# CS 255 Business Requirements Document

## System Components and Design

### Purpose

* The purpose of this project is to develop a robust system that enhances student preparation and increases the pass rate on driving tests by at least 30%.
* Liam, the owner of DriverPass, requires online resources so customers can select from various driving packages to improve their skills.

### System Background

* The background of the proposed system is provided to offer student drivers online classes, practice tests, and on-the-road training to prepare them for their driving tests.
* Liam would like to fix the problem of a large number of students failing their driving tests before passing.
* The components needed for the system are:
  + Tracking user activity, such as creating, modifying, and cancelling reservations.
  + Conducting password resets for employees.
  + Collecting customer information, including contact information, credit card numbers, and pick-up and drop-off locations.
  + Implementing multiple employee roles and the ability to manage user accounts.

### Objectives and Goals

* Once the system is completed, it should be able to:
  + Provide customers with online classes, practice tests, and on-the-road training.
  + Allow online access to system data from any device and be able to download reports for offline work using Excel.
  + Allow customers to reset forgotten passwords automatically.
  + Allow customers to make, cancel, and modify reservations for online driving classes.
  + Disable existing packages and add new ones.
  + Show online test progress, including test name, time taken, and the status of the test. The status will be displayed as not taken, in progress, failed, or passed.
  + Display driver notes and lesson times in an organized format.
  + Allow customers to connect with the DMV for new updates.
  + Print and download activity reports.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* The system needs to run in a web-based environment.
* The system should deliver quick response times to ensure smooth performance.
* The system must handle many concurrent users without slowing down.
* The system should be updated monthly to ensure bug fixes and security improvements. The DMV guideline changes are necessary to ensure students have the correct information on DriverPass.

#### Platform Constraints

* The system must be compatible with Windows and other platforms.
* The system must run on Safari, Chrome, and other mobile browsers.
* The back end must operate on a cloud-based database to ensure data consistency and store information without any issues.
* The website must fit the screen on any device.

#### Accuracy and Precision

* The system will separate logins between the students and administrators.
* Passwords are case-sensitive.
* The system should maintain a high level of data accuracy. Calculation and reporting functionalities should produce accurate results.
* The admin should be informed when the user inputs the password too many times.

#### Adaptability

* The system should allow users to be added, removed, or modified without changing code. To utilize this functionality, you would need to write code, send POST requests, and implement controllers. This adaptability is crucial for the system’s effectiveness.
* The system adapts to platform updates by receiving any requests from the programmers
* The IT admin must be able to have access to user accounts, update passwords, and remove former employees.

#### Security

* Users, both students and admins, require a username and a password to use as their login credentials.
* To secure the connection between a client and a server, the system requires an SSL encryption. This process initiates a handshake between two devices, which will be used to protect data from hackers.
* If there is a “brute force” hacking attempt, the account should temporarily be locked, and the administrator should be alerted after a certain number of failed attempts.
* Users, both students and admins, who have more than five failed attempts will have their accounts locked, and they will be asked to validate their user account information.
* To recover access to their accounts, there will be a “Forgot Password” link to reset their password.

### Functional Requirements

* The system shall require a user to enter their credentials when logging in.
* The system shall run in a web-based environment.
* The system shall allow users to download exams to work offline.
* The system shall track user activity, such as creating, modifying, and cancelling reservations.
* The system shall allow new users to register for their new account by entering their first name, last name, address, phone, state, and payment method.
* The system shall allow users to reset their passwords if they forget them.
* The system shall add another layer of security by asking users to enter and validate their security questions and answers.
* The system shall provide users with three types of course packages and disable full ones.
* The system shall provide content that adheres to the DMV’s latest policies and procedures.
* The system shall notify the admin of any updates to the DMV requirements.
* The system shall allow users and instructors to contact each other by email or phone.

### User Interface

* The system’s user interface must be easy to navigate for all users, new and existing.
* The system is web-based, so that the user will interact with the interface through browsers on any device, including Windows and iOS.
* The system must have a dashboard for the user, offering easy access to progress tracking, reporting, and instructor details. They will also see their current exams, the status of their exams, and their grades.
* The user should be able to see the home page where they will view the DriverPass packages, input the payment method they will use, and purchase one of the packages.
* The user must also see their info page, where they can view their driver notes, test progress, and contact information.
* New users should view the registration page, where they will create their account with their username and password. Returning users will log in with the same login credentials.
* The user will also see the instructor page, where they will find notes and contact information from their instructors.
* If a user forgets their password, and they click on the link to reset it, the administrator will see the user’s information, including the email address used to create their account, so that the admin can send it to the user.
* The admin can access and remove DriverPass packages if they are full.
* The admin will have access to customer information, including the packages they purchased, their names, dates and times of their driving lessons, and their drivers.

### Assumptions

* It is assumed that all users have a good internet connection
* All users have updated their web browsers to access the interface.
* All users have functioning computers or mobile devices.
* The server has sufficient bandwidth to support concurrent users for the service.
* All users have sufficient power to use the system.
* All users have an email address to create their accounts.
* All users have varying driving skills. Therefore, the system should have a wide range of skill sets for students, including options for beginners.

### Limitations

* The system requires a stable internet connection for full access. Without it, updates may be delayed.
* The time it will take to complete the system is limited to 5 months.
* The budget is not specified, and the project faces financial constraints. The project must establish a clear budget, as this will enable the client to work towards achieving the project’s goals.
* The client has ten cars, so there will be a waitlist for students who have registered for their tests.
* The DMV guidelines must keep up with the updates, because if the system is not updated correctly, the guidelines will be shown as outdated.

### Gantt Chart

A close-up of a gantt chart

AI-generated content may be incorrect.