# 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 provide driver training to customers applying for their driver’s license. This will be done through online classes and practice tests and to offer on the road training if the customer chooses to do so.
* The client is DriverPass and they want their system to be able to allow their employees and customers a simplified way of signing up, scheduling, tracking progress and taking tests. Their overall goal is for this system to provide better driver training so drivers are more prepared for their driving tests.

### 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 would like to solve the problem of people not having the support needed to pass their driver tests. Too many students are failing their tests. They would like for their system to provide that support drivers need.
* The different components they want to see in their system is a place for users to study online classes, take online tests and be able to track their progress for tests available. The system will allow customers the option to purchase packages and will save customer information. It should also allow easy scheduling that the customer can set up for drivers to be able to know their pick up and drop off time and location.

### 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?*

* Web-based platform set up in the cloud
* Compatible with multiple devices
* Security:
  + Employees should have different roles and rights based on what is needed to perform their job.
  + Customer accounts should be authorized with username and password. Customer must have an automated way to reset password if needed.
  + Create activity report to track employee changes that is able to be downloaded and compatible with third party software (i.e. Excel)
* System should be able to take in customer information when registering
  + This includes: first and last name, address, phone number, state, credit card number, expiration date and CCV code.
* Customer offered to choose one of three packages to purchase and be able to set up reservations for on-the-road driving
  + Customer will set date and time and system will automatically allocate two hours for each individual session. They should also be able to specify the pick-up and drop-off locations for the driver. The system will need to make sure they match.
  + Driver and car information should be input into the system
    - System should be able to identify which driver and car is scheduled to a customer
  + Owner must be able to disable packages when needed
* Customer should be able to track test progress and should include:
  + Test name, time taken, score, and status (not taken, in progress, failed, passed)
* Driver should be able to fill out table for driving lesson and include lesson time, start hour, end hour and driver comments
* System should be connected to DMV website and send notification when there are updates to policies or rules
* System should have a page for how to contact DriverPass

## 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 environment that the system would need to run the program would be web-based since users would be accessing this product through their web browsers online. It should be able to run fast enough where there is little lag or delay between pages or loading elements. The system should also be able to handle multiple people accessing the server at once so that there isn’t any server loading issues. Since the owner claims that he would like to have access to the system offline as well, it would have to be put in an application environment that will connect to the online web-based one for updates. This way he can see anything that happened in the past day or more offline. The system should update as needed. In order to have it connect with the application on the administrator end, it would make sense to have it update at least once a day to show anything that happened online through the application interface. It should also update whenever there are any changes to the DMV that they are notified of.

#### 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 platforms the system should run on are Windows, Android and Apple as they have the largest user bases for customers who may try to access the system. There should be backend tools like a database that contains customer information. This will make it easier to access customer personal information or progress within the program. It should also be run in the cloud which will be much more cost effective for the client and it offers scalability should the company grow to allow more student drivers.

#### 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?*

* To distinguish between different users, each user will have a unique username and password. The input for the username will not be case sensitive but the password will be. This is because usernames that just change from a uppercase to lowercase can still be confused easily if overlooked by administration. So, to limit any issues, it’s best to make sure every username is completely different regardless of capitalization. Passwords will be case sensitive as this can help with the security of the account. The system should inform the admin if any issues come up as soon as possible to minimize any chances of the system having to go down.

#### 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?*

* There will be a way to modify users without making changes to code. This can be written within the code so that when the admins want to make changes, the database will remove, add or modify anything that admin needs to it. The system should reflect any updates immediately as they are put in. It shouldn’t cause any delays or errors. IT admin will need full access since they are in charge of updates and any system issues that may occur.

#### 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?*

* The user will have to put in a username and password to access the system. Any personal data should be encrypted to ensure all sensitive information is kept safe. Since we are choosing the cloud for building the system, they will handle most security measures in this case. There should be a limit to the attempts a user can try before having to reset their password. This will help avoid “brute force” attacks as much as possible since there will be a limited number of attempts before the account becomes locked. At which point, the user will have to contact Driverpass to have their accounts unlocked. If the user simply forgets their password, there should be a link to let the user change their password.

### 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 accessible through multiple platforms for both mobile and computers.
* The system shall validate users when logging into accounts.
* The system shall verify usernames are unique when creating accounts.
* The system shall allow users to purchase packages offered.
* The system shall add user information to the database for future reference.
* The system shall contain scheduling for user to set appointments for driving times.
* The system shall automatically allocate two hours to each appointment set.
* The system shall verify drop off and pick up times are matches.
* The system shall contain all driver and car information.
* The system shall contain scheduling for each driver to show which car and students are assigned during a given day.
* The system shall contain practice tests for users.
* The system shall allow test progression to be tracked.
* The system shall allow drivers to fill out how driving lesson went with comments to the lesson table.
* The system shall be connected to the DMV and notify the client if there are any updates to their procedures or policies.
* The system shall allow user to reset passwords automatically if needed.
* The system shall allow admin to update user database as needed.
* The system shall lock out if a certain number of failed password attempts occurs.

### 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 should be easy to understand so all users will be able to access the system easily. The different users will be customers and administration. The administration will be broken down into the owner, IT, drivers and secretary. Customers will need to be able to access their accounts, practice tests and setting up driving times in the schedule. The owner and IT should have full access where they can access accounts, unlock accounts that have been locked, and be able to access any behind the scenes processes in order to fix or get information as needed. The drivers and secretary just need more basic access for setting up appointments, helping users register, seeing driver schedules and placing notes. The users will interact with the interface through mobile and desktop/laptop devices.

### 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 assumptions being made about the users is that they will own either a mobile phone or computer to access the system. There is also the assumption that they will have some sort of basic technological understanding in order to interact with the system easily and set up appointments. The last assumption is that all users will be able to afford one of the offered packages and therefore be granted access to the system.

### 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?*

* There are limitations in the number of users when first opening the system for users to access. As we only are given ten drivers at the moment, depending on how long their shifts are, this will limit the number of customers we can allow to purchase packages and sign up for driving times. The other limitation is the budget. Since this is a new business, the amount of upfront costs might be more than the owner was expecting.

### 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.*

