# DriverPass Business Requirements Document

## System Components and Design

### Purpose

* The client is Liam, the owner of DriverPass. Liam would like a system to help students pass their driving test at their local DMV.
* Liam would like the system to provide online classes and practice tests.
* The system should also be able to provide students with an option to make reservations for in-person training.

### System Background

* The DriverPass system aims to train students to pass their driving test because too many people fail it at their local DMV.
* The DriverPass system should provide better driver training than what is currently available.
* DriverPass students can create an account to make reservations for in-person training, take online courses, and try practice tests.
* The DriverPass system should provide the tools necessary to both students and teachers to prepare students to pass the driving test.

### Objectives and Goals

* The DriverPass system should be a web-based application.
* Utilize cloud services for security and backup.
* Minimize technical problems.
* Automatically reset forgotten passwords when requested by a user.
* Receive updates from DMV for changes in policies, rules, or test questions.
* DriverPass contact page.
* The DriverPass system will provide teachers and drivers with the following functions:
  + Student Profile Page (*see attached*)
  + Track student progress
    - Test name
    - Time taken
    - Score
    - Status – Not taken, in progress, failed, passed
  + Driver notes (*see attached*)
* The DriverPass system will provide students with the following functions:
  + Register an account
  + Online courses
  + Practice exams
  + Reserve in-person training
* The DriverPass system will provide all employees with the following functions:
  + Create, Modify, and Cancel reservations for in-person training.
    - Package One: Six hours in a car with a trainer.
    - Package Two: Eight hours in a car with a trainer and an in-person DMV rules and policies lesson.
    - Package Three: Twelve hours in a car with a trainer, an in-person DMV rules and policies lesson, plus access to the online program.
  + Reservation forms
    - First name
    - Last name
    - Address
    - Phone number
    - State
    - Credit card number
    - Expiration date
    - Security code
    - Pickup/drop-off location
  + Track appointments identify:
    - Driver
    - Student
    - Time
    - Car
* The DriverPass system will provide IT and Owner with the following functions:
  + Track changes and updates to information
    - Who made a reservation?
    - Who canceled the reservation?
    - Who modified a reservation?
  + Print activity reports.
  + Disable a package if not available or offered.
* The DriverPass system will provide the owner with the following functions:
  + Access data and reports offline from personal computers and phones.
  + Track responsibility for an incident.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

*What environments (web-based, application, etc.) does this system need to run in? How fast should the system run? How often should the system be updated?*

* Fast and consistent speeds
* Weekly Updates
* Web-Based Application
* Web Browsers:
  + Firefox
  + Edge
  + Chrome
  + Safari
  + Brave

**Rationale**: The DriverPass system should be a web-based application to ensure that all users can access the system with their devices. Safari, Edge, and Chrome are the three most common web browsers on most devices. Adding Firefox and Brave with the three most common browsers should ensure users can access the DriverPass system from Any device and web browser. Users should be able to navigate the content swiftly and smoothly with consistent speeds. The system should respond as fast as possible while maintaining consistent results. Speeds should be fast and consistent with other LMSs. The system speed should be adjusted to maintain consistency and optimal performance. The DriverPass system should update weekly, including updates from the DMV, to ensure optimal results for users.

#### Platform Constraints

*What platforms (Windows, Unix, etc.) should the system run on? Does the back end require any tools, such as a database, to support this application?*

* + Cloud database for owner
    - Access Excel reports from personal devices
    - Print reports
  + Databases:
    - User Profiles
    - Course Material
    - Activity Reports
  + Operating Systems:
    - Windows
    - macOS
    - Android
    - iOS
    - Linux/Unix

**Rationale**: The owner, Liam, would like to access the system from a computer or mobile device to do work from home and away from the office.Liam would also like to be able to download and print Excel documents from anywhere. A cloud database is ideal for accessing documents from the owner's devices away from the office. DriverPass is a web-based application accessed from web browsers on various devices. The operating systems listed are the users' main operating systems to access the DiverPass LMS from their preferred web browser.

#### Accuracy and Precision

*How will you distinguish between different users?* *Is the input case-sensitive? When should the system inform the admin of a problem?*

* User passwords are case-sensitive. All other inputs are NOT case-sensitive.
* The DriverPass system should distinguish between five types of users with different permissions:
  + student-driver
  + teacher-driver
  + administrator
  + technical staff
  + owner
* Teacher-driver:
  + In-person training schedule
  + Student progress
* Student-driver:
  + Online courses
  + Practice exams

**Rationale:** The DriverPass system will have five types of users, each with its permissions and functionality. To ensure private information is protected and secure, it is critical to distinguish between users. The system should inform Technical Support Admins when a user account gets locked and they have requested to reset their password. The system will inform Technical staff of user issues or bug reports to resolve the problems with the DriverPass system.

#### Adaptability

*Can you make changes to the user (add/remove/modify) without changing code? How will the system adapt to platform updates? What type of access does the IT admin need?*

* The system should have a backend administration page with functionality to update and modify system components:
  + User Profiles
  + Practice Tests
  + Course Lessons
* Users should be able to modify their information from their profile page
* The system will be modified accordingly and adapt to weekly updates provided by the DMV
* IT admin should be notified when the DMV provides DriverPass with updated information.
* IT admin will make updates accordingly.

**Rationale**: Laws and rules for the road are constantly being created, updated, and modified to promote safety and prevent accidents. The DriverPass system will request weekly updates from the DMV about changes affecting student drivers planning to take the test at the DMV for their driver's license. The DriverPass system will have a backend administration page to help the technical staff modify the website to keep the content relevant and up-to-date.

#### Security

*What is required for the user to log in? How can you secure the connection or the data exchange between the client and the server? What should happen to the account if there is a "brute force" hacking attempt? What happens if the user forgets their password?*

* Login Credentials:
  + userID
  + password
* The DriverPass system should lock a user account after three failed login attempts to prevent a brute force attack.
* IT admin has permission to reset the password for a locked user account, and the DriverPass system should provide the functionality to reset passwords for locked accounts.
* Utilize cloud services to enhance security in data exchange between the client and the user.

Level 1 (Secretary):

* Schedule Appointments
* Track scheduled reservations:
  + Identify the student
  + Identify the driver
  + Identify the vehicle
  + Identify the scheduled time & date
  + Identify changes made to the reservation

Level 2 (Technical Staff/Ian):

* Level 1 Access
* Full access over all accounts:
  + Reset forgotten passwords
  + Block access to terminated employees
* System Maintenance

Level 3 (Owner):

* Level 1 & 2 Access
* Access system data from any computer or device at home or away from the office.
* Download reports, information, and Excel sheets for home use.
* Track reservations:
  + Who created reservation
  + Who canceled reservation
  + Who modified it last
  + Print activity report to determine responsibility

### Functional Requirements

*Using the information from the scenario, think about the different functions the system needs to provide. Each of your bullets should start with "The system shall . . ." For example, one functional requirement might be, "The system shall validate user credentials when logging in."*

* + The system shall log out a user after thirty minutes of being inactive.
  + The system shall track reservations:
    - Who modified it

### User Interface

*What are the needs of the interface? Who are the different users for this interface? What will each user need to be able to do through the interface? How will the user interact with the interface (mobile, browser, etc.)?*

* The largest demographic of the user base for the DriverPass system is student drivers.
* The student-drivers home page interface will have several components:
  + Practice tests
  + Online courses
  + Online test progress
  + In-person training reservations
* Teacher-drivers homepage interface will have several components:
  + Online test progress
  + Driver notes
  + Special needs
  + Driver photo
  + Student photo
  + Student Information:
    - First name
    - last name
    - address
    - city
    - state
    - zip code
    - phone number
    - email
* Administrator:
  + Create and Modify reservation
* Technical staff
  + Reset Password
  + Update, change, and disable system components.
  + Disable learning packages.
* Owner:
  + View documents on personal devices
  + Print documents

**Rationale:** The DriverPass system will be a web application containing several pages. The home pages will be different for the five types of users. The users will utilize the system for various reasons and require different home page components.

### Assumptions

*What things were not specifically addressed in your design above? What assumptions are you making in your design about the users or the technology they have?*

* Users have devices that are compatible with the most relevant web browsers.
* It's assumed that the driver will take notes for every lesson and require system functionality to create and save notes for each lesson. The note system should have four columns with a blank row for each lesson. There will be columns for Lesson Time, Start Hour, End Hour, and Driver Comments.

**Rationale:** The DriverPass system is a web application. The system assumes that users have devices capable of running web browsers that can access the system. There is functionality for teacher drivers that the rest of the design has not covered. Teachers should have the functionality to store and take notes for each lesson.

### Limitations

*Any system you build will naturally have limitations. What limitations do you see in your system design? What limitations do you have as far as resources, time, budget, or technology?*

* The system will need security to protect the sensitive data provided by the users of the system.
* The DriverPass company only has enough resources to manage students and teachers for their local DMV.

**Rationale**: The DriverPass company is small and only has the resources to provide its services for students taking their driving test at the local DMV.

### Gantt Chart

*Please include a screenshot of the GANTT chart that you created with Lucidchart. Be sure to check that it meets the plan described by the characters in the interview.*

