DriverPass, a company that wants to train students for their local DMV driver tests
* The client wants to have a system that allows students to take online classes and practice test, as well as facilitate on-the-road training by request, keeping them updates on rule changes
* This system must let DriverPass have full access to their data and their client’s data with the ability to download data for offline use

### 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 wants the system to allow students to take online classes and practice tests, as well as facilitate on-the-road training by request, keeping them updated on rule changes
* This system must let DriverPass access their data from anywhere, online or offline (i.e. the ability to download files for offline use)
* DriverPass wants their system to fix students’ issues with failing their local DMV driver’s tests by providing good learning tools and allowing for in-person training where necessary
* This system needs to be able to:
  + Manage users’ data and reservations
  + Allow for users to schedule appointments
  + Provide updated DMV information to students when the DMV updates rules
  + Run on the cloud with minimal technical issues

### 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 should be able to do the following:
  + Allow online access of data and the ability to download things for offline use
  + Provide full access to administrators such that you can grant or deny access of something from any user, as well as reset their passwords
  + Users should be able to make a reservation for a specific day and time online, creating an entry that will link that user’s data with that specific reservation with their chosen package
  + Must be able to track when users make a reservation, if it was canceled, and who modified it last. A report must be able to be made available for printing
  + Must also be able to disable a package if customers should not be allowed to register for it for whatever reason
  + In the future, the packages offered by DriverPass should be customizable
  + DriverPass’s website should be linked to the DMV for updates, with notifications for when the DMV updates their rules
  + This must be run on the cloud with a focus of minimizing technical problems

## 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?*

* This system will have to run in a web-based environment since DriverPass wants to have a website on which it will run. It won’t need to run at lightning speed, but it shouldn’t be slow enough to cause distaste or discomfort for the user. It will have to be updated whenever the DMV updates their rules. This is a major point to DriverPass and cannot be overlooked, so it must be noticeably updated when there is an update.

#### 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?*

* This system should be cross-platform for all of the major platforms, such as Linux, Windows, and Apple devices. It would also be helpful if there were mobile versions of the pages created as well so that mobile users would be able to use it comfortably. ‘
* The backend would have to have a database that everyone could access with the latest DMV rules and can track reservations and other user interactions and features. There would also need to be a server running all the computations and interactions itself, which is particularly helpful for those who have slow computers or phones (since they wouldn’t have to compute anything major themselves).

#### 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?*

* Every user will have to have their own username and password, which will differentiate between the different users. To verify the authenticity of the user, something like a dual factor authentication could be used, but that might be overkill for the purposes of DriverPass. The input would have to be case-sensitive for security reasons, in addition to it just fitting with the conventional standards for usernames and passwords.
* If there are any sorts of errors, bugs, or security issues, the system should inform the admins immediately.

#### 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?*

* Changes would be able to be made to the user profiles or the users themselves without changing the code, since they are not hard-coded into the program and are created through the functions and classes of the program.
* The system will need to adapt to platform updates whenever necessary in order to keep the systems running. As for updates to DriverPass’s website for the purposes of DriverPass and their users (like adding a new feature), it is entirely up to DriverPass for when they wish to introduce or improve features.
* IT admins would need to have full access to the system, otherwise their ability to handle problems would be severely inhibited.

#### 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?*

* At the very least (if there is no two-factor authentication), users would need to have a username and password in order to log into DriverPass’s website.
* The connection to DriverPass can be secured through the use of cryptography, HTTPS, and through servers validating connections and data exchanges.
* If there is a “brute force” hacking attempt on an account, it should be locked so that there is less of a chance of a security breach. If enough attempts are made through normal entering of their password, it could ask them to change their password once their account is locked, as well as giving them the option to change their password before it reaches the point where their account will be locked.
* If a user forgets their password, there should be an option for them to enter their email or answer some security questions (or both) in order to receive a link for resetting 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 allow the user to book reservations
* The system shall provide continually updated DMV information
* The system shall provide full access to administrators in order to fix issues
* The system shall keep track of the reservations and allow reports to be viewed and downloaded
* The system shall show the programs that DriverPass offers
* The system shall allow the user to view their past, present, and future reservations, as well as whom they are scheduled with and the programs they selected

### 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 needs to be intuitive, easy to maneuver, and non-complex
* The different users of the interface are the customer, the employees, and the admins
  + The customers need to be able to navigate the interface, schedule appointments, view potential packages, see their past, present, and future packages, and they must be able to see and be aware of all the updates that are made to their local DMV’s rules and regulations
  + Employees must be able to access the interface for a variety of things, such as logging their hours, sending messages to customers, sending messages to other employees, checking their scheduled appointments, updating the fields that they are in control of, and other business-related things
  + Admins must be able to have full control over the interface such that they are able to change, edit, and fix at a moment’s notice
* The users will interact with this interface on their computers through a web browser, as well as their phones through their web browsers. There are other pieces of technology that can use the internet and both view and interact with their website, but computers and mobile devices is where nearly all traffic will occur.

### 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?*

* One of the things that was not addressed in any of the design plans above is a budget. All of the projected system functions that DriverPass desires is assumed to be within the budget
* We are assuming that the amount of developers we have currently are all capable of creating this project in a timely enough manner
* We are assuming that all users have some sort of technology that can access the internet. By making the design of the interface and the website’s features intuitive, we are also trying to minimize difficulties that non-tech users might have manipulating the website. We are assuming that they would at least know how to work the internet and would be able to figure out how to work the website as well from that (hence making it as intuitive as possible)

### 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?*

* Given that a budget was not given, there are many potential limitations to this project, particularly since we only have about 5 months to build it
* A great limitation would be the lack of people working on the project. This could be a limitation since there would be great reliance on the few workers we have to perform well, have no issues, and are capable of creating it in that time period with the current resources.
* The technology that is supposed to run the servers for DriverPass is undisclosed, which could be a limitation depending on how much traffic they get in and whether or not it would be able to run and store all the data necessary. This could be worked into the budget if necessary, but that remains undisclosed
* The amount of time to build the website would be a limitation that would be in tandem with some of the others listed. It may not be enough time to build it given the budget and resources available

### Gantt Chart