# 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, DriverPass, is asking for a system to provide online practice exams to driving students as well as physical on-the-road driving training
* The purpose is to assist in improving new driver education and capabilities
* System administrators should be able to control, maintain, and access data remotely
* Provide unique user account and track online reservations for driving lessons
* Provide post-training documentation including Driver comments and lesson times

### 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 wishes to provide a service to decrease the number of failed driving test conducted at DMV’s. To achieve this, they believe their product will fill a gap in the market by providing multiple on-the-road training packages and online practive exams.
* DriverPass request their product be secured through individual user accounts with different levels of access for users, company secretary, IT Officer’s, and the owner
* System should use serverless features like cloud services for ease of use and time efficiency

### 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?*

* System should allow users to view/ reserve/ modify/ cancel training reservations for one of the 3 given training packages.
* System administrators should have unique permissions to data
* Online practice exams should be available and fully functional to users while service is accessed via internet
* System should properly access/ store/ and backup data to cloud service
* Schedule Planning Objectives
  + Use case diagrams and activity diagrams should be completed within 8 business days of Feb. 11th
  + Toni and Clark should have user interface research completed within 9 business days
  + Class diagrams shall be completed by John within 9 business days starting on March 1st
  + System prototype should be presented and approved by client by March 11th
  + Interface construction should last 12 days and can begin on March 12th pending client approval. Database tables can be built following the interface and will take 9 days
  + Business logic layer can be added following the database tables, taking 22 days
  + System delivery and sign-off meeting will each follow for a few days
  + Estimated project end date: May 10th

## 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?*

* Since the client asked for the ability to access data online from both computers and mobile devices, the most beneficial web environment for this project will likely be a cloud-based service. This will allow Liam(Owner) and Ian(IT) to makes updates and download reports as necessary.
* Utilizing cloud services will also provide peak performance due to its automatic scaling properties, which are beneficial for DriverPass as they grow. Around the clock system monitoring and performance upgrades are handled outside of DriverPass, eliminating the need for an IT expansion.

#### 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 program should be capable of operating on all platforms. The use of cloud services promotes cross-platform capabilities to ensure that all users are able to access the material for practice test and appointment scheduling
* The system should contain a database storing User information such as:
  + Name
  + Address
  + Phone Number
  + State
  + Payment Information
  + Pick-up/Drop-off Locations

#### 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 should distinguish between different users such as Administrator, IT Officer, Secretary, and User. Unique identification methods like user ID’s with passwords should be stored in the database and will enable each user to have different permissions and accessibility. As with most passwords, they should be case-sensitive.
* The system should notify the admin if there are problems with

#### 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?*

* Performance updates will be primarily outsourced through the preferred cloud service. This is one of the most beneficial aspects of using the cloud and allows DriverPass to focus on running the business rather than dealing with backups and updates.
* Changes to user can be modified without changing code depending on the permissions granted to the user. Administrator and IT Officer’s should be granted the access to add, remove, or modify details of the system user. This may be needed when new employees are hired, employees leave the company, or when customer’s have problems accessing their accounts.

#### 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 log in requires a unique user ID and case-sensitive password.
* Client/server security will be primarily managed through the cloud service. Cloud-based security utilizes encryption methods in data transfers to prevent users without specific keys from accessing sensitive information. These methods are typically at the most advanced stages since the cloud service is constantly updating it protocols to remain in compliance with security standards.
* In this example, brute force hacking implies an attempt to gain access to a private accounts by entering every possible combination of characters or numbers in hopes of finding the correct password or user ID. The system should lock the program after a user has unsuccessfully tried to access an account a certain amount of times. A simple solution to prevent brute force hacking is two-factor authentication.
* In the circumstance a user forgets their password, they should be sent a link to their phone or email to reset 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 validate user credentials when logging in.
* The system shall have the ability to be accessed in-office and remotely
* The system shall print activity reports detailing any changes to the records
* The system shall allow customers to reserve, modify, or cancel appointments and training packages
* The system shall allow the administrator or IT Officer to disable training packages
* The system shall notify the administrator or IT Officer when new DMV updates are available

### 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 display on a computer or mobile device the customer test history and progress, customer information and photo, driver notes and photo, and special needs.
* The user should be able to input or edit 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?*

* One detail not addressed is how the criteria for the test and study information will be provided. Further communication would be needed to resolve this assumption in the near future.
* Another assumption made is the language of the user is English, as no mention of test or website content translation has been mentioned.
* Finally, the assumption is also made that the Secretary, Admin, or IT Officer will be submitting the driver notes, as there was no mention of creating a domain for the driver for specific privileges.

### 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?*

* Limitations within this system include project delivery date. Many of the task are over-lapping or scheduled directly after the task before it is completed. Any changes to the one task are likely to affect the following tasks.
* Internet access is a requirement for the user to access the content.

### 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.*

Chart

Description automatically generated with medium confidence