# CS 255 Business Requirements Document

## System Components and Design

### Purpose

The purpose of this system design for DriverPass is -

* For the client to build a better driver training.
* For the Company to also offer on-the-road training.
* For the Company to offer online packages.
* For DriverPass to build a system that will handle these main components.
* For the Main components – online classes, practice tests, driving lesson reservations, data management.

### System Background

The background of the proposed system is provided to -

* Be able to access the data from anywhere.
* To enable download of reports for offline work.
* For the system to support scheduling and management.
* For the system to manage driving lessons, track user progress, and keep up with DMV polices.
* Fix and increase better driver pass rates and reduce the amount of failed driving tests.
* For system to be accessible for IT management.
* Be able to see tracking history/logs by IT management.

### Objectives and Goals

The system should be able to – when completed is -

* Customers, IT, and management should be able to access data anywhere.
* The system should have an intuitive interface and be user friendly.
* The system should allow for customers to schedule, modify, or cancel driving lessons.
* Security needs to be added to keep the customer data safe including payment info.
* Track activity – the client needs to see reservation creation, modification, and cancellation.
* Stay within the current rules and policies of the DMV.
* Customizable packages for the students to add and or remove things they want.

## Requirements

### Nonfunctional Requirements

The Nonfunctional Requirements for the DriverPass system are as follows –

* To have scalability, which will allow the system to be able to adapt, expand, and handle increased user loads.
* To have secure data storage and security, which will keep the platform safe, include advanced data encryption, antivirus and antispam.
* To have performance optimization and load balancing, this will help with caching, data compression, updates, and content delivery.
* To have technical support and resources, this will help with if the system is having issues and a user cannot access, or if a user needs help using the platform technical support can help.
* Accessibility, and this will help with giving the users the best experience when using the website.

#### Performance Requirements

The system should be web-based and be in a cloud infrastructure.

The system should be fast enough for users and management to access the website anywhere with or without internet without any interruptions.

The system should be updated anytime there are new features added.

#### Platform Constraints

The system should be able to run on any platforms, it should be able to cross-platform and work seamlessly on different operating systems.

The back end does require the following tools to support this application –

* A database, which will allow the website to store user data, test records, scheduling information, and any other date needed.
* Security tools, to help with access control and authentication methods to keep the user and management safe.
* Data backup and recovery, to ensure the data does not delete.
* Web application framework, to ensure that the website can run and enhance scalability.

#### Accuracy and Precision

To distinguish between different users, we will use the following –

* User authentication, which will create a username, email, password, and if needed two factor authentication.
* User roles, this will help distinguish between customers, users, administrators, instructors, and IT management.

The input for the passwords and usernames will be case-sensitive to create a stronger security. As for email, usually it is not case sensitive for example [user@driverpass.com](mailto:user@driverpass.com) should be the same as [User@DriverPass.com](mailto:User@DriverPass.com).

The system should inform the admin of a problem when the follow errors –

* Forgotten password.
* Website outage.
* Security breach.
* Data corruption.

#### Adaptability

The system should allow you to make modifications to users and allow to remove/add without changing code.

The system will adapt to platform updates by allowing automatic updates as DriverPass adds more features to the website.

The IT admin needs the following access –

* Full access to the systems back end which includes the servers, databases, network, configurations, and security settings.
* Platform and software updates, so that the IT management can execute these updates as needed to keep the website up to date and running smoothly.
* Domain, the IT management needs access to the domain so they can add and remove employees and they come and go.

#### Security

The system needs these requirements for the user to log in –

* User credentials.
* Authentication.

The system can secure the connection or the data exchange between the client and the server by using data encryption.

If there were to be a “brute force” hacking attempt on an account, these are the following steps we would take –

* Lock the account.
* Monitor the account.
* View the log to see who is attempting to log in.
* Disable the account.

If a user forgets a password, we will use these steps –

* Send a link to the recovery email.
* If the email is not available send a request to the IT management.
* Change the password in the domain.

### Functional Requirements

The functional Requirements for the DriverPass system are as follows –

* The system shall allow user to create an account using their name, email, phone number, and a password.
* The system shall validate user credentials when logging in.
* If the password is not working, the system should allow the user to use the “forget password” option where they will answer questions to recover.
* The system shall require a serious of requirements when making a password, for example one lower case, upper case, at least 12 letters, a special character, and one number.
* The system shall support multiple roles including administrator, users, IT management, and instructors.
* The system shall book reservations when made by a user.
* The system shall provide all the tests and classes needed selected by the user.
* The system shall show all three available packages for selection.
* The system shall show all the progress made by the user.
* The system shall run efficiently and smoothly.

### User Interface

The needs of the interface –

* User friendly design.
* Cross-platform capabilities.
* Role based access.
* Multi authentication log in.
* Appointment rescheduling.
* Progress tracking.
* Communication tools.
* Accessibility.

The different users for this interface include the administrator, instructor, student, and secretary.

Each user will need the following to go through the interface –

* Administrator – manage user accounts, configure systems, access reports, monitor activates. Administrators will access through a desktop or laptop.
* Instructors – view student progress, access student information, view assignments lessons, comminate with students. Instructors will access through multiple devices, mobile, desktop, laptop, because they will be mobile.
* Students – schedule and manage driving tests, view lessons, access resources, communicate with instructors. Students will access through mobile devices, desktops, laptops, or anything they can use to complete the lessons.
* Secretaries – manage appointments, access student information, communicate with both instructors and administrators. Secretaires will access through usually a desktop or laptop.

### Assumptions

The things that were not specifically addressed in my design above were as follows –

* Budget for the system.
* User training.
* Feedback details.

The assumptions I am making in my design about the users and the technology that they have is the following –

* Stable internet.
* Devices to run the website.
* Capable software.
* Download and upload speeds of at least 1.5mpbs.

### Limitations

The limitations I see my system design having are as follows –

* A budget not being given.
* A 5-month time frame.
* Resource constraints.
* User training resources.

### Gantt Chart

