# 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 and they are consulting with our company about a new system they want to build. Liam, the owner of the company, wants to train students for their driving tests at their local DMV. The purpose is to help new drivers by providing better training through online classes and practice tests with the options to take on-the-road training.]

### 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?*

* The owner wants to access the system’s data online from any computer or mobile device.
* Be able to download reports and information.
* Make different user roles permissions and restrictions.
* Being able to block access to let go employees.
* Create an activity log that displays reservations being made, canceled, or modified by users.
* Create the driving appointments that offer three packages that can be modified later in the future, whether to remove or add new packages which become flexible.
* Registrations through phone calls, we receive their information which include first and last name, address, phone number, state, credit card number, expiration date, security code, and pickup location which is also drop off location.
* Make a forget password option for customers that forget their password.
* Keep aligning with DMV compliance for any updates or changes.
* Interface needs to be ran on the cloud.
* Display online test progression (completed statuses, test name, time taken, score, and score). Driver comments for the customers.
* Student input forms

### 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?*

* Customers can create reservations/appointments over the phone or the internet.
* Customers should be able to select from the three packages for their driving appointments. Have each driving session being only two hours max. 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 where we explain the DMV rules and policies. Package Three: Twelve hours in a car with a trainer, an in-person lesson where we explain the DMV rules and policies—plus access to our online class with all the content and material. The online class also includes practice tests.
* Make each user’s role have their proper permissions and restrictions when gaining access to the system’s database on the cloud.
* Download information and activity reports (including new, canceled, and modified appointments).
* Making sure the system is in compliance with the DMV policies and regulations and update if new changes are made.

## 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?*

* For the system, the environment should be run on a web-based that operates on the cloud.
* The system should have quick load times at a target time of two seconds or under to boost efficiency.
* The system should have regular updates providing bug fixes, enhanced features, and apply changes to the system’s policies and procedures in accordance with the DMV guidelines.

#### 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 platforms that are necessary for the system to run-on would-be Windows and macOS.
* The databases that are required would be for admins and action logs to see who logged onto the system and applied for any changes. Another database would be for the customers/users, this would hold all their personal information and also current selected package with their progression into the lessons. This includes test drivers, test scores, driver comments and notes, and vehicles used.

#### 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?*

* To distinguish between different users, they will have their unique username and passwords associated with their emails to keep a strict format. This would also include user roles associated with each user such as customer, driving instructor, IT employee, and admin. The input should be case sensitive to maximizing security. If there were multiple attempts into logging into an account, the IT and admin will be informed and prompted that login attempts were identified and should direct their attention to the issue.

#### 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?*

* The system should give access to IT and admin user roles permissions to add, remove, or modify other users in the system without changing code. Only admins and IT admins can make changes to the user roles involving IT, customer, and driving instructor roles in the system. The system should automatically adapt to platform updates and apply all new features into the system whilst maintaining the same database with no major changes in its functionality. The IT admin needs full access to the codes and database to make any necessary changes and ensure the system is running properly.

#### 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?*

* For users to login to their account, after they type in their username and password they would be sent to a multi-factor authentication to ensure these are the users. To secure connection between client and server we can use Transport Layer Security to encrypt all data exchanged. If there was a “brute force” hacking attempt on an account, we would first have each accounts have three login attempts and if they all failed to login. The account would then be locked out and the user will have to wait for thirty minutes to then re-attempt or try a different recovery method. Once an account has been locked out the IT and admins will be notified so they can closely monitor and ensure no further attempts can be made. If users forget their password, they can find the “forgot password” tab in the login screen which would then send a reset password link to their email for them to change their password. If they want to go another route they can contact the customer service desk and verify their information to then change 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 users to register into the system.
* The system should provide users with different packages for them to learn about their driving lessons.
* The system shall make users view driving progress in lessons and comments from driving instructors.
* The system shall make users schedule their driving appointments or modify the dates.
* The system should make IT admin and administrators remove or modify new and current user roles.

### 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 needs of the interface should include a laptop, computer, mobile device, etc., with access to the internet. The different users for the interface would be Admins, IT, Driving Instructors and users/customers. Admins would have access to all appointments, action logs, history of changes made in the system, remove or modify other users, and generate reports. The IT users would be able to access the system to add or remove any coding to improve and keep the system stable. Driving instructors should be able to edit users’ driving progress and provide feedback to the users. The users/customers would be limited only to making appointments, editing profile, choosing packages, view driving progress to limit their access to making any changes to the system. All users will interact with the interface on the web since it’s a web-based application.

### 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?*

* Some assumptions about the design would be:
  + All users have access to the internet.
  + Users have devices such as a laptop, computer, or mobile device.
  + New users and driving instructors have prior knowledge in using technology such as navigating the website or generally using electronic devices.
  + Being able to use the multi-factor authentication method.

### 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?*

* Some limitations regarding the system design are:
  + For resources, do we have the necessary tools and staff to help develop this project such as databases, cloud tools, or foundation tools. These are also limited to the knowledge of the IT and development team.
  + The budget for creating this system may be too high for the client.
  + The time it would take to meet the deadlines of each task may take more than is initially anticipated.
  + We may be limited to the number of devices such as computers or laptops that the company can use to develop this project.

### 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.*

