# CS 255 Business Requirements Document

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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 goal of this project is to develop an enhanced system that trains students to assist others with driving tests. Liam, the client, is dedicated to exploring ways to incorporate online training modules and practice tests, alongside providing in-person training support from the Driver Pass staff.

### 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 aims for the system to be accessible both online and offline. However, the development team is hesitant about potential conflicts with saved changes. According to the notes, the team recommends a solution where the system operates off the web but utilizes the cloud for the interface. Security considerations are also important, with different levels of access required for various employees handling sensitive information.

### 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?*

* Upon completion, the system will provide several key functionalities. First, it will allow consumers to select from various available packages. The client will have the ability to deactivate packages that are fully booked, ensuring that offerings are always up to date. Additionally, students taking tests online will be able to track their progress through a detailed interface that displays ongoing and completed tests, organized by test name, duration, score, and status. The status will be marked as "Not Taken", "Failed", "Passed", or "In Progress".
* Furthermore, the system will enable the client to access drivers' notes, which will include any comments and the duration of the lessons. It will also help tracking of which driver is paired with which consumer, including details about the time and vehicle used. This will require the system to manage schedules, test tracking, and other related metrics efficiently.
* Finally, it is crucial that the client can access this information offline, ensuring they have continuous access to vital data regardless of internet availability. This comprehensive approach will ensure that the system meets all the specified requirements and supports the client's operational needs effectively.

## 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 updated regularly to fix any bugs or security breaches. Additionally, any changes to DMV guidelines should be applied immediately to keep DriverPass students informed. The system needs to be web-based and should run at a decent speed, ensuring quick response times for users taking exams and performing other tasks.

#### 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 be compatible with browsers such as Chrome and Microsoft Edge. If accessed on a mobile device, the website should be responsive, resizing and fitting the screen accordingly. Additionally, the back end would require a database to store 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?*

* The system should distinguish between the user email and password, confirming input case sensitivity to enhance user protection. If a user inputs their information incorrectly a certain number of times, the system should alert the admin.

#### 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?*

* The system should enable users to be added, removed, or modified without changing the code, achieved through POST requests and controllers. It should adapt to platform updates by receiving requests from programmers. Additionally, IT admins need comprehensive access to user accounts, passwords, and the ability to remove unavailable employees.

#### 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, both students and administrators are required to enter their username and password to gain access. To ensure secure data exchange between the client and server, HTTP is required. In the event of a brute force hacking attempt, the administrator should be alerted after a set number of consecutive failed login attempts, which should be configurable between 1-10 attempts. After around four or five failed attempts, the system will lock the user's login access and alert the administrator. If a user forgets their password, they can request a password reset, and the system will send the reset information to their email address, allowing them to proceed with resetting their password.

### 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 confirm consumer selections from the three available packages and verify consumer details, including first and last name, address, credit card information, phone number, state, and more if necessary. It will be available solely online, with some materials accessible offline, such as study material. The system shall confirm the type of user logging in, whether a student or administrator and display the three types of packages suggested by the client. It will allow the client to disable packages if one becomes unavailable and display these disabled packages on the consumer side. The system shall also enable users to reset their passwords if needed, display exam progress and scores for students, verify user login information for access, and adjust to any DMV changes.

### 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.)?*

* What the User Sees: The user interface includes a Home Page, Exam section, access to Grades, and User Information for updating details like passwords and addresses. New users can access a Registration page. Users should also be able to see the status of their exams, any notes left by instructors, and contact information.
* What the Admin Sees: The admin interface includes User Information to delete or modify user details, such as resetting passwords if users forget them.

### 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?*

* It is safe to assume that the system will be accessible 24/7 and that the users will primarily be DMV students. Additionally, it is assumed that the system will stay up-to-date with any changes in DMV guidelines. Lastly, it is expected that an app version of DriverPass will be available in the future.

### 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?*

* Considering the project, there are a few limitations: The system requires a stable internet connection for access because without it, user data cannot be updated, added to the database, or accessed. Additionally, the project is constrained by the client's set budget and timeline. Since DriverPass is designed to help users study for their DMV exams, all materials and exams must align with DMV guidelines. Furthermore, the client currently has 10 cars, necessitating accurate scheduling for students.

### 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.*

*A screenshot of a computer

Description automatically generated*