# 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 create a new system for the client, DriverPass. DriverPass is taking advantage of a void in the market to provide students with a better training experience so they can pass their driver exam at their local DMV.
* DriverPass is owned by Liam, and he is joined by his IT officer, Ian.
* Their vision for DriverPass is to improve driver training by providing customers with online classes and practice exams, as well as offering an option of on-the-road training.

### 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 wants to improve the current drivers training system for students taking a driver’s test at the local DMV. They want to improve the success rates of clients passing their drivers’ exam. This includes access to online classes and a practice exams platform which will be accessible from any computer or mobile device. The option for customers to book on-the-road training. The platform will allow for tracking and the ability to print activity reports. DriverPass system will have different levels of access for user types. It will also receive updates from DMV on policy rules, updates, and questions.

### 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?*

* Once the system is completed, it should be able to:
  + Create user profiles.
  + Allow different access levels to profiles.
  + Allow user booking options such date, times, driver, package choices, etc.
  + Provide a platform for online classes and practice tests.
  + User friendly interface, adhering to owners’ vision sketch.
  + Show customer progress reports.
  + Cloud-based services.
  + Have internalized security and backup measures.
  + Allow the owner to download data for offline usage.
  + Allow for owner tracking.
  + Allow the owner to reset passwords.
  + Provide notifications for DMV test changes.
  + Minimal technical issues.

## Requirements

### Nonfunctional Requirements

#### 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 platform which should be accessible from any computer or mobile device. Preference for cloud-based services.
* Preference for web-based cloud services with internalized backup and security.
* The platform should have a user-friendly interface with a quick system to display immediate feedback on test scores and a scheduling system for on-the-road training.
* The system should be frequently updated as to accommodate for changes in User status, software improvements.
* Platform must have ability to be connected to DMV and receive notifications for updates, rules, policies, and questions.

#### 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?*

* Platform should web based with cloud-based services. This should include all platforms such as windows, Linux, mac, android, etc...
* Back end requires a database management system to store system and user information.
* Back end requires the use of an application programming interface to allow communication between applications.

#### 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 types will have different levels of access:
  + The owner and IT officer will have overall access to allow for disabling packages and resetting user passwords.
  + Staff Users will have access to schedule appointments and fill in customer information.
  + Customer Users will have access to make and schedule reservations, access to test scores and updates, as well as access to drivers notes.
* Roles will be assigned when the user is registered.
* Input is case-sensitive for improved secure user authentication.
* Admin should be informed immediately of a problem in the system.

#### 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?*

* Select changes to Users can be made without changing the code, such as the ability to reset passwords and update user status.
* The system will adapt to platform updates and the ability to disable packages that are no longer needed.
* IT admin will have overall access to maintain the system.

#### 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?*

* A username and case sensitive password with two factor authentication are required to log in.
* If there is a brute force hacking attempt, the account will be frozen, and admin will be notified.
* If a user forgets their password, a forget password link will be provided to alert admin users for a need to update 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 allow users to register with unique usernames and case sensitive passwords.
* The system shall assign user roles.
* The system shall allow admin to update learning materials as per DMV updates.
* The system shall allow admin to disable packages.
* The system shall display three learning packages for customers to purchase.
* The system shall provide a web-based platform with learning tools, practice exams, and progress tracking.
* The system shall provide user tracking and activity reports.
* The system shall allow the option for on-the-road lessons.
* The system shall allow for users to schedule on-the-road lessons with the option to choose a driving teacher, lesson time, pickup/drop-off location, as well as give driving teacher feedback and notes.

### 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 user interface needs to be user friendly with options for account management, learning material, exams, progress tracking, and on-the-road scheduling services.
* Admin users will need the following:
  + Allow users to reset passwords.
  + Able to remove packages.
  + Access to customer contact information and database.
* Staff users will need the following:
  + Access to customer information to assist in scheduling on-the-road drives.
  + Access to driver notes to provide customer feedback.
* Customer users will need the following:
  + Ability to register and select learning package.
  + Display customer information, special needs, and a customer photo.
  + Online learning tools, including material, exams, and instant exam results.
  + Progress and test scores to include what is in progress versus complete. This will display test name, time taken, score, and status (not taken, in progress, failed, or passed).
  + Platform will display driver photo, notes, lesson times, and driver comments.

### 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?*

* The system will be user-friendly, assuming users have basic knowledge of computer skills.
* Assuming users have 24/7 web access.

### 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?*

* Admin users will not be available 24/7 to reset passwords.
* Limits to number of staff drivers and cars available to perform on-the-road driving lessons.
* Limits in flexibility of site changes, only allowing admin to update learning questions, disable packages, and update passwords.

### 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 chart with multiple colored boxes

Description automatically generated with medium confidence