# 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

* This project is for one of our DriverPass. The purpose is to fill a void in the market for training student drivers and preparing them to take their driving test by providing driving lessons, online training classes, and practice tests.

### System Background

* DriverPass wants to fill the void in the market and better prepare student drivers for taking their driving exams. They wish to accomplish this by on-the-road driving lessons with a trainer, and tracking their own employees and cars during driving practice.
* The system will be cloud-based and accessible from any type of device with internet connection capabilities.
* The system will require the ability to store user information in accounts.
* The system will provide access to schedule, change, or cancel driving lessons.
* The system will start with three packages for the customers to choose from.
* The system will provide the ability to add personal information for the customer including name, address, phone number, pick up and drop off location, and credit card information.
* The system will allow for tracking who made the reservation, or any changes made.
* The system will have a link with contact information for the customer to our client that includes address and phone number.
* The system will provide a connection to DMV so they can update our client with new rules, policies, and sample questions to keep the material up to date.
* The system will include a progress chart to display the status of the lessons and tests taken when the customer started and ended the material, and if it is still in progress, passed, or failed.

### Objectives and Goals

The system will provide the user with the following functions:

* Scheduling
* Online accessibility to current DMV information classes and practice tests
* Customer information tracking
* Progress chart for customers taking lessons and tests, and customer notes.
* Customer personal information entry for name, address, phone number, pick up and drop off location, credit card number, security code, and expiration date.
* Package One that includes six hours with a trainer.
* Package Two includes eight hours with a trainer and an in-person lesson where the client will explain the DMV rules and policies.
* Package Three includes twelve hours with a trainer, the in-person lesson, and access to the online class with all the content and material that includes practice tests.
* Store user information
* Cloud-based system for accessibility from multiple devices that can access the internet.
* Tracking for employees and customers, and the company cars from on-the-road practices.
* The ability to distinguish between client, employee, and customer usage.
* Admin portal for admin tasks such as password reset and account deletion.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* The DriverPass system will need to run on PCs, Macs, and smartphones. A web-based application, with a preference for running over the cloud, should be developed that runs in a typical web browser (Chrome, Firefox, Internet Explorer for example). A smartphone application should also be developed to handle mobile accessibility.
* The DriverPass system will need to run fast enough to handle and support video streaming for the online class part of the business model. The system will need to be able to handle multiple users at the same time.
* The system will need to be updated as often as the web browsers that run it are updated. It will also need to be updated as often as the updates from the DMV occur. This is to keep the information current for the users, which will include the new rules, policies, and sample questions.
* The system will also need to be able to handle and update the test progress and notes entered for each user. As well as keeping the schedule updated and any user information that may change.

#### Platform Constraints

* The DriverPass system should be developed for web browsers using HTML as the delivery language, this will allow any web browser-supported operating system access and support by default. The mobile application will need to be supported by both Android and iOS.
* A database will need to be developed and linked to the DriverPass interface to store user information for the administrators and clients.
* Some back-end tools that can be used for this system are SQLServer, Apache, Node.js, Redis, this is just to name some suggestions.

#### Accuracy and Precision

* Users will have a unique username that will be used to access the site. The usernames will be stored in the database. If a new user tries to create an account with an already-existing username they will receive a notification stating that the username they are attempting to use is already in use and they will need to use another non-existing username to create their account. The username will not be case sensitive however the password will need to be case sensitive.
* The administrator should be informed of any errors that occur within the system. These errors should also be logged for later review. If processes are consuming more resources than expected the administrator will need to be informed. Any updates made by the DMV should also inform the administrator. Some other examples of when the system should inform the administrator of a problem are memory issues due to cache size, CPU resources being used improperly, and/or any issues with disk read/write operation speeds.

#### Adaptability

* Users will be objects created within the system and then stored in the database, so this will allow the ability to add/remove/modify users without changing code. The interface will ensure the entire system does not need to be refactored in order to update one class if implemented properly.
* If there is a system update the user will receive a notification that allows them to update their application to get the newest version. The web-browser-based system will automatically update as new information is available.
* IT will need access on an administrator level to maintain the system properly. They will have access to usernames and some of the user information. They can update some of the user information as necessary such as a change in payment type.

#### Security

* The users will be required to have a unique username and “strong” password. This password will be case-sensitive, and require 8+ characters, at least one of those characters needs to be uppercase, at least one number, and at least one special character or symbol.
* Data transfers will be transferred through HTTPS over TLS to ensure data is transferred securely.
* The user will have 3 attempts to enter their login information correctly. After the failed third attempt their account will be locked out and they will be required to contact IT for a password reset. This should prevent any “brute force” hacking attempt.
* The system will also offer a “forgot password” link that will require a correct secret question answer to change the password.

### Functional Requirements

* The system shall validate user credentials when logging in.
* The system shall keep track of the user’s progress in testing.
* The system shall support two-step verification for all users.
* The system shall store all user information in secure accounts (name, address, payment information, note, special needs, test scores, progress, student photo, driver photo)
* The system shall allow the users to schedule on-the-road driving practice and tests.
* The system shall allow the user to select from one of three packages that are available.
* The system shall allow users to make payments online.
* The system shall track employees of the business.
* The system shall track when cars that employees drive are scheduled to be used.
* The system shall track user data and progress.
* The system shall record drop-off and pick-up locations.
* The system shall provide all updated and relevant learning materials from the DMV.

### User Interface

* Users of the application will include customers, employees, IT, and administrators.
* The system will be accessible from any device that has internet access and a browser that allows the users to interact (tablet, PC, laptop, smartphone).
* Customer users will be able to log on using the credentials they choose. They will be able to check their account status and their progress, schedule on-the-road driving practice and driving tests, and check their account balance. Customers can also change and update their profile, account information, and billing information.
* The IT user will be responsible for maintaining the system, making any modifications, and keeping the system running in general.
* Employee users can check their schedules and the schedule of the cars they are taking their customers for their driving tests and on-the-road driving lessons. Employees will also be able to access their employee profile and make any updates as needed, including their availability.
* Administrator users will have access to most of their customer and employee information and will have the ability to reset passwords and unlock blocked accounts. They will have the ability to see the schedules of the employees, make any pertinent changes, and add or remove employees and other users from the system. The administrator user will get updates about driver education items from the DMV. Scheduling users’ appointments for on-the-road driving practices and tests will also be available to the administrator user.
* The interface will be mouse-click or touch-based with keyboard support for typing information. The interface will be mobile-friendly, uncluttered with collapsible menus, and easy to use.

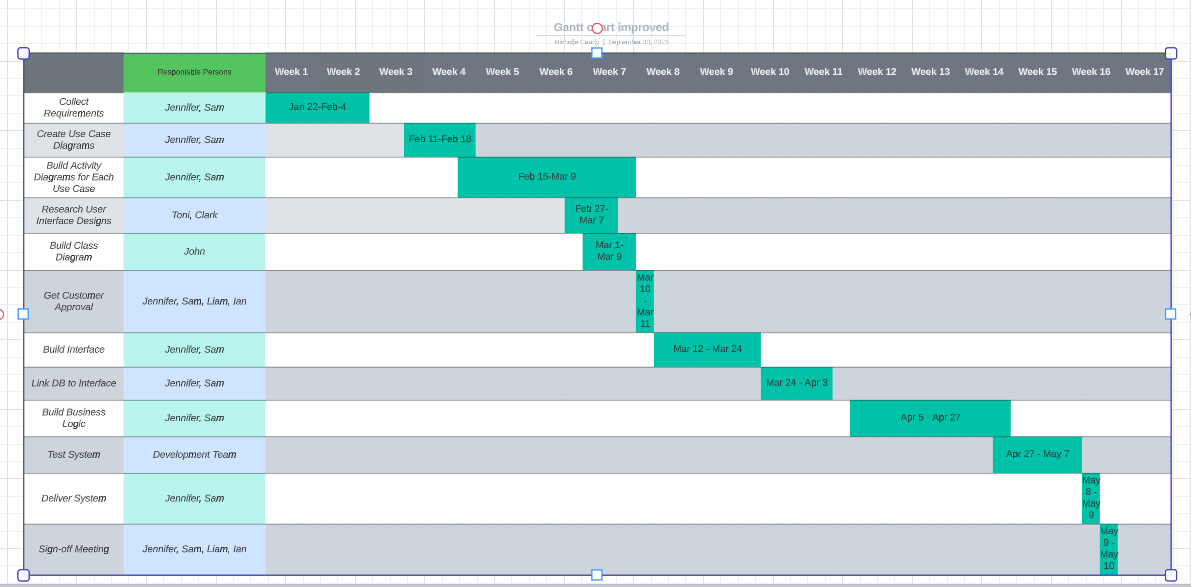
### Assumptions

* All users will access the application through a mobile device, PC, laptop, or tablet and do so through an updated web browser or smartphone application.
* All users will have some knowledge of how to navigate through the application without much instruction or prompting.
* The coding language that will be used to write the application has not been addressed.
* The aesthetics, including the color selections, settings for accessibility, and usability, of the finished product have not been addressed.
* The type of materials that will be used for the online classes available. For instance, videos with instructors or strictly written material. The type of tests (multiple choice, written, etc.) have also not been addressed.

### Limitations

* The time frame may prove to be a limitation if the team size is small in comparison to what needs to be completed. Putting together a full system in a short amount of time with a small team could lead to some features being cut out or minimized.
* Bandwidth availability is also a limitation. Depending on the host database’s allotted bandwidth, the interface may need to be adjusted to account for a lower available bandwidth with less animation and smaller pictures.
* The budget for this system has not been discussed but this can also be a limitation. If there are budget constraints this will need to be addressed and adjustments may need to be made to renegotiate requirements.
* Depending on how frequently they update our system, getting up-to-date information from the DMV may also be a limitation.
* Having the available staff for slotted/desired timeframes for driving lessons/tests may also be a limitation.

### Gantt Chart

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