# 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?*

* DriverPass identified a need for better driver training for new drivers
* The system requires online functionality, virtual lessons, in-person training, and reservation management systems
* The system would provide lessons and connect new drivers with instructors with a tier-based system for lesson purchasing

### 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 to build a system to properly train new drivers. This would prevent DMV failures and lead to safer roads
* A web-based system that allows for customer information forms, contact info for DriverPass, the ability to participate in lessons, and reserve in-person lessons
* The system should allow for downloading of information for offline work for admins, and offline studying for users
* DriverPass wants different access to information using user and admin ranks for all accounts

### 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?*

* Provide online lessons to uses
* An in-person lesson system allowing for the ability to make, edit, or cancel lessons
* Ability to download data for offline work
* Roles with privileges based on the role. For example, an admin can add or delete users or help with password and data recovery.

## 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?*

* DriverPass wants a web-based cloud environment
* The system should aim for less than a couple seconds of load time
* System updates should be performed monthly unless unintended vulnerabilities are found

#### 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 system is intended to be web-based, so the OS compatibility depends on support for popular browsers such as:
  + Microsoft Edge
  + Google Chrome and Chromium based browsers
  + Mozilla Firefox
  + Safari

#### 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 have a distinction between an admin and a user
* An admin should have much more privileges than a user and allows for deeper access to the system
* A user account allows access to the basic feature suite outlined by the stakeholders.
* The system should inform admins of issues at least daily, but preferably as soon as the issues arise

#### 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?*

* Adding, removing, or updating packages would be more difficult than users
  + A database on the packages offered could be created with variables, bools, and strings such as price, time of lessons, online coursework included, and description.
    - These varaibles can be easily modified to create packages
  + DriverPass could also have a working relationship with our company to commission major changes in the future
* Implement a user database based on CRUD operations
  + CRUD (Create, Read, Update, Delete) can be useful when creating a user database
    - It allows for ease when adding, reading info, editing info, or deleting users based on needs of the database
  + CRUD databases allow for easily editing of databases and do not require editing the code as the database scales or shrinks with the growth/shrinkage of the system.
* The admin will need admin privilege rank on the CRUD database. This will allow for full access to the necessary functions for user administration

#### 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?*

* When logging in, a check for the correct combination of username and password will be referenced to the database of account information. After login, account rank will be established.
* With the implementation of the CRUD operations, privilege levels will need to be established. For this use case, admin and user levels are appropriate
  + Accounts will need to be marked as admin or user
  + Admin rank allows for creation, viewing, editing, and deleting of accounts marked as user. User level allows for the same privileges; however, they cannot act on behalf of other accounts marked as 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 shall store user information in a CRUD database
* The system shall validate the user rank (user or admin) when logging in
* The system shall allow the user to reset username and password
* The system shall mostly function online while allowing for offline downloads for study materials and information for offline admin work
* The system shall display the three packages available to the client
* The system shall display the users’ progress through lessons and exams
* The system shall display user appointments for in-person lessons
* The system shall adjust to adhere to future DMV requirements

### 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.)?*

* User Interface:
  + Account creation page with text boxes to input information
  + Login page with form for forgotten information
  + Landing page or home page
  + Progress bars for current curriculum
  + Table for in-person lessons with times and driver comments
  + Grades section with suggestions on topics that need more improvement
  + Scheduler for in-person lessons and due dates
  + DriverPass Contact information for support
* Admin interface:
  + All of the same interface as a user would see for testing and review purposes
  + Search function for users
  + Integration for CRUD protocol for all users in the database
    - A separate icon for user management next to the users’ name
  + An option to create new announcements that will be pushed to all users

### 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 servers will need to be up 24/7
* The design of the system requires a need to update with the DMV guidelines
* A mobile application or support in mobile browsers will need to be developed

### 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?*

* Building the best possible system while also balancing the budget
* Retaining the clients once the driver’s license test is completed
* Acquiring new clients as the model is based on a revolving door model
* The system is purely web based, so supporting slower internet connections
* Building a mobile platform as more users migrate to it vs desktop

### 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.*

