# 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 build a system for Liam, the owner at DriverPass, that will help provide training for students to aid in their successful completion of the driver’s test at the local DMV.

### 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?*

* The goal of this project is to provide better training for the driver’s test and produce a more consistent success rate.
* The problem they want to fix is the failure rate of students when taking the driver’s test at the local DMV.
* The DriverPass application will provide a web-based application where students can complete practice tests and schedule appointments for on-the-road training.

### 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?*

* This system should be able to allow users to schedule, cancel, or modify appointments for training.
* This system should allow users to create an account and input their information. For example, users should be able to add their name, address, phone number, profile photo, etc.
* This system should allow users to reset their password without IT support.
* This system should receive updates from the local DMV when changes are made.
* This system should allow users to view data offline as well as online.
* This system should allow the appropriate users to be able to download reports of information, such as modifications made and who made them or schedules, to review offline.
* This system should allow for different levels of security based on the role of the user. For example, Liam the owner should have all access to everything.
* This system should have a tracking software built in so that the location of the student, vehicle, and instructor can be determined.
* The software should be able to allow the employees of DriverPass to verify the identity of the students.

## 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 run at a consistent speed without regard to the number of users that are currently using the system.
* The information on the system should be updated in real time so that the tracking software can determine the location of the vehicles, drivers, and instructors when on the road. Also, it should update as the DMV makes changes to policies and updates laws and requirements on their site.
* The system should run software (hosted in the cloud) on a web browser. It should also be optimized for desktop as well as mobile browsers so that it can be viewed on any device with a fairly consistent experience.

#### 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 should not be platform dependent since it is a web-based application. It should have support for all major web browsers (i.e. Chrome, Firefox, Edge, Safari, Brave, Opera, etc).
* Databases can be used to support the system and hold information such as user information, appointment schedules, course progress, etc.

#### 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?*

* Different users will be distinguished between using unique user ID’s and case-sensitive passwords.
* A unique identification number assigned to each user can also be used to distinguish between users.
* The administration should be notified of problems if too many unsuccessful attempts to login have been made.
* The administration should also be notified if several accounts update information at the same time preventing users from using their login information successfully, critical file changes are made, unusual outbound traffic is occurring or abnormal administrative activity occurs signifying a data breach.

#### 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?*

* Changes can be made to the user information without the need to change any code.
* Platform updates should be made available to the system prioritizing security updates. Other updates should be delayed to prevent problems with capability.
* IT administration needs complete vision into the system and its information to be able to diagnose issues.
* IT admin should *not* have access to the source code.
* IT admin should be able to add, modify, and remove packages offered by DriverPass.
* IT admin should be able to add, modify, and remove users of any level and their information to the DriverPass application.

#### 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 should be required to enter their unique user id and case-sensitive password to login to the website.
* TLS encryption should be implemented to protect the data and information of the user logging in.
* In the case of a “brute force” hacking attempt, the user’s account should be locked and the user should be instructed to contact the appropriate staff to reset their password. Accounts will be locked after 5 unsuccessful attempts to put it their password and will require administrator access to unlock.
* If the user forgets their password, there will be an option to reset the password, without requiring administration access. The link should be easily accessible from the login screen.

### 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 allow the user to input user credentials (i.e., username and password).
* The system shall validate user credentials before giving access to user information.
* The system shall allow users to review, purchase, cancel, and modify courses and plans. For example, if the user subscribes to the lower priced course, they should be able to change their subscription to a higher tier course.
* The system shall allow for different functionalities for users with different roles.
  + It should display the different options based on the role and security level of the user.
* The system shall send receipts to customers based on the email provided at signup.
* The system shall notify appropriate employees when a user has purchased an on-the-road plan or other applicable plan.
* The system shall restrict access to certain parts of the site and certain functions based on the role of the user.
* The system shall allow users to download reports of information based on role. For example, a student should not be able to download a report of all of the students enrolled, but the owner should be able to download that report.
* The system shall allow new users to register for an account on the site and input their information (name, phone number, address, photo, email, etc.).

### 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 user interface should be consistently styled across all pages.
* The basic functions and appearance of the website should be the same across all roles (login, navigation, view/update profile etc.). Different roles may have an additional page or options within pages that other roles may not have access to, based on security level. For example, if the owner is logged in, he should be able to see a reporting page with financial reports, user reports, package reports where a student, while they may have a reporting page, would only see reports that pertain to their account and information, but they would have the ability to purchase a plan where the owner would not.
* Users will view the page on some display.
* Users will interact with the content of the using a mouse/touchpad and a keyboard or touch controls when using mobile devices.

### 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 user must have a reliable internet connection.
* The user has a device that can access the content, whether that is a smart phone, pc, laptop, tablet or other device.
* The devices the users have are adequately up to date with up-to-date browsers and other software.
* DriverPass is legally able to make this course and its content and connect and associate itself with the DMV.

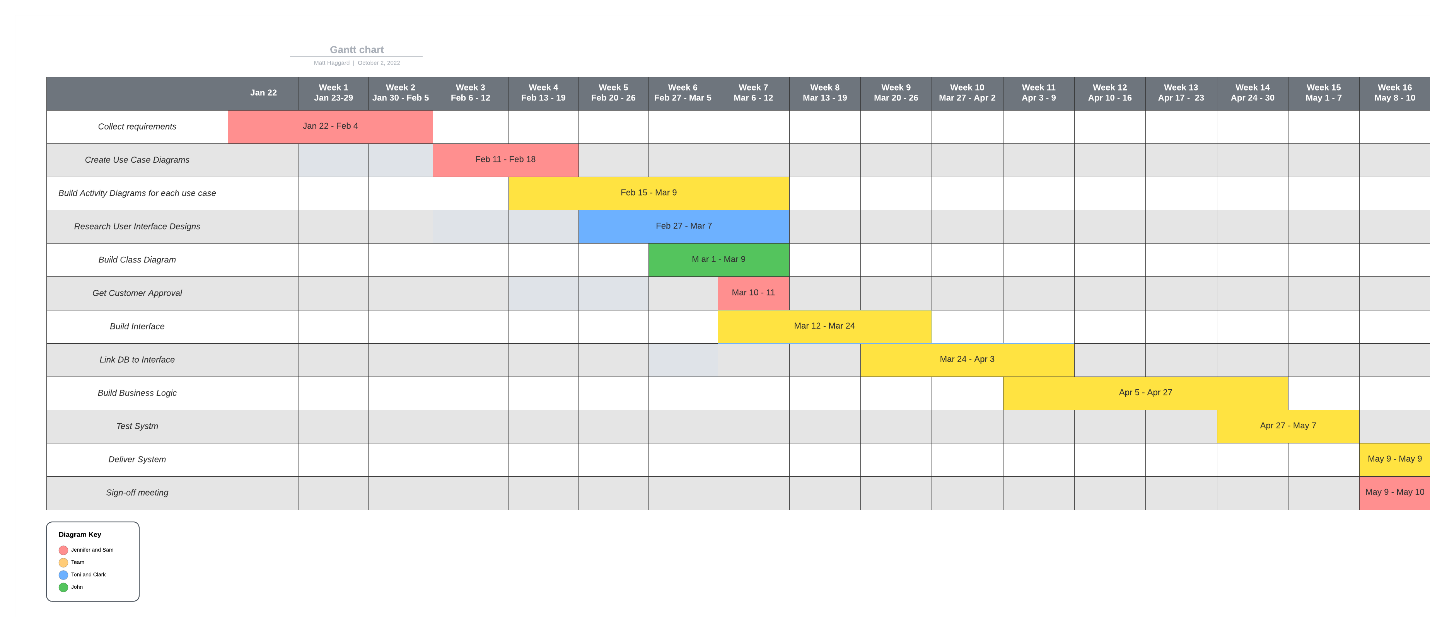
### Limitations

*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?*

* This system cannot be updated or registered for without an internet connection.
* This system cannot support every device ever used to access the internet. The scope of that project is too large. Support for out-of-date devices or software cannot reliably and reasonably be implemented. So, there will be limited support and, inevitably, some people will suffer.
* Since this application runs in a browser without a dedicated app, notifications will not be instant unless logged in. So, when changes are made, depending on whether or not the user is logged in, the user will not be notified instantly.
* Allowing the user to download information from the site, while a useful feature, could case information to be accessed by unauthorized individuals.

### 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.*

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