# 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 a system for the client that allows for the sale and use of their products. The client is DriverPass and the system should be able to accept payment for the purchase of several driver learning packages. The client wants to be able to have online access anywhere and full access to security privileges. The client also wants their system to allow customers to be able to change appointment data and for registration to be directed to phone calls with employee changes being tracked. Additionally, the client would like their system to be completely online and connected to the local DMV for updates.

### 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?*

* The client has asked us to build a system that enables customers to subscribe to 3 different levels of subscriptions.
* Based upon these levels of subscriptions the client has asked us to allow for customers to be able to directly schedule appointments for driving with instructors.
* The system will consist of a website to view all the user information and schedule and a way for appointments to be added, changed, or deleted from either end.
* I direct connection to the local DMV’s will be needed to keep information up to date on testing services.

### 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 should be able to do the following when completed:
  + Accept new registration information
  + Connect with DMV database to receive notifications
  + Create a new appointment
  + Change an appointment
  + Delete an appointment
  + Select subscription packages
  + Access data online
  + Track changes and user permissions
  + Allow users to take classes and tests with online interface
  + Accept payment
* The measurable tasks needed to achieve this design are:
  + Collect Requirements
  + Create Use Case Diagrams
  + Build Activity Diagrams for Each Use Case
  + Research User Interface Designs
  + Build Class Diagram
  + Build Interface
  + Link DB to Interface
  + Build Business Logic
  + Test System
  + Deliver System

## 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?*

* Environment - The system should be entirely web-based as per the client needs.
* Response Time - The system should load times of no more than 2 seconds for users.
* Updates - The system should be updated monthly with minimal downtime for each update.
* Storage - The system should have sufficient storage to hold many users' information.
* Workload/Scalability - The system should be able to handle large workloads when users are most likely to be using the service.

#### 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 application is web-based it should be able to be accessed anywhere with any modern web browser like Chrome, Firefox, Bing, and Safari.
* Database is needed to hold customer/user information in the backend.
* Interfaces should adapt to mobile or desktop access environments.

#### 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?*

* The web application will be able to distinguish between users in two separate ways. First the web application can use cookies and secondly when a user logs in there should be a unique id for every instance in the database as a primary key to distinguish between users. A unique username and password combination should connect the user to the proper primary key for their data.
* The username and password should both be case sensitive.
* There should be a daily error report and critical errors should be instantly flagged.

#### 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?*

* Since the user data is being stored in the backend database, add/remove/modify user information does not require a change to the code. Simple database commands can be used to achieve this.
* The IT admin needs full access to modify and maintain the system along with having access to all accounts. The IT admin will need admin privileges in the database.
* The system will be built in modules to allow for easy platform updates and changes.

#### 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?*

* A username of length greater than 8 and a password containing an uppercase, lowercase, special character, and number will be required to login.
* Secure exchanges with two factor authentication.
* The account will lock after 3 failed attempts and block brute force hacking attempts.
* If the user forgets their username a password resent email will be sent with a link to reset the password and verify identity through a temporary mobile code.

### 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.
* The system shall send a verification message to the user's phone through two factor authentication.
* The system shall send an email with instructions on how to reset the password when forgotten or 3 failed attempts occurs.
* The system shall lock user accounts after 3 failed logins.
* The system shall update when the DMV changes a rule.
* The system shall update user information in the database upon user or admin command.
* The system shall add/modify/delete appointments to the schedule based on user commands.
* The system shall accept monetary transactions for provided services.

### 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 different users of the interface are the customers and the administration made up of employees, the CEO, and the head of IT.
* The customers will need to be able to register and update information along with adding appointments, changing appointments, and deleting appointments.
* The customer will also need to be able to view and change or update personal information.
* The employees will need to also be able to update information along with adding appointments, changing appointments, and deleting appointments.
* The CEO and IT will need access to everyone's accounts via admin permissions.
* The user will interact with the interface via a web browser which can be done on desktops or mobile devices.
* The interface will be web-based and will work on all internet browsers and adapt for mobile environments.

### 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 user had a stable internet connection that they can use to connect to the website.
* The user has a machine with the necessary hardware in order to run the websites demands.
* There is a way to connect to the DMV and receive updates when rules change.

### 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 stop functioning when the internet connection is lost.
* The system will stop functioning when the electricity is lost.
* Time to develop the system is limited as shown below in the Gantt Chart.
* System design must be simple enough to work with different browsers.

### 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.*

