# CS 255 Business Requirements Document

## System Components and Design

### Purpose

* The purpose of this project is to develop an all-around, web-based platform for our client DriverPass to help people pass their driving tests.
* They want their system to be able to:
* Take online classes and practice tests.
* On-the-road training reservations
* Data access from anywhere mobile or PC.
* Secure user management.

### System Background

* The problem DriverPass wants to fix is high failure rates at the DMV due to neglected driver education.
* They hope to provide educational content like practice tests, lessons, and on-the-road training sessions.
* Ability to schedule driving lessons with 6, 8, or 12 hours of lessons.

**Components:**

* Online classes and practice exams – Access to DMV training and questions.
* Scheduling – Handle lesson bookings and cancellation or appointment changes.
* User role management – Each user has different levels of access.
* Tracking – Track reservations and activity reports.

### Objectives and Goals

* Objective 1 – Web-based, multi-platform access. The system will allow customers and staff to log in and manage their data from multiple different devices.
* Objective 2 – Role-based security. Different access levels for different users depending on their status like owner, customer, etc. Allows IT to reset passwords and manage settings.
* Objective 3 – Comply with DMV updates. The system will be connected to a DMV database for rules, policies and questions that will be continuously updated.
* Objective 4 – Package movement. The system will allow the IT officer or owner to disable a package and the system will also be able to change packages or add new ones.
* Objective 5 – Driving lesson reservations. Allow users to schedule lessons for their package. The system will match drivers, cars, and times to each reservation.
* Objective 6 – Tracking and reporting. The system will track any scheduling activity such as new reservations, cancellations, or modified appointments. It will also create reports of each customer’s test progress.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* The system needs to web-based and accessible through web browsers on both computers and mobile devices.
* The system will be updated at least once every quarter or when the DMV makes any notable changes to be sure that any changes to learning lessons or policies are integrated quickly.
* Data retrieval and page loading should take less than 3 seconds in ideal conditions.

#### Platform Constraints

* The system will use cloud-based tools such as a relational database like MySQL to store info. It will also have cloud hosting for the backend such as AWS or Azure.
* The system should be compatible to run on Windows, IOS, Linux, macOS, and Android.

#### Accuracy and Precision

* To distinguish between different users the system will give each user a unique username and password, with case-sensitive inputs for passwords but not usernames.
* The system will inform the admin if a reservation won’t process due to time conflicts, card issues, etc. or if any inconsistencies occur.

#### Adaptability

* Admins and IT officers can make changes to users without changing the code. The IT admin will need the highest level of access, being able to reset passwords, disable accounts and do maintenance.
* The system will easily adapt to updates due to the system being cloud-based so there will not be major downtime during updates.

#### Security

* Valid credentials are required for users to log in. The data exchange will be secured by encryption to protect sensitive info. If there is a brute force attempt the system will lock the account and alert the IT officer.
* If a user forgets their password, they can reset it by confirming their email or number. The IT officer can reset it as well if necessary.

### Functional Requirements

* The system shall let users create accounts to store their information.
* The system shall give the IT officer the ability to disable accounts and reset a user’s password.
* The system shall let customers schedule, modify, and cancel appointments online.
* The system shall match that appointment with a driver and their selected timeslot.
* The system shall have three packages that customers can choose from that can also be disabled if it is no longer offered.
* The system shall process and confirm payments through an integrated secure payment vendor.
* The system shall have a downloadable log of all reservations or modifications made to reservations.
* The system shall connect to the DMV data sources to promptly update sample questions, rules, and policies.

### User Interface

* The users would be the customer, owner, IT officer, and secretary.
* The customer will be able to register their account, schedule and cancel lessons, and access practice tests in their UI.
* The owner user interface will have an overview of financials and system usage.
* The IT officer user interface will give them access to user management to block or reset accounts and system logs.
* The secretary user interface will let them schedule on behalf of customers. They will also be able to edit or cancel reservations and input new customer info.
* The UI will be compatible in both mobile and web browser.

### Assumptions

* The system design will assume that the user has stable internet access.
* The system design will assume that the DMV gives prompt updates to their database.

### Limitations

* Scalability - Large spikes in users could require additional investments of the infrastructure.
* Time and budget– Making advanced customization to UI and the addition of more packages will likely have to be held off for a later release because of the budget and time constraints.
* Offline data editing – Changing reservations or user data will not be possible if the user is offline to prevent version conflicts and data redundancy.

### Gantt Chart

*A close-up of a calendar

Description automatically generated*