# DriverPass Business Requirements

## System Components and Design

### Purpose

* The purpose of this project is to develop a new system for our client, DriverPass.
* DriverPass is a company who is focused on providing better driver training and aims to fill a market void in training students for their driving tests at the DMV.
* The system will offer online classes, practice tests, and on-the-road training.

### System Background

* DriverPass aims to help their customers pass their driving tests on the first attempt by providing on-the-road training, online classes, and practice tests.
* DriverPass wants the system to handle reservations for driving lessons.
  + Each lesson will be two hours long.
* Clients will be able to make reservations online, by phone, or in person.
* The system should be able to track who made a reservation, who canceled a reservation, and who modified their reservation.
* The system should be able to identify the instructor a customer is scheduled to train with
  + The company has 10 cars and 10 instructors.

### Objectives and Goals

* Clients will be able to log in and reset their password if needed.
* Clients will be able to register for packages offered by DriverPass.
  + The system will be equipped to handle reservations made online, by phone, or in person.
* Clients will be able to modify or cancel their reservations.
* Clients will be able to sign up for three initial packages:
  + Package One: Six hours in the car with trainer.
  + Package Two: Eight hours in the car with trainer and an in-person lesson where we explain the DMV rules and policies.
  + Package Three: Twelve hours in a car with a trainer, an in-person lesson where we explain the DMV rules and policies—plus access to our online class with all the content and material. The online class also includes practice tests.
* The system will keep track of which driver and vehicle are assigned to the user as well as the length of the training.
* When a client makes a reservation, they will be asked for the pick-up location and drop-off location, which should be the same.
* The system needs to be connected to the DMV so that when the DMV updates rules, policies, or sample questions, then DriverPass’ system will receive a notification of that update.
* The system will be cloud-based.
* Client’s profile page will include:
  + Showing the client their online test progress and tests taken
    - Show the test name, time taken, score, and status.
      * Status will be either not taken, in progress, failed, or passed.
  + Driving instructors should be able to leave notes on progress and these notes will be visible to the client.
    - Driver notes will include the lesson time, start hour, end hour, and any driver comments.
  + The client’s information such as first name, last name, address, city, state zip, phone, and email will be visible to the student on their profile.
  + Any special needs that the client requires.
  + A photo of the driver
  + A photo of the client
* There will be an input form that the client (or secretary) can fill out the client’s information such as first and last name, address, phone, and email.
* There will also be a “contact us” page that allows the client to contact DriverPass by sending a message and DriverPass should be able to reply to that message.
* The system should have different access levels for different employees based on their roles:
  + DriverPass’ owner Liam needs to have access to activity reports and be able to download them.
    - Additionally, Liam needs to be able to disable and enable the packages that are offered.
  + IT officer will need access to system maintenance tools to maintain and modify the system (such as help reset passwords, or to add or block employees access)
  + The secretary should have the necessary permissions to schedule appointments.
  + Clients should be allowed to make/cancel/modify their own appointments online as well as view their information.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* The system should be web-based and be accessible via desktop computer or through either iOS and Android mobile devices.
* The system should respond to user requests within seconds under normal load conditions.
* The system should be capable of handling multiple simultaneous user requests without significant degradation in performance.
* The system should be updated regularly, at least once a month, to ensure it stays current with DMV rules and policies.
* Regular security updates should be part of the system monthly maintenance to protect user data and system integrity.

#### Platform Constraints

* The system should be platform-independent and should run on all major operating systems like Windows, Unix, and Linux.
* The system should be accessible via a web interface, which should be compatible with all major web browsers such as Chrome, Firefox, Safari, and Edge.
* The back end of the system should be supported by a robust database system to store and manage user information, reservations, package details, business reports, and usage data/statistics.
* The system should have access to APIs for external systems like the DMV for updates on rules and policies.

#### Accuracy and Precision

* The system should distinguish between different users based on their unique login credentials.
* The input should not be case-sensitive for the username but should be case-sensitive for the password to ensure security.
* The system should inform the admin of any problems immediately through email notifications or dashboard alerts.
* The system should have robust data validation to ensure the accuracy of the data entered by users.
* The system should provide real-time updates to ensure that the displayed information is always accurate.

#### Adaptability

* The system should allow the IT admin to add/remove/modify user details without changing the code.
* The system should be designed to adapt to platform updates without disrupting the user experience.
* The IT admin should have full access to the system for maintenance and user management purposes. (role-based access control)

#### Security

* The user should be required to log in using a unique username and a strong password.
* The connection or data exchange between the client and the server should be secured using encryption techniques like SSL.
* In case of a brute force hacking attempt, the account should be temporarily locked after a certain number of unsuccessful login attempts.
* If the user forgets their password, they should be able to reset it using their registered email ID.
* Sensitive data stored in the system (ex. User passwords) should be encrypted using secure hashing algorithms.
* The system will implement role-based access control so that users can only access data and functions that they are authorized to use.

### Functional Requirements

* The system shall validate user credentials when logging in.
* The system shall allow clients to register for packages offered by DriverPass.
* The system shall handle reservations made online, by phone, or in person.
* The system shall allow clients to modify or cancel their reservations.
* The system shall keep track of which driver and vehicle are assigned to the user as well as the length of the training.
* The system shall ask for the pick-up location and drop-off location when a client makes a reservation.
* The system shall receive notifications when the DMV updates rules, policies, or sample questions.
* The system shall show the client their online test progress and tests taken on their profile page.
* The system shall allow driving instructors to leave notes on progress and these notes will be visible to the client.
* The system shall display the client’s information such as first name, last name, address, city, state zip, phone, and email on their profile.
* The system shall have an input form that the client (or secretary) can fill out the client’s information such as first and last name, address, phone, and email.
* The system shall have a “contact us” page that allows the client to contact DriverPass by sending a message and DriverPass should be able to reply to that message.
* The system shall have different access levels for different employees based on their roles.

### User Interface

* Needs of the Interface:
  + The interface should be user-friendly and intuitive to ensure a smooth user experience.
  + It should be responsive, meaning it should adapt to different screen sizes (mobile, tablet, desktop).
  + It should provide clear and concise information, avoiding unnecessary complexity.
  + It should have a consistent design across all pages to maintain familiarity for the user.
* Different Users and Their Needs:
  + Clients: Clients need to be able to register, make, modify, or cancel reservations, view their profile, progress, and instructor notes, and contact DriverPass. They should be able to do this through both the web-based interface on either desktop or a mobile device.
  + Instructors: Instructors need to be able to view their schedule, leave notes on client progress, and view client information.
  + Admin (Liam): The admin needs to access activity reports, enable or disable packages, and have overall control of the system.
  + IT Officer: The IT officer needs access to system maintenance tools.
  + Secretary: The secretary needs to schedule appointments.
* User Interaction with the Interface:
  + Clients and the secretary should be able to interact with the system through both a web-based interface (either on desktop or on a mobile device)
  + Instructors would primarily interact with the system through a web-based interface (either on desktop or a mobile device)
  + The admin and IT officer will interact with the system through a web-based interface (either on desktop or on a mobile device)

### Assumptions

* User’s Technology: We assume that all users have access to a device with an internet connection and a modern web browser. For mobile access, we assume users have smartphones with either Android or iOS operating systems.
* User’s Tech Savviness: We assume that users have a basic level of tech savviness, meaning they can navigate a web or mobile application, fill out forms, and understand basic online operations like login, password reset, etc.
* Internet Connectivity: We assume that users have a stable internet connection when they are using the system. The performance of the system may be affected by the quality of the user’s internet connection.
* DMV Updates: We assume that the DMV provides a way to notify our system of updates to rules, policies, or sample questions. This could be through an API or some other method.
* Data Privacy Laws: We assume that all design and functionality of the system will comply with local and international data privacy laws and regulations.
* Security: We assume that all users will follow the recommended security practices like not sharing their passwords, logging out after use, etc.

### Limitations

* Internet Dependence: Since the system is web-based and cloud-based, it requires a stable internet connection. Users may not be able to access the system in areas with poor or no internet connectivity.
* Technology Compatibility: The system is designed to be compatible with all major browsers and mobile operating systems. However, users with outdated or less common technology may face compatibility issues.
* DMV updates: The system’s effectiveness is dependent on the frequency and accuracy of DMV updates. If the DMV does not provide updates in a timely manner or if there is a delay in integrating these updates into the system, it could lead to outdated information being presented to the users.
* Resource Availability: The project timeline assumes that all team members (Jennifer and Sam, Tori and Clark, John, Designers, Developers, Testers) are available as planned. If any team member is unavailable due to unforeseen circumstances, it could impact the project timeline.
* Task Dependencies: The project timeline shows that some tasks are dependent on the completion of previous tasks. For example, the diagrams and use cases need to be completed and approved before they can be implemented. If any task is delayed, it could impact the start and completion of subsequent tasks.
* Time Allocation: The project timeline allocates specific time periods for each task. If any task takes longer than expected, it could impact the overall project timeline.

### A Gantt chart showing the proposed schedule for implementing DriverPass'websiteGantt Chart