# CS 255 Business Requirements Document Template

## System Components and Design

### Purpose

The client is DriverPass, a small company that provides driving practice for those preparing to take their driving test at the Department of Motor Vehicles (DMV). They would like their system to be able to make reservations with them for driving lessons as well as allow the user to take practice tests. The system will also hold the user’s information such as photos and notes, that can be used to assist them in their studies.

### System Background

DriverPass would like the system to allow the user to thoroughly study for their driver’s test before going to the DMV to take it. The problem that they are trying to solve is the large number of people who fail their driving test at the DMV, so they are attempting to make a system where people can practice driving and test-taking before taking the actual test, in hopes of improving the user’s final score. The different components needed are a reservation system and a way to hold the information (in this case they opted for cloud storage).

### Objectives and Goals

This system must be able to track users, hold data both online and make it accessible for offline use, create reservations, have a testing system that tracks progress, and allows the people on the service side to set privileges for access. By the end of development, the system should be usable by driving students to log in, create reservations, take practice tests, and upload notes as well as pictures. The administrators should be able to set access permissions, view reports of any important non-sensitive data, and handle any technical issues within their control that the users may have.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

The system should be web-based and able to support a variety of browsers and operating systems. The system ideally should be run through the cloud so that DriverPass does not need to handle backup and security themselves. The system should be updated whenever DMV requirements change, in which case DriverPass will receive a notification and make the necessary updates. While speed is not the main concern with this system, given that it is targeted toward a teen audience, the system should run fairly quickly.

#### Platform Constraints

Since individuals with various types of devices can use this service, the system should be capable of support as many platforms as possible, starting with the most popular ones being Windows and MacOS. A database will be required for keeping track of usernames and passwords, while registrations and other non-sensitive information can be sent as reports via email or viewable via an administrative side (Liam prefers to sort the work at home through applications such as Excel, this would allow him to do so).

#### Accuracy and Precision

Users must log-in to the site to view their dashboard and other account information. The system should be case-sensitive as it will allow for additional security measures, more complex passwords, as well as more username options. Administrators should be informed of an issue when too many password attempts are made, additionally, the user should be “locked out” of their account until an administrator confirms that their account has not been compromised.

#### Adaptability

User information should be able to be manually modified, removed, or added through the database that will store user accounts, no actual code for the website should need to be changed during this process. The IT administrator will need to be able to disable packages when needed, but otherwise, changeable modules have been postponed for a later version. The system should be simple enough to retain functionality throughout various platform updates at least for the foreseeable future.

#### Security

An email address (which will act as a username) and password will be required to login. Dual authentication is an option will applications such as Duo Mobile if DriverPass would prefer to add it as an option. Data sanitization should be included in the system as to prevent database breaches or other exploitations. In the case of brute force hacking, an account should be “locked” after a set number of attempts, and should not be unlocked until the administrator validates that the account has not been compromised. In the case of a user forgetting their password, there should be an option to reset it via email, or they should reach out to DriverPass to have the IT Technician manually reset it.

### Functional Requirements

* The system shall validate user credentials when logging in
* The system shall sanitize user input
* The system shall notify administration when number of sign-in attempts is exceeded
* The system shall lock the user’s account until it is manually unlocked by the IT Technician
* The system shall provide practice tests for the user
* The system shall intake user reservations
* The system shall add reservations to the report
* The system shall intake and store pictures and notes that the user uploads
* The system shall store user non-sensitive information via Cloud storage
* The system shall store account information via database

### User Interface

The interface must be interesting, user-friendly, and cultivate user involvement. Although teens are most likely to be using the website, individuals of any age may be taking their driver’s test. Users may wish to study “on the go”, so the website should be easily accessible on mobile. It should be clear for users how to make reservations as well as how to take a practice test and upload notes and pictures. The interface should have color to it to keep interest and a sleek design that is mobile adaptable.

### Assumptions

Some assumptions are:

* The user is of driving age
* The user is a capable candidate for driving
* The user has a driving permit preceding making reservations
* The user is technically literate and able to use basic web applications
* The user lives within a reasonable distance of the DriverPass base if making a reservation
* The user has a device to access the website on
* The user has a working internet connection
* DriverPass will have and maintain a working internet connection

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### Limitations

* DriverPass is a small team so the number of reservations they can keep is relatively low
* DriverPass does not have a developer on their team, so technical maintenance should remain simple
* The system requires an internet connection
* The system requires a device to access it from both the user and administrator side

### Gantt Chart

