# CS 255 Business Requirements Document

## 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 create a system that provides better driving training for their clients.
* The client is a company called DriverPass.
* The system will provide online classes, practice tests, and on-the-road training (if desired).

### 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?*

* Liam, the owner of DriverPass, wants to create a system that allows clients to have access to better training and testing for driver’s exams.
* The company has noticed that many people fail their driver’s exams due to the fact that they do not have access to quality training and testing materials.
* DriverPass wants a system that can enable clients to take online classes and exams, and schedule on-the-road training with a certain driver and car at a certain time.
* The DriverPass team consists of the owner Liam, the IT officer Ian, and the secretary.
* The company consists of ten cars and ten drivers
* The DriverPass team must be able to be notified of any changes or updates to the DMV rules and policies and any sample tests or questions, in order to be able to update their training materials.
* The DriverPass system must be set up over cloud computing to minimize the need for backup and security, and to minimize any problems the team may have.
* The system interface must match the sketch provided by the DriverPass team.
* The system must include a method for the clients to contact the DriverPass team, and for the DriverPass team to contact clients.
* DriverPass would like the system to allow clients to set up one of three different packages through the website:
  + Package One would consist of:
    - Six hours of training with a car and driver
  + Package Two would consist of:
    - Eight hours of training with a car and driver
    - In person lesson where the instructor will explain DMV rules and policies
  + Package Three would consist of:
    - Twelve hours of training with a car and driver
    - In person lesson where the instructor will explain DMV rules and policies
    - Access to the online classes with all content and materials
    - Three Practice tests
  + Each training session would consist of two hours with a car and driver (three sessions for Package One, four for Package Two, and six for Package Three)
* System Requirements:
  + The owner wants full access to all of the data from any computer or mobile device, so he can have access from home.
  + The database must be Excel compatible.
  + The owner must have access to all accounts, so that he can reset passwords or block former employees.
  + The owner wants to have access to all reservations, to be able to track who made the reservation, if it was cancelled, and if it was modified.
  + The owner wants to be able to access and print activity reports for reservations.
  + Customers must be able to set up an account online. Information to be included would be:
    - First and last name
    - Address
    - Phone Number
    - State
    - Credit card information
  + Customers must be able to set up, modify and cancel appointments online, or by calling or stopping in and talking to the secretary.
  + Customers must be able to automatically reset any forgotten or compromised password.
  + Customers must be able to make reservations for driving lessons online with their account. They must be able to schedule:
    - A 2-hour long session.
    - A date and time that is available to the client and the driver.
    - A pick-up and drop-off location for the client.

### 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 must be a fully functional website that matches the requirements of the DriverPass team.
* The system must allow clients to set up an account, and purchase packages based on their needs, including:
  + Taking classes and practicing tests online (Per Package)
  + Book, edit, and cancel driving lessons
  + Access online materials (per Package)
* The system must include security features that only allow authorized employees access.
* The system must match the drawings and charts provided by the DriverPass team.
* The development must follow the schedule set up per the Gantt chart.

## 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?*

* The system must be web-based and operate in the cloud.
* The system must be fast enough to allow users to access it without any problems.
* The system must allow updates as soon as there is new information from the DMV or when new features are added.

#### 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 run on a Linux operating environment.
* The database and security features must be configured over the cloud.
* The interface must adapt to a mobile 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?*

* Each user will create a unique username and password when first accessing the system. The username and password will be case-sensitive.
* The system will use multi-factor authentication to minimize security risks.
* There will be cookies within each session to identify each unique user.
* The system will immediately send a log to admin when there is a problem, glitch, bug, or unauthorized access to the system.
* There will be daily error reports sent to admin.
* Any critical error will be immediately reported to the admin.

#### 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 user information will be maintained as a separate database that can be changed or modified without changing the base code.
* IT staff will have access to all databases in order to maintain the information and to add or remove employees from the system.
* The web application will always immediately update whenever the system code is updated.

#### 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 must have a unique username and password in order to access the system.
* System access level is determined by whether they are a client or employee, and the employee’s access level.
* Any access attempt will be verified by Multifactor Authentication via SMS.
* The information exchange between client and server will be through cloud services.
* The system will disable access after four failed access attempts in order to prevent brute force attacks.
* Users must provide the correct email address associated with an account in order to request a password reset.

### 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 credentials when logging in.
* The system shall use Multifactor Authentication via SMS to verify user credentials.
* The system shall disable user credentials after four failed attempts
* The system shall be fast and efficient
* The system shall provide the correct information based on the user profile.
* The system shall provide access to the system based on the user and their access level.
* The system shall provide the means to purchase, modify, and edit training based on the Package they purchased.
* The system shall provide practice exams, classes, and information on what training finished and what remains.
* The system shall provide the means to schedule and modify driving sessions with a certain car and driver.
* The system shall provide the means for the client to contact the company and the company to contact the client.

### 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 interface will provide the client with the means to access the classes, exams, and driving sessions provided by the package purchased, including scheduling and modifying driving sessions.
* The interface will allow the clients to set up and modify their profile and purchase packages based on their needs.
* The interface will be web based and accessible from any browser, including mobile browsers.
* The interface will allow DriverPass to be able to access and make changes to driving sessions for clients.
* The interface will allow the IT administrator to update and make changes to the system and to the databases associated with the system.

### 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?*

* There is no budget for the project mentioned. We are assuming that the project will be able to be completed based on the budget provided.
* We are assuming that the users will be able to understand how to access and use the system.
* We are assuming that the users will be able to access the system through a web browser.

### 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?*

* We have a time limit of five months from the start to complete the project.
* We have to have a system that will be able to be accessed from any browser.
* We do not know the budget, so there may be constraints on what features can be provided, based on the final budget.
* The system may be limited based on what package the company purchases from their cloud provider.
* The system may be limited based on what budget the company has for maintenance or updates to the system.

### Gantt Chart*Timeline Description automatically generated*