# 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's purpose is to help inexperienced drivers prepare for written and driving tests at the DMV. The project will let customers take online practice tests to prepare for the actual test and on-the-road training to better prepare them for driving tests. The client is called DriverPass and wants the system to be able to make reservations for driving lessons, take practice tests and view tests progress, display student information, and view notes from the driving instructors during the in-car sessions.

### 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 be able to help inexperienced drivers in passing driver tests at the DMV. They want to provide resources such as online tests that will help customers to pass the tests and road exams. The problem they want to fix is the void in the market when it comes to training students for the driving test at their DMV. The first component of the system is a login interface for customers to access their personal accounts. The next component is the online interface that includes the practice tests and progress bar, personal information, and driver notes. The next is the booking system for making reservations for driving lessons. There needs to be a database to store customer personal, payment, and account information.

### 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?*

* When the system is completed, it should help customers prepare for tests at the DMV. A customer should be able to securely log in to their account. Then be able to view practice exams, input answers and have it scored to see how they are progressing. There should be progress bars that display the amount of progress completed for each module. They should be able to view their personal information including email, address, payment information, etc. They should be able to view notes by instructors in past driving lessons, scheduled lessons and be able to schedule/cancel lessons.

## 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 be a web-based application and the customer mentioned they would prefer it if it incorporated the cloud. Web-based systems can be accessed from any device with an internet connection making it convenient for customers and employees. The system needs to be able to handle customer traffic as there will be various customers accessing it at once. The owner mentioned the need to be able to access reports offline so using the cloud we can sync a local copy of the cloud files to his device, so they can be accessed without an internet connection. The system should be updated regularly for security purposes as there will be personal and payment information stored.

#### 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?*

* Since this will be a web-based application it can be used on a variety of devices and operating systems. The web-based application should run off the cloud because it offers increased scalability and cost-effectiveness. The backend will require a database for storing customer information, and cloud offers managed database services that allow applications to easily deploy and manage databases. They are also convenient because they allow you to access and work with your data from any device with an internet connection. The cloud will also deal with backup and security related to the application.

#### 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?*

* Distinguishing between different users will be done using case sensitive usernames and passwords. It’s important that the login information be case sensitive because it increases the security of the system. It makes it more difficult for attackers to guess the correct login credentials. There will also be a set number of incorrect login inputs before the account is locked and admin is informed. The system should alert the admin at once after any problem occurs. This allows the issue to be dealt with and minimizes the impact on the system.

#### 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?*

* Individuals with proper access should be able to modify user information without changing the code. The implementation of access control will allow authorized IT administration to have full access to make platform updates, make changes to users, and be able to take the system offline and online for making changes. The access to these system functions will be based on login credentials to prevent unauthorized access. This prevents other employees from accessing features that they don’t need to fulfill their job such as customer service representatives.

#### 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 a user to log in to the system, they must provide their username and password. A method for securing the connection or data exchange between the client and the server is to encrypt the data being transmitted.AES encryption is a widely used algorithm that is secure and efficient method for encrypting data. Another method is to implement authentication to verify the identity of the client and server. These methods can help protect information from being intercepted and read by unauthorized parties.To prevent a brute-force hacking attempt, there will be a limited number of passwords attempts before the account is locked, and the admin must be contacted to reset the account. If a user forgets their password, they would need to submit a forgot password request and it be reset by an admin.

### 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 be accessible via the web
* The system shall provide unique user credentials
* The system shall validate user credentials when logging in.
* The system shall provide up to date DMV information
* The system shall provide practice tests and information for the student to study and practice
* The system shall securely store personal data relating to customers and employees
* The system shall provide driver notes to customers after driving lessons
* The system shall provide a schedule for booking driving lessons
* The system shall provide a simple layout for all customers to understand
* The system shall be able to handle multiple customers accessing it at once

### 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 include displaying test progress, user information, driver notes, special needs, driver photo, and student photo. In the driver's notes, it should show any comments the driver left and the times for the lessons. The different users in the program will include customers, admin, and DriverPass staff. The staff needs to be able to make appointments and create accounts for customers that contact them via phone. The admin needs to be able to make updates and changes to the system. Also, they need to be able to make changes to customer profiles. Users will interact with the application through their mobile and browser because it is 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?*

* The t*hings that were not specifically addressed in my design above are any design specifics such as the color scheme that will be incorporated. Another thing not specifically addressed is the features that will be implemented for those who speak other languages or have disabilities. The assumption we are making about the users is that they will all be at a similar stage of learning to drive. Also, we assume the test questions will help with the topics they are struggling with.*

### 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 first limitation in the system design is the owner can access data offline but is unable to change the data while offline. The next limitation I see in the system design is the need to keep generating practice work to help customers prepare. The test needs to provide practice with every relevant topic for the test but can’t be repetitive to help customers learn. Another limitation is that the application won’t function as well on mobile devices because it’s built for desktops and laptops.

### 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.*

[Insert chart]