# 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?*

* Client: DriverPass.
* Provide students with access to online classes, practice tests, and on-the-road driving lessons.
* System should allow students to make, change, and cancel lesson reservations.
* System should let staff manage appointments, track activity, and maintain security.

### 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?*

* Current problem: Many students fail driving tests after only studying old tests.
* Goal: Combine online learning and practice tests with real-world driving lessons.
* Components mentioned:
  + Online course platform with practice tests.
  + Scheduling/reservation system for lessons.
  + Driver and vehicle assignment tracking.
  + Reporting and activity tracking.
  + Role-based account management.
  + DMV update connection for rules and test changes.

### 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?*

* Allow lesson reservations online or through the office.
* Track who made, changed, or canceled reservations.
* Match customers with drivers, times, and vehicles.
* Allow instructors to add lesson notes.
* Keep online content aligned with DMV requirements.

## 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?*

* Web-based system running from the cloud.
* Accessible from computers and mobile devices.
* Capable of downloading reports for offline work in Excel.

#### 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 is accessible through common web browsers on Windows-based office computers.
* Use standard 256-bit SSL encryption for secure communications.
* Operates with a single backend SQL database for storing all system data.
* Requires valid HTTPS certificates for secure web access.
* The company office environment will use a single standardized platform for all staff workstations.

#### 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?*

* Role-based permissions to distinguish between users (owner, IT officer, secretary, student, driver).
* System records activity for reservation changes and cancellations.
* Use case-sensitive passwords but case-insensitive usernames.
* Notify the admin if there are repeated failed login attempts from the same account.
* Maintain detailed logs for all system transactions and changes.

#### 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?*

* Owner can disable a training package when desired.
* IT officer can add/remove/modify user accounts.
* System automatically adjusts layout and display for mobile, tablet, and desktop devices.
* Minimize downtime for updates by scheduling them during off-hours.

#### 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?*

* Role-based access rights.
* Ability to block access when an employee leaves.
* Password reset functionality for users.
* Two-factor authentication for admin and IT accounts.
* Limit login attempts and lock out accounts after repeated failures to prevent brute force attacks.
* Audit log of security-related events and changes.

### 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 students to register and provide personal and payment information.
* The system shall allow customers to select from training packages.
* The system shall allow students to schedule, modify, and cancel lessons online.
* The system shall allow staff to schedule appointments by phone or in person.
* The system shall track driver, car, time, and student for each appointment.
* The system shall record and display test scores and lesson notes.
* The system shall connect to DMV for updates.

### 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.)?*

* Users: owner, IT officer, secretary, students, drivers.
* Online test progress page showing test name, time taken, score, and status.
* Driver notes page with lesson time, start/end hours, and comments.
* Forms for entering student information.
* Contact pages for both the company and students.

### 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?*

* All users (staff and customers) will have internet access when using the system’s online features.
* Staff will receive basic training on how to use the system.
* The system administrator will be responsible for updating DMV content as needed.
* The cloud hosting provider will maintain regular backups and security measures.
* Customers will have access to a device capable of running a standard web browser.

### 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?*

* The system’s online features will not function without an active internet connection.
* First release will not allow non-developers to add or remove system modules.
* System performance depends on the reliability of the cloud hosting provider.
* Budget and timeline may limit the inclusion of advanced features in the initial version.

### 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 calendar

Description automatically generated