# 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 the company DriverPass with a system for managing their client data as well as making and tracking customer appointments. We will provide an online interface to interact with the client profile that will include student progress and personal information.

### 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?*

* Liam, the owner of DriverPass, has noticed that there is a need to improve the driver certification testing process. There are a large number of people who are failing their tests at the DMV. These failures are seen in both the written and driving portion of the tests. The goal of DriverPass is to offer readily available written tests online and even to offer an in person driving instruction if needed. The hope is that with a little extra training that the number of failures will be reduced, and people will avoid having to go to the DMV multiple times.

### 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 an interface that allows the employees and owner of DriverPass to access the needed data from any location. This capability must allow the client to download the needed data for use offline but should only be able to modify data if the user has internet access. This is to prevent duplicate data on different servers.
* The system must have tiered security for users with different rights and rolls in the company. The owner needs full access in order to make changes to secure data or to reset passwords incase they are forgotten.
* Create an interface where the students can make, cancel, or modify appointments. The interface backend must be able to keep track of the appointments, and match instructors, students, and cars without overlap.
* For registration the customer representative must be able to take a phone call and input the student’s information in to the system. The information must include the student’s first name, last name, address, phone number, state, and their credit card number, expiration date, and security code.
* The system should online and preferably on the cloud. This would limit the need for DriverPass to look into backup and system security.

## 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 should have both a web-based and application-based interface. This would allow the users to download the course material onto their phones to study anytime while still allowing for the modularity of a web-based system.
* Both the app and web-based system need to be fast enough to make appointments real time. This will prevent the reservations are not overbooked by people trying to make appointments near the same time.
* The system should be updated on an annual basis once a review of the DMV driver tests have been reviewed. This will allow the users to receive the most up to date test information.
* Updates to security or functionality will occur on a needed basis.

#### 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 app should be available for both Android and IOS systems. The web-side should be accessible through all major web browsers.
* The back end will require a database to hold the user information, employee information, and course material.
* The back end servers will run on a Windows based OS that is set up and maintained by Amazon Web Services

#### 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 system will offer example tests for the students to take. To ensure a high level of accuracy in the grading the tests will be multiple choice in stead of written so the answers can be checked with a high level of precision.
* For the user login, students as well as employees, the login will be an email address and must not have been used before. The password will have a minimum requirement of eight characters with upper- and lower-case letters and at least one symbol. The password will be case sensitive.
* The admin will be informed of a problem with a user’s account when the user submits a help request. If the system goes offline the admin will be informed immediately.

#### 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?*

* All user information will be stored as a class object in the server database. This will allow the user or admin to add/remove/modify the user accounts without changing the code. Rights will be restricted depending on user status (student/admin).
* The framework being used should be updated by the distributer so that updated to the app are seamless. This can be done by using a well established and maintained framework.
* The IT admin should have the privilege to add/remove/modify any user information. They should not have the privilege to change the code base.

#### 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?*

* For the user login, students as well as employees, the login will be an email address and must not have been used before. The password will have a minimum requirement of eight characters with upper- and lower-case letters and at least one symbol. The password will be case sensitive.
* The communication between the client and server will be encoded using RSA encryption. This will prevent any unauthorized access to user information in case of a data breach.
* In case of *a “brute force*” hacking attempt the system will lock down the account after a set number of failed attempts. This will prevent the hacker from figuring out the credentials in any kind of acceptable timeframe.
* If the user forgets their password it can be reset by the system sending an email verification to the user’s email address on file.

### 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.”*

* Authentication: The system shall verify the user’s unique login information to prevent unauthorized persons from accessing unauthorized privileges.
* Historical data: The system shall record and store all pertinent information about the students, their appointments, and course material completed.
* Download data: The system shall allow the administrators to download all pertinent information for use in offline programs such as Excel.
* The system shall only allow administrators to add/remove/modify accounts that are not their own
* The system shall keep the information on the web-based application and the mobile app in sync.
* The system shall be able to process credit or debit card payments

### 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 user interface must have an easy to navigate home screen that shows all of the options available to the user
* All the links should have an image to click on that represents the functionality
* The images for the links must be the same for the web-app and the mobile-app
* There should be a profile page where the user can see and modify all information about themselves
* There should be a page to see a list of all of the available courses
* There should be a location to show the driver and student photos
* There should be an online test progress section that shows the tests the customer took

### 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?*

* It is assumed that the users will have internet connection to create an account and to download course material
* It is assumed that the user will have access to a phone or computer
* It is assumed the user will have a credit card or debit card for payment
* It is assumed that the user’s device has enough storage to hold the course information after download
* It is assumed that the user will use one of the standard web-browsers

### 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 not allow the admin to manipulate data offline in order to prevent redundancies on different servers
* The project has a time limit and must be complete by 10-May

### 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.*

Timeline

Description automatically generated