# 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 fill the void in the market for DMV training, specifically the client stated he noticed numerous people who fail their driving test at the DMV.
* The client is a company called DriverPass owned by Liam. He wants the system to provide a one stop shop for customers to receive online training, and take practice tests for their DMV tests, as well as schedule behind the wheel training for people.

### 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?*

* Driver’s Pass needs the system to be able to provide the following:
  + Be accessed from anywhere
  + Have different administrative access for different roles
  + Track changes to the system
  + Provide online lessons and training
  + Schedule Behind the wheel training
  + Save user profiles and track their progress.
* The problem they want the system to fix is to be the central hub that handles users, lessons, training, as well as scheduling for in-person activities.
* The following are different components needed in the systems:
  + Lessons component
    - User: Take Lesson
    - Admin: Adding / Modifying / Deleting
  + User Profile component
    - Adding / Updating / Deleting / Tracking Progress
    - Different levels of access for different roles.
  + Practice Tests
    - User: Take Practice tests
    - Admin: Adding / Modifying / Deleting
  + Scheduling
    - Adding/ Modifying / Deleting
  + Purchases
    - Purchasing a package
  + Administrative Functions
    - Generate Sales Reports
    - Modifying lessons and tests
    - Disable Packages

### 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?*

* The system should be able to provide the following measurable tasks for the Users:
  + Create a new user profile
  + Modify their own user profile
  + View training lessons
  + Take practice DMV tests
  + View personal training history
  + Schedule Behind the wheel training appointments
  + Cancel Behind the wheel training appointments
  + Modify Behind the wheel training appointments
  + Give pick up and drop off locations for these appointments
  + Reset Password
* The system should be able to provide the following measurable tasks for the Employees:
  + Download reports for anywhere in a format such as Excel
  + Access user accounts and reset them if needed
  + Block user accounts
  + Track and print reservation history
    - Made
    - Canceled
    - Modified
  + Schedule Behind the wheel training appointments for clients
  + Cancel Behind the wheel training appointments for clients
  + Modify Behind the wheel training appointments for clients
  + Disable Individual packages
  + Automatically receive DMV updates
  + Modify training plans and tests

## 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 be able to run on a web-based environment and be able to be accessed from any modern web browser.
* The system should run fast enough for users to be able to receive a reasonable amount of responsiveness when navigating the site. I can say from personal experience that taking practice tests and lessons over slow connections is aggravating.
* The system should be updated when the DMV makes changes to its rules or its testing methods.

#### 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 recommendation is that DriverPass utilizes a small Unix server to run the system on. Unix is less costly than running a Windows or a Mac server and with an on site IT professional (Ian) server maintenance should not be an issue. A Unix server can also be configured to be accessed through a web browser on a Windows or Mac machine, allowing access to the server for both clients and employees.
* The backend will require first, a database to store user’s information in. This database should be small and easily stored on the server. There will also need to be a database to keep track of appointments. A database will also be required of all the lessons and tests available. A web page for admin to use would be required so that information could be changed by them from anywhere. Finally, a tool to display the lesson and practice tests would also be required to facilitate displaying it to the user as well as tracking user progress.

#### 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?*

* Every user account when created will have a user ID to distinguish between users.
* Input will be case sensitive for people with names like McDonald. It will also allow for more possible passwords, and increase security.
* The System should inform the admin if there is an issue with a user creating a name off of a banned words list, or some if unusual activity is detected such as the same IP registering several accounts in a row.

#### 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?*

* Since the users will be stored in a database, simple SQL commands can be accessed to make changes, add, and delete users without changing any code.
* The system will adapt to platform updates because the system will be in-house for the moment. So if changes need to be made, the server can go down for maintenance, the patch can be applied, and then the system can be turned back on.
* A web portal should be created so IT admin can access users, trainings, practice tests, and schedules from anywhere and easily make changes. Admin should have access to all information if necessary, with exception to user passwords.

#### 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 would need an existing email for a username, and then a password. Additional security later could be added through the use of a two-factor system involving an authenticator. The passwords used also should follow a secure password convention and require a certain length as well as a combination of letters, numbers, and special characters.
* Information could be properly passed between client and server using HTMLS encryption.
* With a strong password convention brute force attacks would be extremely difficult. Also a system could be implemented to lock the account after a certain amount of wrong attempts and require the user to check their email to unlock.
* If the user forgets their password, they can have the option to reset the password through a link sent to their email, or as requested in the interview, have admin reset it for them.

### 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 be available to use from wherever the customer or client logs in.
* The system shall allow the employees of DriverPass to have different levels of access.
* The system shall validate the user based on user name and password.
* The system shall track the user across the site, saving progress on lessons and test.
* The system shall allow the user to reset their password
* The system shall allow the user to manage their profile.
* The system shall allow the user to schedule and adjust in person lessons.
* The system shall allow the employees of DriverPass to create and adjust client appointments.
* The system shall generate reports in a format such as Excel.
* The system shall allow the user to purchase packages.
* The system shall allow the employees of DriverPass to be able to modify lessons based on updated DMV requirements.
* The system shall track changes made to records, such as modifying schedules or editing user data.

### 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.)?*

* Liam provided a sketch of his idea for the interface which is a good start for a general “landing page” once the user logs in. It needs to show the Online Test Progress, the information of the user, the notes from the driver as well as the scheduled meeting times for upcoming lessons. Any kind of special needs the user might have, a photo of both the assigned driver and the student. Not addressed in the interview was how the interface for the lessons, scheduler, or practice test should look like.
* Different users who need this interface are the student, the drivers, and admin.
* The student needs to see everything so they can access their information. It is also pertinent to the student to see their progress, notes from the driver, and a photo of the driver to make sure they are with the right person. The Driver needs the notes and schedule, as well as the student’s name, special needs, and photos, but not necessarily the other info about the student. Finally, admin needs access so they can make changes to anything if something happens.
* The planned user interaction is through a browser. There was no mention of specifically creating a mobile scale web site so the focus should be on desktop browsers.

### 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?*

* Assuming the plan for DriverPass is to maintain their own servers and that they do not want cloud based.
* Assuming that users will have access to web browsers through some means.
* Assuming that DriverPass is tracking growth in the website after launch to properly monitor for scaling purposes.
* Assuming that users will have fast enough speeds to download interactive lessons.
* Assuming the current DriverPass servers are able to provide bandwidth for initial planned user estimates.
* Assuming the user lives in an area that is covered by DriverPass in person team.

### 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 be limited by the number of real-world driving instructors employed by DriverPass to ensure the amount of users they have are covered.
* The system is limited by the current system’s hardware DriverPass has unless the plan is to purchase more for the system.
* The system is limited by the budget DriverPass wishes to spend on the system.
* The system is limited by time, since eventually the system does need to go live.

### 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.*

