# 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 objective of this project is to craft a comprehensive system for DriverPass aimed at aiding students in successfully passing their driving tests. The client, DriverPass, seeks to alleviate the issue of a high failure rate among driving test applicants by offering online practice exams and on-the-road training. The system is intended to bolster students' preparation, thereby increasing their likelihood of passing the driving test.

### 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 endeavors to construct a system that provides online practice exams and on-the-road training to combat the issue of a high failure rate among driving test applicants. The system will furnish a platform for students to access various practice exams, educational materials, and schedule on-the-road training sessions. Essential components for this system include online platforms, educational content, scheduling tools, and user management features.

### 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?*

* Establish an online platform for accessing practice exams and educational materials.
* Deliver interactive educational modules to enhance students' understanding of driving laws and regulations.
* Facilitate scheduling and access to on-the-road training sessions with certified instructors.
* Elevate the success rate of students passing their driving tests.

## 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 must operate in web-based environments to ensure broad user access.
* Ensure minimal response time for loading pages and processing user requests to enhance user experience.
* Schedule regular updates to incorporate any changes in driving regulations or exam formats.

#### 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?*

* Ensure compatibility with multiple platforms, including Windows, MacOS, and various mobile operating systems.
* Utilize a robust database system for efficient handling of user data, exam content, and scheduling information in the backend.

#### 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?*

* Ensure accurate user authentication to prevent unauthorized access.
* Implement case-sensitive input to maintain data integrity.
* Promptly notify administrators of any technical issues or anomalies.

#### 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?*

* Facilitate user management without code alterations, allowing easy addition, removal, or modification of user accounts.
* Integrate updates seamlessly to maintain system functionality and security.
* Grant IT administrators privileged access for managing system configurations and addressing technical issues.

#### 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?*

* Require secure authentication methods, such as passwords or biometric verification, for user login.
* Encrypt data exchange between clients and servers to protect sensitive information.
* Implement temporary lockout after a defined number of failed login attempts to mitigate brute force hacking attempts.
* Establish password recovery mechanisms to securely assist users who forget their credentials.

### 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.
* The system shall provide access to a variety of practice exams covering different driving scenarios.
* The system shall offer interactive educational modules for theoretical training.
* The system shall include virtual driving simulations for practical training.
* The system shall facilitate scheduling and access to on-the-road training sessions with certified instructors.

### 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.)?*

* Design an intuitive and user-friendly interface to cater to students, instructors, and administrators. Each user group should access features tailored to their needs. Students should access practice exams, educational modules, and virtual simulations via a web-based interface. Instructors need scheduling tools and student progress tracking features. Administrators require comprehensive management capabilities for overseeing user accounts, content management, and system configurations.

### 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?*

* Assume users possess internet-connected devices meeting system requirements.
* Ensure adherence to relevant regulations and standards governing driving education and examination processes.
* Presuppose that training content provided by DriverPass meets requirements outlined by driving regulatory authorities.
* Allocate adequate resources and support to maintain system functionality and address technical issues.

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### 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?*

* Budget and resource limitations may impact the scope and timeline of system development.
* Technical constraints, such as compatibility issues with older devices or browsers, may restrict user accessibility.
* Time constraints may necessitate prioritization of features and development phases.

### 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 graph with red lines

Description automatically generated with medium confidence