# CS 255 Business Requirements Document

## System Components and Design

### Purpose

* The client is DriverPass
* They are seeking a program to schedule driving lessons with one of their ten drivers either online or in person
* They are seeking a system to handle student information and progress on their tests in order to help them prepare for their driver’s license exam
* The system will also need to allow students to securely place and pay for reservations with drivers for practice
* They want the system to accurately reflect all current DMV regulations

### System Background

* The goal of the system is to allow multiple levels of employees as well as end users to schedule appointments for driving lessons
* They are trying to solve the problem of security and scheduling hassles by having the system do it for them
* In the end, driving lessons should be able to be scheduled in person or online for any one of several different available packages
* There should be a scheduling component that holds information about driver schedules and driving packages. It can use this information to compare the schedule to the time needed for the package and allocate an appropriate time slot if available
* There should be a testing component that holds test scores and student information. It can then update the test scores assigned to each student as the driver proctors their exam or their online test results post
* There should also be a central cloud based back-end component that securely holds most of the data. This information can then be securely passed to different parts of the application as needed

### Objectives and Goals

* The system should be able to add, remove, or edit reservations depending on system permissions and verify that a driver is available for that time slot
* The system should collect driver’s personal information, showcase notes for the driver, and list the current test progress
* The system needs to stay up to date with DMV policies and regulations
* The system must allow the selection of different packages as well as the ability to disable them as needed
* System must be portable and work on mobile devices, computers, and directly integrate with Excel
* System needs to hold data centrally and only pass it to other components securely and as needed
* The system should allow both an in person and an online reservation

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* The system needs to run as a desktop application as well as a mobile application. The information should also be accessible through a secure web portal
* The system should be updated routinely to prevent redundant data and ensure the system follows DMV protocol

#### Platform Constraints

* The system should run on Windows and Mac for desktop applications, Android or iOS for mobile applications, and chromium based browsers for the web portal
* The back end requires a JavaScript application and a central MySQL database in order to communicate and store records between platforms
* The back end also requires a connection to the DMV database as a means to pass DMV updates to the application automatically

#### Accuracy and Precision

* Users can be distinguished through the user of a case-sensitive username and password verification system
* If a user fails to log in after 5 incorrect login attempts, the application will inform system administration
* Logging in will reset the incorrect login attempt counter

#### Adaptability

* The system administrator will have full access over all user and staff accounts allowing them to add users, remove users, and reset passwords
* The secretary will also have access to adding reservations to other user’s accounts in order to enable in person or over the phone reservations
* The system administrator will also have access to enabling or disabling certain modules and packages as DriverPass changes their offerings
* Modifications will be handled through change requests sent to the central MySQL database to ensure all platforms receive update information

#### Security

* The user must know their case-sensitive username and password in order to log in
* The user has 5 attempts to log in to their account. Any subsequent attempts will notify system administration and lock their account
* Users can request a password change to their account by providing additional security information such as date of birth or security questions and contacting system administration
* Log in information regarding device type and location is recorded when logging in, for use by security when a hacking attempt is suspected
* The application should check in the background every 30 seconds to ensure that no permissions or data have changed in the central database
* The system should also keep a record of any modifications to user accounts as well as reservations and allow a report to be printed out

### Functional Requirements

* The system shall validate user credentials against their hashed value in the central database when logging in
* The system shall allow no more than 5 incorrect log in attempts before the account needs to be unlocked by administration
* The system shall log any invalid login attempts as well as the device used and its location
* The system shall allow the user to register for any one of three packages either through the application itself or by contacting the secretary
* The system shall keep a record of any driver notes for the student as well as basic personal information in a central database
* The system shall update in the background every 30 seconds and validate itself against the data in the central database
* The system shall allow administration to enable or disable packages as needed
* The system shall keep a log of reservation activity such as who made a reservation, who canceled it, and who modified it
* The system shall be able to be accessed from a desktop, mobile, or web application

### User Interface

* The interface will be used by both students and staff members
* Users will interact with the interface through the use of a cloud-based web portal
* Students and staff will need to be able to see driver notes, student personal information, any special needs, photos of both the driver and student, as well as the current overall progress of the testing
* Students will have view only access to all fields except student photo and personal information which they will be able to update at any time
* Drivers will be able to only view student information and photos, however, will be able to update driver notes, the driver photo, and the test progress
* System administration will have access to updating all fields

### Assumptions

* We assume that both the driver and student have a steady internet connection in order to connect to the portal to view and make changes
* We assume that both the driver and student have smart devices capable of opening the web portal using a current chromium browser or application

### Limitations

* The system requires an internet connection in order to update any system information or records
* The system will require a developer in order to completely remove or add a driving package rather than enabling or disabling it
* The system will not always be able to prevent malicious logins due to keyloggers or location spoofing that may make it difficult to identify the issue
* The system will be unable to account for sudden changes in driver availability such as sickness or vehicle failure

### Gantt Chart

A screenshot of a project

Description automatically generated