# 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?*

* DriverPass wants to deliver a system that allows student drivers to train for their driver’s tests, and truly gets them prepared for their assessment. This system will allow for not only on the road training, but also online tests to get students prepared for the main driver’s test.

### **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 DriverPass system needs to retrieve data online via server distribution on any connected device, as well as reports downloaded to access/view the data offline.
* User roles need to be implemented with different permissions. Higher tiers of roles need to be able to restrict access to lower tiers as needed.
* System needs to collect and retain records and be able to host the info to the server to be accessed/downloaded through a reporting system.
* DriverPass needs a reservation system, where the reservations are stored, are able to be modified, updated, and generate this data into a downloadable report.
* Customers can choose from different packages that include differing benefits, changing the amount of time they are able to reserve.
* The system needs to be able to be updated to remain current with DMV requirements in their testing.

### **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?*

* Create user roles with different tiers of permissions.
* Users can purchase packages and use the purchased hours to create reservations with an instructor.
* The system should store all data and be able to be accessed anywhere with any connected device and allow for detailed reports to be generated and downloaded off collected data.
* System needs to run seamlessly over webserver or cloud-based solution, where data backups and security is done automatically, with high uptime.
* The system should pull data based on current DMV requirements and implement this data into tests for students to stay up to date.

## 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 needs to be ran off a web-based environment, as data needs to be accessed at any point in time, from any system. Web-based will also allow the system to be accessed by more users without having to port DriverPass to multiple OS.
* The system needs to be fast and responsive; a high up-time is a must.
* The system needs to gather information and data from users, such as their login information, or if they schedule an appointment, and send that data securely to a database the web-app is connected to.

#### 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 web-app should be hosted off a Linux system. Due to the lightweight framework of Linux, it makes it the perfect choice to ensure stability, and high performance.
* With the system being a web-app, any OS will be able to access the system, the web-app needs to be written to be responsive, so that each device can properly display the system.
* The web-application needs a database to be connected to it, to save data that was input by users.

#### 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?*

* User information needs to be stored in the database, along with information such as last login, and login location. This will allow enhanced security and can inform the user and an admin if something seems off.
* Input does not need to be case sensitive, besides the user’s and admin’s password.
* The data being sent over the web needs to be secured and have an SSL Certificate. Data should never be lost or accessed while it is being sent to the database or over the web.

#### 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?*

* The system will have an admin panel, that will allow the IT admin to access and delete accounts as needed. It will provide them with an elevated role so they can see more information than that which is available to normal users.
* The system will be able to allow account creation without modifying code, as it will be a new instance of the user class, and that information will be stored in the database.
* The system will be able to take on as many users as needed and facilitate as many admins as needed to provide a self-sustainable service.

#### 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?*

* To log in, the user must input their username and password.
* For any exchange of data, the information needs to be encrypted. This way any man in the middle attacks yield no results.
* The web-app needs to have a valid SSL certificate to show users the safety of their information and data they submit.
* If too many login attempts fail, the system should email the account holder that their account is on hold until they verify if it was them or not.
* If a user forgets their password, the system will send them an email so they do not lose access to their account, they must simply verify account ownership.

### 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 allow users to create and log into their unique accounts
* The system shall allow users to delete their accounts or change passwords.
* The system shall verify the users password and account details match.
* The system shall allow admins access to user accounts to delete or modify.
* The system shall allow users to select appointment times to meet with their instructors.
* The system shall notify the instructors and assign a specific instructor and vehicle in the area to assist the student.
* The system shall allow admins access to data reporting tools and generate detailed reports over collected data in the database.
* The system shall securely collect and save data submitted by users.
* The system shall securely send data that is encrypted end to end.
* The system shall track information about reservations, last modified time, who canceled, and reservation time.
* The system shall verify administrative logins and notify admin if there is a problem with login.
* The system shall notify an admin in case of an attack or breach in security.

### 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 needs to be clear and concise.
* The interface needs to be unobstructed and responsive so that it can be viewed online on any device.
* The interface must include an administrative window for admin roles.
* Each user will need to see their online test progress; account information (such as name, address); notes left by instructor; special needs; driver and student photos.
* The secretary needs to be able to create reservations for users that call over the phone, so access to creating accounts and setting up an appointment.
* IT Admin needs to be able to see a list of all reservations, the ability to cancel or reschedule, and delete accounts if needed.
* The owner needs access to data reporting based on information provided by the users, as well as access to the administrative window.

### 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?*

* Assuming the users are all able to access their profile via one of their personal devices.
* Assuming the users are able to cancel and reschedule their own appointments on their unique accounts.
* Assuming the system won’t allow account creation in an area that does not yet have instructors or vehicles.
* Assuming their will be multiple admins and multiple secretaries in role.

### 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 be designed to have unlimited users, though the reservation times will eventually be filled in their specific area as demand grows.
* The system will not be able to assign more appointments than there are vehicles/instructors available.
* The main limitation is expanding the business to outside areas due to budget constraints. Have users sign up with their address and see where there is greater demand for growth before expanding to other areas.

### 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.*

