# 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?*

* DriverPass is a company that wants to train students for their driving test at their local DMV. The company wants their training to be accessible online and to have practice tests available. They also want to provide on-the-road training when requested.

### 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 system must allow online access to data from any place in the world.
* Can only update/modify the date when online.
* Different levels of user access
* Logs have every action made to the system, who made a reservation or canceled it, and the user who modified it last
* System must have access to the DMV policies.
* Use the cloud for the system.

### 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?*

* Customers can schedule an appointment online themselves.
  + Cancel or modify their lesson.
* Employees can schedule customer appointments.
* Appointment must show which driver is listed for the lesson and which car.

## 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 be web-based to allow users to access their classes online. Should run over the cloud.
* The system must be accessible anywhere online to be updated routinely to keep up to date with the DMV’s rules, policies, and sample questions.
* The system should run relatively fast to allow constant connection as a user drives.

#### 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 should run on Windows to allow users to look up DriverPass from their phone, computer, laptop, etc.
* The backend would require 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?*

* Each user needs to log in to their account using their username and password.
* The username is not case-sensitive, but the password must be.
* The system must notify the admin of a problem immediately after it occurs.

#### Adaptability

*Can you make changes to the user (add/remove/modify) without changing the code? How will the system adapt to platform updates? What type of access does the IT admin need?*

* An admin can modify a user account without changing the code.
* The system will need to go offline while uploading updates.
* The IT admin will need full access to the system, same as the business owner.

#### 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?*

* There must be different levels of access; users with access only to their account and the classes they enroll in, admin with full access to the entire system and user accounts, and logger needs access to the data logs. Their secretary would need scheduling access only.
* If the user forgets their password, they must be able to automatically reset it. This can be done with authentication, i.e. security questions or generating a code to their number or email address.
* Admin can reset passwords for users, and block access to users when they are no longer with DriverPass.
* The connection would be secure with HTTPS
* After a brute force attack, IT and the user should be notified, logs should show what happened and the user password must be changed.

### 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 when logging in
* The system shall allow users to make appointments for driving lessons.
* The system shall show the driver the customer is scheduled with, the time, and the car
* The system shall show customers the different packages DriverPass offers and the details that go with it.
* The system shall notify admin of new updates available.

### 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 interface should show the customer their online test progress which shows the tests they took. It should show what is still in progress as well as what has been completed.
  + Specifically it shows the test name, time taken, score, and status
  + Different status; not taken, in progress, failed, passed
* It needs to show driver notes for each lesson, i.e. their comments/tips/concerns to the customer.
* The user will interact with DriverPass in multiple ways through Windows browser; phone, laptop, iPad, etc.
* The interface changes based on different users; user, admin, secretary, or logger.

### 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 interface is changing based on different user access.
* The system will validate user credentials.
* The system will be secure through HTTPS.
* The system will go offline when uploading updates.
* The username is not case-sensitive, but the password must be.
* The system should run relatively fast to allow constant connection as a user drives.

### 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 time and budget the client can afford.
* There are only 10 cars, so only so many students can have a lesson at a given time.
* The DMV guidelines can limit the system as it would need updated every time.
* Internet connection is required for the system.

### Gantt Chart

