# 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 build an online platform for students to participate in online classes and tests for driving training. The client is DriverPass, a company who is led by Liam. Liam would like this project to address the void in the market when it comes to preparing drivers for tests at the DMV.

### 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 do the following:
  + Online Training & Tests.
  + On-the-road training that can be scheduled.
  + Data that can be accessed both online and offline.
  + Ability to download reports.
  + User roles for various employees and customers with various access rights based on title.
  + Tracking and Logging of changes that occur.
  + Ability to make reservations for driving lessons and be able to modify or cancel them.
  + Customer ability to reset password.
  + Ability to select and schedule different driving lessons packages.
  + Registration system for the customer.
  + Connected to DMV to receive updates on compliance items.
  + User Friendly UI that has Driver Notes, Contact Page, Online Test Progress, Driver/Student Photo, and Special Needs.
  + The system is web based and runs on the cloud.

DriverPass wants to fix the inadequate training provided to students that are studying and practicing for the driving exam provided at the DMV. The different components needed for this system are online access through a cloud service, security, friendly user interface, data management and compliance with the DMV.

### 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?*

* This completed system should be able to do:
  + Facilitate user registration.
  + Manage Driving lessons through the various packages.
  + Utilize online classes and tests.
  + Provide access from both online and offline
  + Manage reservations for driving lessons / packages.
  + Implement standard security measures through the cloud as well as role-based access and tracking.
  + Tracking and Logging of any changes.
  + Web based product that runs on the cloud.
  + Stay up to date with DMV regulations
* The measurable tasks that need to be included in this system’s design are as follows:
  + Developing user registration system.
  + Developing components to the online classes and test
  + Developing reservation system for the various driving packages
  + Ensuring the data can be accessed both online and offline.
  + Implementing security features from both the cloud and user access roles / password management.
  + Implement secure data logging system
  + Implement system to retrieve compliance updates from DMV
  + Developing user friendly UI with the various components to track progress and make changes
  + Ensure product is adaptable to future features and updates

## 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?*

* Web based product that runs on the cloud.
* Load times should be at or below the average standard of 2.5 seconds for desktop and 8.6 seconds for mobile.
* System updated as needed to stay compliant with DMV.
* System updated immediately with latest security updates.

#### 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 system should run on web-based containers on the cloud which is 90% Linux.
* A suitable database is required to manage the various requirements of 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?*

* Role-based access based on specific roles (admin, customer, secretary)
* Authentication system to verify users which passwords will be case-sensitive.
* Admin should receive system error updates immediately.

#### 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?*

* Role-based access will allow updates to the user configuration without changing code.
* The system will be modular, and cloud based. The redundancy built into cloud services will streamline updates.
* IT administrators will need elevated access to the web-based services as well as elevated access to the databases.

#### 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?*

* Users are required to provide a username with a case-sensitive password for authentication. 2FA is optional but will be implemented for the users that want extra security.
* Securing the connection will be implemented by using SSL (Secure Sockets Layer)
* Brute Force attacks will lock out an account for a specific amount of time and will alert the administrators.
* Users can reset their passwords by utilizing their registered email. Additional security measures, such as responding to security questions or receiving a verification code on their phone number or email, will provide extra protection on the users account from phishing.

### 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 accessed from anywhere.
* The system shall have role-based access for users.
* The system shall have the ability for online classes and tests.
* The system shall have a reservation system for driving lessons.
* The system shall have the ability for users to create or modify appointments.
* The system shall have options for driving packages that the drivers can select to reserve time with a trainer.
* The system shall have a flexible system that allows updates to the driving packages.
* The system shall have a comprehensive registration system for the customers.
* The system shall have a password recovery system.
* The system shall be always connected to the DMV to receive updates for compliance.
* The system shall be web-based and on the cloud to minimize administration and downtime so that DriverPass can focus on the business.
* The system shall have a comprehensive tracking and logging system to monitor activity.
* The system shall incorporate standard security practices to ensure customer data is secure.

### 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.)?*

* System to run off the web and cloud based.
* Users are customers, administrators, and employees.
* Customers should be able to do the following through the interface:
  + Login / Register / Reset Password
  + Update User Profile
  + View Online Test Progress and Status
  + View Information (Profile) / Input Form
  + View Driver Notes which include times for lessons
  + View Special needs
  + View Driver Photo
  + View / Update Student Photo
  + Register and View Driving Packages
  + View Contact Information
* Administrators should be able to do the following through the interface:
  + Contact Students
  + Access to reports and tracking logs over reservations.
  + Update Driving Packages
  + Reset customer passwords and block access
  + Track which users are matched up with a certain driver, time, and car.
* Employees (secretary) should be able to do the following through the interface:
  + Able to make appointments for customers.
* The user will interact with the interface through standard web browsers. The interface is mobile friendly and desktop friendly.

### 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?*

* Users have reliable internet connections for the web-based application.
* Users are familiar with standard web browsers and functionality.
* Users have updated software and browsers to access web-based site.
* Company and Administrators practice standard security protocols in protecting user data.

### 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?*

* Certain features will be unavailable when working offline.
* Resources that could impact reservations are the availability of trainers and cars.
* Time constraints in the development of the project due to unforeseen challenges could impact the release schedule.
* Potential development challenges could affect budget constraints.

### 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.*

