# DriverPass Business Requirements Document

## System Components and Design

### Purpose

* Client: DriverPass
* Provide a driving course to help students pass the driving test, reducing the number of failures at the DMV.

### System Background

DriverPass has noticed that too many drivers fail their first driving test. They would like to offer a course to increase the passing rate of first-time drivers. This is what they plan on offering:

* Provide an online system to assist with the driver training.
* Offer online courses and practice tests.
* Offer on-road training.
* Provide an online dashboard for students to interact with.

### 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?*

* Implement online courses and practice tests.
* Implement a secure and accessible web-based platform on cloud infrastructure.
* Implement new student creation.
* Track in person driving classes. (notes, car, instructor, reservation)
* Access data online from a computer or mobile device.
* Provide exportable reports in csv format for admin.
* Establish a role hierarchy for system administration.
* Keep track of reservation creations, updates, and fulfillments.
* Verify student and instructor identity.
* Provide notification of DMV updates.
* Provide easily updatable packages for future changes.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* The system should be web-based with a robust API to be accessible either by computer or mobile device.
* The system shall maintain efficient response times for user interactions, with a goal of responding withing 3 seconds of common tasks.
* System updates should be scheduled bi-weekly during low-traffic hours, ensuring minimal user disruption.
* The system should be designed to scale with an increased concurrent user load of 500 users during peak usage hours.

#### Platform Constraints

* The system should be designed to operate as a cloud-based application, using the infrastructure and services provided by a major cloud platform such as AWS or Google Cloud.
* The back end must seamlessly integrate with the chosen cloud platform’s database tool, ensuring scalability, reliability, and easy maintenance.
* The system should employ a robust API ensuring compatibility with major web browsers and access from mobile devices.

#### Accuracy and Precision

* User identification should be case-sensitive, ensuring precision in recognizing individual users.
* The system should notify administrators of any data inconsistency or error in real-time for monitoring of data accuracy.
* Precision in recording lesson times, instructor comments, and user interactions is crucial for reliable records of driving sessions.
* Daily backups of the system data should be performed each night to maintain precision and data accuracy.

#### Adaptability

* The system should provide support for non-developers to add, remove, or modify user roles though an administrator interface.
* Adaption to updates of the cloud infrastructure and external dependencies should be seamlessly managed to guarantee system stability and security.

#### Security

* User login should require a combination of a unique username and a securely hashed password, following industry best practices.
* Data exchange between client and server should be encrypted using HTTPS to ensure confidentiality and integrity of user data.
* The system should implement an account lockout mechanism after 3 failed login attempts.
* A password recovery process should be implemented, incorporating a secure user verification method.

### Functional Requirements

* The system shall validate user credentials during login, encompassing a combination of username and password verification.
* The system shall capture details during new student registration, including but not limited to first name, last name, address, phone number, state, credit card number, expiration date, and security code.
* The system shall track and manage in-person driving classes, including driver notes, car details, instructor information, and reservations.
* The system shall allow online access to data from any computer or mobile device, ensuring flexibility and convenience for users.
* The system shall support easily updatable packages for future changes, offering adaptability and customization in course offerings.
* The system shall deliver notifications of DMV updates to the admin and instructors to ensure the timely adaptation of course content, keeping it current and aligned with regulatory standards.

### User Interface

* The interface should be created to cater to the different types of users, including students, instructors, and administrators.
* The user’s role should be clearly identifiable, ensuring that each user has correct access to their required functions.
* The interface should be compatible with web browsers and mobile devices, with a focus on seamless use across the different devices.
* The design should align with DriverPass’s specific requirement, incorporating the sketch provided by the owner.
* The interface should provide an easy-to-use UI for:

DASHBOARD

-Online class/test progress

-Driver Notes

-Student Information

-Student Photo

-Instructor Photo

-Special Needs

SEPARATE PAGES:

-Reservations

-Contact information

### Assumptions

* Users are assumed to have consistent access to a stable internet connection throughout their interactions with the system.
* The system will be hosted on a reliable and scalable cloud platform, ensuring optimal performance and accessibility.
* Users are expected to possess basic knowledge of web navigation and proficiency in using online tools.

### Limitations

* The project operates within a predefined budget, influencing the scope of development and ongoing maintenance.
* The system's initial focus is on essential features, with potential expansion and refinement in future iterations based on user feedback and evolving requirements.
* The system will have the potential to not support certain browsers, requiring users to use the recommended browsers.

### Gantt Chart

