# 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 the project is to provide the user with better driver training materials and services in preparation for DMV testing
* The client is DriverPass
* Provide the user with access to the latest rules, policies, and sample tests available from the DMV.
* Allow user to book and reserve on-the-road training sessions with Driver-Training Instructors
* The system must have the ability to record scores and data from previous practice tests and lesson that have been completed by the user.
* The system must have the ability to store “Driver Notes” data input by the Driving Trainer.

### 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?*

* Allow Liam, the owner of DriverPass, to be able to access data in the system, while online, remotely from a computer or mobile device.
* For Liam, the owner of DriverPass, to be able to download reports and other information in order to work on it from home.
* Allow Ian, the IT officer of DriverPass, to have full access to all accounts in order to reset passwords if needed and to restrict access to former employees of DriverPass.
* Provide tracking reports to Ian, the IT Officer, on changes to reservations, bookings, employee alterations to accounts or data.
* Track customer bookings, the driver they are booked with, as well as the time slot they are booked for.
* Allow customer to change reservations, cancel sessions and to select from available times and packages for on the road training.
* Present driving package options to select from. Description of each package and breakdown of what the package entails.
* Allow Liam, the owner of DriverPass, access to disable packages at his discretion.
* Connect with DMV database in order to keep current on changes in rules, policies and sample tests.
* Send notification to Ian, the IT Officer, when update in DMV database are available
* The DriverPass system should be accessible from a web browser on a computer or mobile device.

### 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 completed, the system will allow the user to book, reserve, alter, and cancel on-the-road driving sessions with a Driver-Trainer.
* The system will provide the user access to online practice tests and materials.
* The system will measure the progress of online practice tests and study materials, in order to allow user to track completion progress of materials.
* The system will allow Liam, the owner of DriverPass, access to reports remotely via a computer or mobile device.
* The system will allow Ian, the IT officer of DriverPass, to have full access to all accounts in order to reset passwords if needed and to restrict access to former employees of DriverPass.
* Provide the user access to “Driver Notes” for user review.
* Connect with DMV database in order to keep current on changes in rules, policies, and available sample tests.
* Provide the user access to the system via web browser on computer or mobile device.

## 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 DriverPass system should run in a web-based environment.
* The DriverPass system can be accessible from a web browser via a computer or mobile device.
* The speed of the system should run moderate to fast. The system does not need to be a high speed, due to the material being small size files (PDF, word documents, basic interactive web pages, spreadsheets). A moderate speed would provide the user a positive experience in test taking and material review.
* The DriverPass system needs to be updated when new policies, rules, and sample tests are available through the DMV database. The updates will be quarterly. New policies with the DMV go into effect on a quarterly basis, so the updates will coincide with this.

#### 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 DriverPass system will be accessible on Windows OS, Mac OS, and Linux OS platforms.
* The system is web-based, so all platforms offer a web browser that will allow access to the DriverPass system online.
* The system will be based in the cloud. This offers online servers, security and storage to be done via a web-based service (AWS, Azure, IBM cloud, Google Cloud).
* The tools needed for the database will be available through the web-based service. Tools will be online servers and access to scaling up or down based on user traffic, Online security measures to protect sensitive information, and scalable online storage options for traffic and usage scaling.

#### 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?*

* Each user will select a unique username. The username will be a valid email address the user inputs, and must be accessible to verify the email address.
* The user will create a unique password that follows specific criteria:

1. Minimum 8-character length
2. Contains at least 1 capital letter
3. Contains at least 1 number character (0-9)
4. Contains at least one symbol character (! @,#,$,?,%)

* The user will then need to answer 3 specific security questions in order to provide another layer of authentication.
* The user will be able to attempt input of login material 3 times. If login attempts exceed 3 times, a direct notification will be sent to Ian, the IT Officer, of a problem with user login.

#### 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?*

* Ian, the IT Officer, will have access to add, remove or modify users in the system. He will need to have his own unique login credentials to verify his access to this function.
* The IT Officer, Ian, needs access to all reservations, user appointments, usernames and password reset functions in the system.
* Ian will need access to reports to track down any issues within the bookings or reservations for accountability purposes.
* The system will adapt to quarterly updates by applying new policies, rules and sample tests to the system. Old system information will be deleted and replaced with new information. Old information backups will be stored via the cloud for 90 days after the most recent update.

#### 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 will select a unique username. The username will be a valid email address the user inputs, and must be accessible to verify the email address.
* The user will create a unique password that follows specific criteria:

1. Minimum 8-character length
2. Contains at least 1 capital letter
3. Contains at least 1 number character (0-9)
4. Contains at least one symbol character (! @,#,$,?,%)

* In the occurrence of a “Brute Force” hacking attempt, the server will lock all accounts until further notice, sending an email informing the user of the security breach.

1. The email will prompt the user to change their account password according to the specific criteria listed above.

* In the instance the user forgets their password, the user will select the option of forgotten password. The user will then follow prompts to reset the password

1. The user will answer the 3 specific security authentication questions they answered in setting up their account, as stated in the “Accuracy and Precision” section of the Business Requirements Document
2. The user will be sent a verification email to the email address linked to the username. The user will have to verify through the link in the email that they do want to reset their password. The link will be available for 30 minutes after it was sent.
3. The user will then choose a new password based on the specific criteria stated in the above bullet point.

### 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 verify user credentials when logging in.
* The system shall allow users to book, modify, or cancel on-the-road training reservations
* The system shall store data of booked on-the-road training reservations
* The system shall show practice test progress and completion on the user profile page.
* The system shall record practice test results
* The system shall store “Driver Notes” data.
* The system shall store data of the latest policies, rules, and sample tests available from the DMV

### 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 provide access a unique profile page for each specific user.
* The inter will need to store and display data of completed practice tests, reviewed training material, “Driver Notes”, and scheduled on-the-road training reservations.
* The interface will need to allow specific access to administration documents to specific users.
* The interface will need to allow specific users to book, modify, or cancel on-the-road training sessions.
* The users of the system will be:

1. Student Drivers
2. Driver Trainers
3. Liam, the Owner of DriverPass
4. Ian, the IT Officer of DriverPass
5. DriverPass employees

* Liam, the Owner of DriverPass, will need access to all administrative features and tools in the interface.
* Ian, the IT Officer of DriverPass, will need access to administrative tools for security, user account information, and reports pertaining to reservations.
* The student driver will need access to their specific user profile page
* The student Driver will need access to the booking, modification, and cancelation of driving sessions from the interface.
* The student driver will need access to data on previous practice test results, material completion progress, and “Driver Notes”
* The Driver Trainer will need access to their specific user profile page. The Driver Trainer will need access to the “Driver Notes” page, in order to input notes for the student driver to view.
* DriverPass employees will need access to their specific user profile page
* DriverPass employee will need access to the booking, modification, and cancelation portal in order to book, modify, or cancel sessions for student drivers who call in their reservations.
* All users of the interface will interact with the interface via web browser accessed on a computer or mobile device.

### 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?*

* All users will have access to a web browser via a computer or mobile device
* All DriverPass employees will have the required skills to properly use the system
* All student drivers will have a valid learners permit in order to book on the road training
* All Driver Trainers are knowledgeable of driving rules and policies
* All Driver Trainers are in compliance with current state and federal DMV regulations and policies

### 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 system will need to be ready to deliver to DriverPass by May 9th.
* The system will be available on Windows OS, Mac OS, and Linux OS. Any new or existing OS used outside of these will not be able to access the system
* Creating a system that will cross over the platforms listed above
* Designing a system that will fit budgetary constraints set by the client

### 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.*

