# CS 255 Business Requirement

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 is DriverPass. There are needing to create an application that provides better driver training since over half of people fail their driving tests at the DMV. The purpose of the project is to provide better training for new drivers through in person training and online course content.

### 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?*

* In the DriverPass system, a user will be able to make appointments for in-person training sessions.
* The user can take online practice tests and see their stats after they take the tests
* The problem they want to fix is lowering the failure rate among those taking their DMV test.
* Different components:
  + 10 vehicles and available drivers
  + Instructors
  + A web-based application that stores user information, course material, and an online reservation system
  + Downloadable content for offline access

### 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?*

* Users need the ability to:
  + Create an account
  + Reset password
  + Select one of tree packages
  + Make, cancel, and edit lesson reservations
  + View online course material from any online device
  + Take practice exams
  + Track user practice exam progress
  + Store and modify user contact information

**Requirements**

### Nonfunctional Requirements

* No matter how much traffic the application is getting, performance should not be affected
* The system will be scalable to be able to accommodate the increasing number of students
* The learning material should be current and compliant with DMV guidelines

#### 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 will be web based, allowing the real-time updates of records
* A database is required to store personal data for each user, when querying or updating records, the change should take place instantly
* When a user submits a request to have an appointment, the update should be instant to ensure their spot is secured

#### 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?*

* Because the platform is web-based, the focus will be on the more popular browsers:
  + Chrome
  + Safari
  + Mozilla Firefox
* EdgeA SQL based database can be used to store all of the user information

#### 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?*

* Each user will have a password protected account
* Usernames and passwords will be required when logging in, which will be case-sensitive, to increase variability of password combinations
* A limit should be placed on the number of times a login attempt can be incorrect, and will notify the admin if a user surpasses it.

#### 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?*

* Users should be able to create an account and modify their account information
* An admin should be able to create or delete lower level access 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?*

* Users will need usernames and passwords to log on. If there are too many incorrect sign-in attempts, the account will lock, notifying the admin of a possible breach
* Password reset requests will be handled by the user, needing an email address to verify the identity of the user

### 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 will require authentication
* The system will be web based, with downloadable content offered
* The system will offer three DriverPass course packages, which the user will choose from
* The system will allow users to reset passwords
* The system will only give course content that is compliant with current DMV guidelines
* The system will display user test statistics

### 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 following pages will be included
  + Home page
  + Account registration
  + Course material
  + Driving lesson
  + Contact page
  + Appointment booking

### 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 internet will be available at all times, with no disconnections
* Electricity must be available, even to access offline content

### 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?*

* A web-based application is heavily reliant on internet connection, meaning if the user is not connected, they cannot update any of their records if needed
* DriverPass is based on current DMV guidelines, which might cause content to change in order to stay current with guidelines.

### Gantt Chart

Chart, waterfall chart

Description automatically generated