# CS 255 Business Requirements Document

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 build a new system that will fill the void in the market and create a driving training course for on-the-road tests.
* The client is DriverPass
* DriverPass wants the system to be able to access data from anywhere online and offline as well. This includes being able to access data online from any computer or mobile device. Also, the ability to download reports from home to be viewed offline and not modified.

### 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 help fix the problem of people having trouble with passing the driving test.
* The components needed for the system to be able to solve the problem are the ability to provide online practice exams, classes, and schedule a practice driving road test appointment.
* DriverPass will also need to have proper security features to prevent any hacks or malware attacks to highly sensitive data.

### 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, when completed, should be able to provide a functional website that fits DriverPass requirements.
* The tasks to be included to support the system design are object models, process models, and UML diagrams to stay organized on final product delivery.
* The decision on which operating platform the client will want the system to run on must be decided amongst the group.
* Allow employess to make reservations for customers or customers make reservations online
* Provide Interface for customers to schedule an online test and road test.

## 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?*

* System should be web-based
* Website should be responsive and modern web app
* Load times of no more than 2 seconds for majority of users
* Update system monthly or as needed with no more than 2 hours of downtime per 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?*

* Web frontend should run on most desktop and mobile browsers – IE, Chrome, Firefox, Safari, equivalent mobile browsers
* UI should automatically adapt for mobile browsers
* Backend requires database to store user information and system logs

#### 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?*

* Web frontend utilizes session cookies to distinguish between users.
* Passwords are case-sensitive; other input is not
* Daily aggregate report of all error reports; immediate notification of critical errors

#### 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?*

* Web app will need to remain up to date with breaking changes to browsers
* User changes will be done in the backend without changing code
* IT admin needs database access and access to server running web app

#### 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?*

* Password required for login
* Optional 2FA via SMS
* Accounts locked after 5 bad login attempts
* Forgotten password or locked account triggers email to user with temporary 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 password when logging in.
* The system shall send a verification SMS to the user’s registered phone number when 2FA is enabled.
* The system shall lock user accounts after five consecutive failed logins.
* The system shall send email with a temporary password in the event of account lock or forgotten password.
* The system shall update user information on the backend in response to user or admin commands.
* The system shall track available appointment times and user appointments.
* The system shall schedule user appointments in response to user or admin commands.
* The system shall notify admins when DMV rules change.

### 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 UI will be web-based and adapt to desktop and mobile environments
* Users will access the frontend through desktop or mobile browsers.
* Customer users will be provided with access to their own account including purchase and order history, and allow customers to purchase packages.
* Admin users will be provided with access to the entire schedule and include the ability to spoof customer user accounts to make appointments on their behalf.

### 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?*

* I assume most customer users have access to the web and a modern web browser.
* I assume most customer users have email.
* I assume DMV rules changes can be tracked automatically via an API or other interface.

### 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?*

* 15 weeks duration
* Inability to anticipate or predict any changes to web browsers
* Inability to control the advancements of DMVs new policies
* Must design frontend to be broadly compatible with all major web browser

### 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.*

