# 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 purpose of this project is to take advantage of the void in the market when it comes to training students for the driving test at their local department of motor vehicles (DMV).
* The client is DriverPass, a newly formed company that specializes in driver training. Liam, the owner of DriverPass and Ian the IT officer are the company’s representatives.
* DriverPass needs their system to provide online testing and classes for their customers as well as the ability to schedule 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?*

* DriverPass wants their system to be accessed on any computer or mobile device.
* The system needs to have predetermined roles to assign users for security purposes.
* Account changes and modifications need to be documented and tracked within certain user roles.
* Driving lesson reservations should be made, edited, and cancelled through the user’s account.
* The driver assigned to each reservation should be accessible.
* Users need to be able to reset password if forgotten or lost.
* DMV changes need to be pushed to the system as a notification.
* Reservation packages need to be disabled by DriverPass.

### 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?*

* Mobile/ Desktop versions of the system need to be tested/ verified on all major Operating Systems.
* Roles should include administrator, employee, and customer.
* The owner and IT officer will have admin privileges that allow them to make/view/edit reservations, view/edit user accounts, password reset, and disable unused reservation packages.
* The secretary, drivers, and any other pertinent employees will be able to make/view/edit reservations. (this may need to be divided into multiple roles if the company grows extensively)
* Customers need to be able to view/edit their own account, reset their password, and make/view/edit their own reservations.
* DMV policy change notifications need to be verified.

## 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?*

* Because the system will be accessed by different types of users on different devices, a web-based application will be the environment used. While speed is not a priority, the system should run efficiently relative to the user’s bandwidth. The system will need to get regular updates to keep up with the changing requirements of the DMV.

#### 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 the system will be accessed by different types of users on different devices, we will need to be able to adapt to all major operating systems and web browsers for both desktop and mobile users. A relational database will be required to track customers, trainers, vehicles, and scheduling.

#### 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?*

* Different user roles will be identified by a field in the database. Anyone will be able to create a customer account, but other roles will need to be assigned by an administrator. To simplify login procedures, usernames will not be case-sensitive, but will be unique. A system admin should be reported if a user requests help, a user account locks because of failed password attempts, or for any critical error in the database or application.

#### 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 database should be able to update authorized fields without changing the code. The IT admin will have access fully modify all fields in the database using an interface built within the system. DMV updates, user profile modifications, and scheduling should update in real time. Additional features and major updates will need to go through testing before going live.

#### 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?*

* Each user should have a unique username and password. The password should be case-sensitive with at least 8 characters, 1 capital letter, 1 lower case letter, 1 number, and 1 special character. The data will be asymmetrically encrypted to protect both the user’s data and DriverPass. Password changes will need to be authenticated through the user’s email. More than 3 incorrect passwords attempts flags the account for brute and will be locked until an IT admin reviews the login attempts.

### 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.”*

* They system shall allow the creation of customer user profiles and other profiles if the creator has the proper credentials.
* The system shall validate user credentials when logging in.
* They system shall have multiple roles with custom access and modification rights based on the user’s role.
* The system shall allow users to make, modify, and cancel on-the-road driver training appointments.
* The system shall allow customers to use online resources and practice tests with automatic feedback.
* The system shall have a help section with a faq and the ability for customers to send a request for help from IT admin.

### 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 will need to be able to adapt based on the user role. Customers will have profile page with the logo at the top. The test progress and driver’s notes will be on the left. The customer information, special needs, driver photo, and student photo will be on the right. Admins will have the additional ability to search users, testers, and vehicles. They will also have full viewing, editing and modification privileges. The web application will be adaptive so that user interaction has the same functionality on both desktop and mobile devices.

### 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?*

* It is assumed that the user will have internet access with speed capable of communicating with the web servers efficiently.
* The system assumes the user will have the physical ability to driver and the system will adhere to accessibility standards in that framework.
* The system assumes that the user is US based and is fluent in English.
* The system assumes the user has a device that has a compatible operating system, web browser and internet access.

### 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?*

* Additional features will need be built and tested in an isolated environment and may not be able to be deployed on shorter time frames.
* Additional features may require additional hardware to house, which would increase the operating cost of the system.
* Monetary transactions will made through third-party systems (pay-pal etc.) which opens the DriverPass system to a potential vulnerability.
* Users without compatible devices will not be able to use the application but will still be able to use DriverPass by contacting the company via phone.

### 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.*

Timeline

Description automatically generated