# 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 client is DriverPass, a company that provides online and in-person training to help students pass their driving tests.
* The purpose of this project is to build a system for our client DriverPass that offers online classes, practice exams and ability to track their progress. The system should also handle customer reservations and edits on their reservations.
* DriverPass wants their system to be able to help their customers pick a program package, schedule lessons, take online practice exams and track their progress.

### 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 bring an improvement on the current lack of adequate driving test preparation. They want to fill the void by offering a solution that helps the users take online classes, practice tests and on-the-road training.
* The problem they want to fix is that many people fail their driving tests due to insufficient preparation. DriverPass wants to address this issue and provide a complete preparation package depending on how comfortable they are with their test skills and driving tests.
* The different components needed for this system are as follows:
  + A reservation system for choosing the right package and scheduling driving lessons
  + An online portal for accessing the driving practice exams and study materials
  + A role-based access control system to manage the user permissions
  + Able to generate reports to track student progress and instructor performances
  + Integrate with DMV to stay up to date with latest driving test requirements
  + Track changes to the reservations to see who canceled it, who modified it last etc. for accountability

### 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?*

* Allow students to register and create accounts, pick a package of choice, schedule lessons and take online practice exams
* Enable administrators to have more control over the system such as create, modify, delete reservations etc.
* Provide tracking to know who modified the reservations
* Allow different access rights to different group of users depending on their role
* Generate reports for student progress, test results and instructor schedules
* Provide password reset functionality if someone forgets their password
* Allow integration with DMV for updates on driving test requirements
* Compatible with mobile and web platforms for accessibility

## 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 system must be accessible via a web-based platform.
* The system shall provide online data access from any device, with very fast access time.
* Data should be updated in real-time when online. System should be updated daily so that the offline reports are up to date.

#### 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 in any platform and support web browsers on Windows, macOS, Android and iOS.
* The backend will require cloud-based database to manage and update data.

#### 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?*

* Every user will have their unique username and password for login.
* Input fields are case-sensitive.
* The system should inform the admin of a problem if there are three incorrect/invalid entries.

#### 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?*

* You should be able to make changes to the user without changing codes.
* The system should be capable of handling platform updates and provide flexibility for adding new packages in the future.
* The IT admin needs full access so that he can edit any profiles and also enable/disable program packages.

#### 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?*

* User needs a username and password to log in. We can also include two-factor authentication if required in the future.
* We can secure the connection or the data exchange between the client and the server by encrypting all data using HTTPS.
* If there is a “brute force” hacking attempt (such as having invalid username/password combination more than 5 times), the account will be locked temporarily.
* If the user forgets their password, they will be able to reset their password through their registered email.

### 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 credentials when logging in.
* The system shall allow customers to book, modify or cancel reservations online.
* The system shall track and record changes made to the reservations by users.
* The system shall generate activity reports that include suer actions such as bookings, modifications and cancellations.
* The system shall allow the admins to make changes to user accounts and available packages.
* The system shall show which customer is matched up with which driver for their driving lessons.
* The system shall allow user to reset their password using their registered email if they forget their password.
* The system shall get a notification whenever DMV has new rules, policies or new sample questions.

### 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 shall be web-based and accessible on desktop and mobile devices.
* Different users for this interface are the owner, IT officer, customers and the secretary.
* Owner: Needs full access to view and manage data, create reports, make any changes to the user accounts, access to all the reservations.
* IT Officer: Needs full access to maintain the system, reset passwords and manage user accounts.
* Secretary: Needs partial access to schedule, modify or cancel appointments for the customers.
* Customers: Needs partial access to book, modify, cancel or view their appointments, online tests and driving lesson information.

### 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 will have internet access to make the reservations.
* Users will have knowledge to go online and create a user account.
* The secretaries will use the system for in-person or phone reservations.
* The ability to customize packages such as remove some of them and add new ones to make the system flexible is not specifically addressed at this time. This is a future plan.

### 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?*

* This is web-based that can be used in computers and mobile phones. But having an app would be better, I think.
* The packages are not customizable at the moment and that is a limitation.
* The system is cloud based, so any outage in cloud will affect the system.

### 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.*

