# Business Requirements Document for DriverPass

## System Components and Design

## Purpose

*What is the purpose of this project? Who is the client and what do they want their system to be able to do?*

* The purpose of this project is to build a new system.
* The client is DriverPass company.
* DriverPass wants the new system to be accessible from anywhere with a computer or a mobile phone and be able to do basic Create, Read, Update, and Delete (CRUD) actions.

### System Background

*What does DriverPass want the system to do? What is the problem they want to fix? What are the different components needed for this system?*

* DriverPass wants the system to be accessible from anywhere, online (Computer, mobile phone).
* They want to fix the high falling rate of student drivers by giving them an online class and on-the-road training with a set of three well-defined training packages.
* Different components needed from the system are:
* Access data from anywhere, online and offline,
* Have a user management module to give rights and roles to each of them,
* Be able to make a reservation for driving lessons,
* Have a drivers and cars database for reservation management,

### 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?*

* The system should be able to be accessed online from anywhere (from a computer or mobile device).
* The system is hosted on the cloud (PaaS) where backup, security, availability, and fault tolerance are taken care of by the cloud provider.
* The landing page of a given customer should present at least the following parts: logo, Online test progress portion, Student information portion, driver note, specials need, driver photo, and student photo as well as company and student contact information.
* The following users Liam (Big Boss), Ian (IT Officer, full access to the system), and the secretary should be able to make appointments, cancel, and modify appointments online on the system.
* Customers can make reservations online without any issue.
* Drivers and car databases have been created.
* The system should receive periodic updates from the DMV regarding rules, policies, tests, and sample practice questions.

## Requirements

### Nonfunctional Requirements

*In this section, you will detail the different nonfunctional requirements for the DriverPass system. You will need to think about the different things that the system needs to function properly.*

#### 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?*

* The new system needs to be run through a browser (Web-based) and applications based from anywhere around the world.
* A fast response time (with the support of multiuser access) will be required from the system to ensure a better user experience.
* At least a monthly check and update is advised for software and operating systems to protect against any vulnerabilities.

#### 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?*

* The system should be able to run on the most popular platform or multi-platform such as Windows, Unix, Mac, Linux, etc. This includes desktop and mobile devices.
* The back end will require databases such as employee database, student database, and customer database. This will allow the company to perform CRUD operations on all functions linked to Employees, Students, and customers.

#### 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?*

* A high level of data accuracy and precision must be achieved by the system.
* Each user should be given an ID number for differentiation. The system should perform at least a user input validation conversion before performing any action to avoid errors linked to user input and notify the admin through the user interface of a problem.

#### 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?*

* A modern system should be flexible and easy to customize and accommodate to adapt a day-to-day operation when it comes to CRUD (Create, Read, Update, and Delete) operations such as business requirements and process changes.
* When building the system, we should integrate support for platform integration and updates (multi-platform, third-party applications).
* The IT admin will need full access to the system for maintenance, updating, and be able to perform CRUD operations.

#### 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?*

* The user will be required to create an account first before being able to log in. Account creation information will be used to populate the students (user database).
* Best practices such as the use of HTTPS protocol, CORS (Cross-origin Resources, Sharing) policy, user input validation, implementation of secure cookies and tokens, and regular web server updates are among the secure procedures for connection exchange between client and server.
* To mitigate “brute-force” attacks, user authentication and authorization must be put in place to lock the account being targeted out (limited number of unsuccessful attempts).
* A password reset or password recovery email should be sent to users who forget their password. This method is quick and secure because it sends the email to the user's email address on file.

### 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 validate user accounts (process credentials and user information) when created.
* The system shall validate user credentials when logging in.
* The system shall authenticate and authorize the user by performing the user’s identity verification.
* The system shall notify the user of any error that occurs during the logging process and propose steps to take to mitigate the issue.

### 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.)?*

* User interface or GUI (Graphic User Interface) is a way for the system to communicate with the user.
* This interface will have three different types of users. The admin users (IT officer, CEO, and Secretary), the drivers, and the customers (Students).
* The IT officer, CEO, and secretary should be able to make appointments, cancel, and modify appointments online. In addition to that, the IT officer should be able to maintain the system, modify it, and manage drivers', and student profiles. Drivers should be able to see their class records (Students, car information, notes, etc.), and manage their profiles. Students should be able to pick a package and see their scheduled class, their notes, and exam results, and manage their profiles.
* The user should be able to interact with the system through web-based browsers either desktop or mobile devices and applications based with compatibility to multi-platform.

### 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 need to be trained to be able to use the new system (web-based or applications) on desktop or mobile devices.
* The IT officer who is responsible for maintaining the system has sufficient knowledge and skill to perform his duties.
* Users have access to a reliable internet connection.

### 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 constraint of low budget limited the developer to include analytical tools and generative reports for business decisions.
* Time constraints limited the development of online help resources such as live chat, and FAQ for assistance.
* Technology constraints will the system to be accessible only in one language (English).

### 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.*

