# CS 255 Business Requirements Document

## 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 design a comprehensive system for DriverPass, a client seeking to address the lack of effective tools for training students to pass their driving tests. The system aims to provide online practice exams and on-the-road training to better prepare students for driving tests.

### 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 Goals:** DriverPass aims to offer online classes, practice tests, and on-the-road training to improve the success rate of students in driving tests.
* **Problem to Fix:** DriverPass wants to overcome the high failure rate (more than 65%) in driving license exams by providing more effective training tools.
* **System Components:** The system will include components for online classes, practice tests, scheduling driving lessons, user management, and connectivity with the DMV for updates.

### 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?*

* **System Completion:** The system should provide a user-friendly interface for online classes, efficient scheduling of driving lessons, secure data management, and compliance with DMV regulations.

**Measurable Tasks:**

* Develop an intuitive user interface.
* Implement a secure login system.
* Enable users to schedule driving lessons online.
* Facilitate efficient data management for DriverPass staff.
* Establish a connection with the DMV for timely updates.

## 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?*

* **Environments:** The system should run in web-based environments accessible from computers and mobile devices.
* **Speed:** The system should ensure quick response times for user interactions.
* **Update Frequency:** Regular updates from the DMV should be processed promptly.

#### 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?*

* **Platforms:** The system should run on various platforms, including Windows and Unix.
* **Backend Tools:** The system requires a database to support application functionalities.

#### 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?*

* **User Distinguishability:** The system should distinguish between users based on unique identifiers.
* **Input Sensitivity:** Input should be case-sensitive to ensure accuracy.
* **Problem Notification:** The system should inform the admin promptly in case of any issues.

#### 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?*

* **User Modifications:** Changes to user roles should be possible without altering the code.
* **Platform Updates:** The system should adapt to platform updates seamlessly.
* **IT Admin Access:** IT admin should have full access for system maintenance.

#### 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?*

* **Login Requirements:** Users need secure login credentials.
* **Secure Connection:** The system should secure data exchange between the client and the server.
* **Brute Force Handling:** After a "brute force" hacking attempt, the account should be temporarily locked.
* **Password Recovery:** Users should have the option to reset their password securely.

### 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:**
  + Validate user credentials during login.
  + Provide options for scheduling driving lessons online.
  + Allow modifications to user roles without altering the code.
  + Secure data exchange between the client and the server.
  + Temporarily lock an account after a "brute force" hacking attempt.

### 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.)?*

* **Interface Needs:** The interface needs to be intuitive and consistent.
* **User Categories:** Users include students, DriverPass staff, and IT administrators.
* **User Interaction:** Users will interact with the interface through web browsers on computers and 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?*

* **Not Addressed in Design:** Specific details about the appearance of the user interface have not been explicitly addressed.
* **Assumptions:** Users can access the system online, and a secure login system is in place.

### 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?*

* **System Design Limitations:** The system design might oversimplify complex interactions.
* **Resource Limitations:** There might be limitations in terms of resources, time, budget, or technology.

### 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*