# CS 255 Business Requirements Document Template

## 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 aim of this project is to create an improved system that allows students to engage in training to support their classmates during driving tests. The clients, Ian and Liam, plan to deploy a system that provides online courses and simulated examinations.

### 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 primary goal of DriverPass is to attain comprehensive accessibility of the system. The aim is to tackle the difficulties linked to the functioning of a system in both cloud and offline environments. The necessary components differ in terms of the degree of access granted to the different employees. As the superior, Liam is entitled to exclusively administrative privileges, which his IT officer lacks. There should be implemented security protocols to allow various users access to the system and monitor their authorized and restricted actions. They also want the system to track bookings, modifications, and cancellations, while offering a range of road training 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?*

* This system should enable users to generate, modify, or cancel appointments using DriverPass upon its full implementation. Users should have the ability to access up-to-date information about the DMV and take practice exams. In order to prevent unauthorized access by others, the administrative access must have the ability to monitor all users, including both employees and clients, to ensure proper functionality.

## 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?*

* Regular updates are necessary to fix any bugs or security breaches in the system, so it should be done frequently. Furthermore, if there are any revisions to the DMV regulations, they must be promptly updated to keep DriverPass students informed.
* The system must be accessible via the internet to operate.
* The system needs to function at a reasonable pace, as it must continuously exchange requests with servers. At DriverPass, the speed needs to be fast due to users undergoing exams, among other reasons.

#### 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?*

* To operate on web browser like Chrome, Microsoft Edge, and others
* If the website is viewed on a mobile device, it needs to adjust and fit the screen size appropriately.
* Information storage for the back end necessitates a database

#### 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 differentiates between the user's email and password.
* Having input case sensitivity is essential in order to provide users with protection.
* The system should notify the admin if the user enters their information incorrectly multiple times.

#### 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 must have the capability to add, remove, or modify users without requiring any changes to the code. To have access to this feature, you must include POST requests, controllers, and code implementation.
* The system adjusts to changes in the platform by accepting requests from the programmers.
* An IT administrator requires access to various resources like user accounts, passwords, and deactivating terminated 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?*

* Users, including students and administrators, must input their username and password to log in and gain access.
* HTTP is necessary in order to guarantee the security of the data shared between the client and the server.
* In case of a "brute force" hacking attempt, the administrator needs to be notified once a certain number of failed login tries occur in a row. The range for the number of permitted unsuccessful tries should be set at 1-10. Following four unsuccessful tries, two outcomes will occur: the user will no longer be able to access the login information input field, and a notification will be sent to the administrator.
* Should a user forget their password, they have the option to request a password reset. The system will then send the necessary information to the user's email address for them to complete the password reset process.

### 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 will verify the consumer's choice among the three packages selected by the client.
* The system will validate consumer information such as: customer's first and last name, address, credit card details, phone number, and state.
* Access to the system will only be available through the internet. Nevertheless, certain resources will still be accessible without an internet connection, like educational materials.
* The system will verify the user's role upon logging in, such as student or administrator.
* The system will show the three package types recommended by the client.
* The client can deactivate packages if one package is not available in the system.
* The disabled packages will be shown on the consumer side by the System.
* The system will enable users to reset passwords when necessary.
* The system will show the student's exam scores and progress.
* The System will verify user login details to grant access to information.
* The System will be adapted to accommodate any updates made by the DMV.

### 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 visual interface experienced by the user.**   
• Main Webpage   
• Test   
• Availability of Grades

• Updating personal information of users such as passwords and address.   
  
• Sign up (for new users)   
  
• The status of the exams should be visible to the user.   
  
• The user must have visibility of any notes from instructors and their contact information.   
  
• The contact information must be visible to the user.   
  
**What the administrator needs to view:**   
  
• User data can be modified or removed if the user has forgotten their password.

### 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 reasonable to expect that the system will be accessible around the clock.
* It can be presumed that the individuals will be students from the DMV.
* It is assumed that the system will stay current with any revisions in the DMV rules.
* There is an expectation that a DriverPass app will be released 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?*

When looking at the project, there are several constraints to consider, such as:

• A reliable internet connection is needed to access the system. Without a connection to the internet, it is not possible to update user data, add it to the database, or access it.   
• Another constraint is the client's allotted budget and schedule.   
• DriverPass is designed to assist individuals in preparing for their DMV exams, with all materials and tests following the guidelines set by the DMV.   
• The schedule must be updated accurately to account for the client's 10 cars and the 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.*

