# 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 create a program that will provide better driving training through on-the-road and online practice tests as well as online classes. The client is Liam, the owner of DriverPass. The program will offer driving test training on-the-road and through an online platform where the customer can take online classes and practice tests. The program will allow customers to make reservations for driving lessons by entering a day and time for when they would want to take a lesson. These reservations should be able to be made through the user’s account and it should include the user’s first and last name, phone number, address, the user’s credit card number, security code, and date of expiration. Additionally, it should include the location from where the user will be picked up and a drop-off location which should not be different from the pickup location.

### 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 us to create an online platform from where clients can take online classes, practice online tests, and book driving lessons. DriverPass wants to make data accessible online and offline from any device, computer or mobile device. Users should be able to create an account with a username and a password which will allow them into their personal account. Here, they will be able to book driving lessons by providing their first and last name, credit card full information such as credit card number, expiration date and security code, phone address, and home address. Additionally, the user should be able to access online classes and practice tests online. He would like to be able to download reports as well as extra information and work on those through programs such as Excel. Also, DriverPass should be able to track changes such as who made reservations, cancelled them, or modified them. This information should be available for download showing the name of the person responsible for the changes, the changes made, and time and date of the changes. The program should also allow DriverPass to get the information regarding what cars have been booked, when, by who, and for how long. Finally, the platform should be connected to the DMV platform in order to keep up with any changes and updates made by them.

The problem that DriverPass wants to fix is the number of people that are failing the driving test on their first attempt. Through the online classes, driving lessons, and online practice tests that DriverPass will provide to their clients, they hope to lower the number of people that goes into the test unprepared. Their services will hopefully raise the number of people that pass the their driving test on the first try.   
Finally, the components that are needed for this system are as follows:

* Student’s capability to create a personal account with a username and password.
* Online studying materials.
* Progress bar with visuals showing completed work and uncompleted work.
* Student’s personal information.
* A Cloud server to store student’s individual data. This ranges from personal information to tracking their progress.
* Authentication method that will ensure that the person who is accessing the account is the right person.

### 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?*

* Once the system is completed, it should be able to help students acquire the necessary skills through online classes, online content, and driving lessons to pass their driving test on the first attempt. Some of the measurable tasks that should be included in the system design to achieve this should be student’s progress tracking that should be found in each student’s personal account. Here, information such as their overall progress, tests taken, their scores, and their status will be displayed. Additionally, their personal information should be displayed near their learning progress bar as well as any special needs that the student might have, and the driver notes that will be written once they take driving lessons. These notes will include anything that might have happened during the lesson as well as when the lesson was scheduled, and when did the lesson start and end.

## 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 best environment for the system to run in would be web-based. This is because more users will be able to access it and it is possible to be accessed from anywhere, rather than having to download an application that might only be able to be accessed by one party or another (android or iOS). Next, the system should run fast. This will allow users to make reservations in a fast manner and see them almost instantly. Finally, the system should be updated regularly in order to stay up to date with any policy changes as well as any available security updates. Additionally, practice tests and learning content should be updated weekly, if necessary, in order to provide our customers with the latest information.

#### 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?*

* First, the platforms the system should run on are Windows and MacOS as they are the platforms with most users. Eventually, we should consider adding Linux as a third platform where the system should also run on. Adding a tool such as a database to support the application would be very helpful as it could store, maintain, and access any sort of information from anywhere such as customer information, among other things.

#### 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 way in which we will be able to distinguish between different users is by requiring each one of them to have a unique username and identification number attached to it. The usernames will not be able to be used more than once, except if the customer’s account is deleted due to unenrollment. The input should be case-sensitive to increase our security levels. Users will have three attempts to enter username and password. If users enter their password of username incorrectly, they will be locked out of their account and will require a new password. At this point the system will inform the admin of a problem to keep a record of any attempts and potential threats. To do that, they will have to request a new password through an option called “forgot password”. This option will produce an email sent to the email address provided to us during registration. Through a link attached to that email, the user will be able to create a new password and then access their account.

#### 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?*

* Yes, you should be able to make changes to the user without changing the code. When creating the code, these options should already be implemented. The way in which the system will adapt to platform updates is by implementing the updates during times when the number of users is low. This could, for example, happen during nighttime such as 1 am to 3 am, or 2 am to 4 am. This way, the impact that might cause having the platform down for maintenance will be less than if the update is done during peak hours. Finally, the IT admin should have full access. This way, if the admin requires to make any changes to the existing code or simply update the existing policy, he or she will not struggle to find a way to fully access it and make the necessary 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?*

* The user should require a username and a password in order to log in. The username should be composed of a long number or letters and numbers combined. Additionally, the password should have a capital letter, a lowercase letter, a number, and a special symbol such as exclamation mark. A way to secure the connection or the data exchange between the client and the server is by using web-based servers. A web-based server that supports security protocols such as SSL would be an excellent choice when attempting to secure the connection as any sensitive data transmitted from and to the server will be encrypted. If there is a “brute force” hacking attempt, locking the user account for an extended amount of time should be the first thing to happen. Then, the administrator, as well as the user, should be notified of someone trying to access the account and to change the password if necessary. Finally, if the user forgets their password, they should be able to request a new one by clicking the option “forgot password” found under the boxes to enter their username and password. This should allow the user to enter their email address, provided to us at the time of registration, and through that email the user should be able to 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 let users access the website from any device.
* The system shall alert the administrator whenever multiple attempts have been made to access an account.
* The system shall let users schedule practice lessons by choosing an available date and time.
* The system shall let users see the available time slots for the driving lessons.
* The system shall track student’s progress such as number of lessons completed, areas that should improve, and performance evaluations.
* The system shall generate progress reports.

### 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.)?*

* There are different needs that the interface should meet to make it user-friendly and effective for everyone using it. First, one of the needs of the interface is to allow for users to easily view the available time and date slots for practice driving appointments and allow users to book them. Additionally, users should be able to access the interface from any device such as laptops or mobile phones. Finally, the dashboard should display important information to the user such as progress tracking or areas of improvement.
* The different users for this interface would be the students, administrators, instructors, and parents if the student is underaged. Other additional users could be future students interested in enrolling in the driving school, or system administrators.
* First, students should have the ability to create an account and provide any personal information that might be necessary in order to identify themselves. They should also be able to view available time slots to book driving lessons and make payments online if that becomes available. Next, instructors should be able to create their profiles, manage it, and include their contact information as well as available times to book driving lessons with. Additionally, they should be able to see their upcoming scheduled practice lessons, update student’s records, and add reviews about student’s performance. Administrators should be able to add new students, instructors, and users in general as required. They should also be able to manage the roles of each user and their permissions. They should be able to allocate vehicles and instructors as needed, configure the system’s settings, and access reports and data. Finally, while future students should be able to browse around the website in order to find out what they can offer them, view prices, or ways to enroll, system administrators should be able to handle updates, user management, or system maintenance.
* Web browsers, such as laptops or desktops, should give users access to the interface via a standard web browser. Mobile browsers should give users access to the interface in a user-friendly manner. This option should include offline access to certain features or push notifications.

### 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?*

* One assumption that has not been specifically addressed in my design above is that every user that will access the interface knows how to navigate it.
* A second assumption that I am making is that we will be able to implement all this. Due to the client not giving us a specific budget, many of the things mentioned above might not be implemented.

### 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?*

* My first limitation is based on time. Due to the many things that need to be implemented and since we have a time limit, I am unsure if we would be able to include everything in time.
* Additionally, a limitation on the resources will be based on the budget that we might be given. Since the client did not mention the budge that is available to us, this makes it difficult for us to know what we can access and what we cannot such as team members or technology in general.

### 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.*

*A screenshot of a project

Description automatically generated*