# 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?*

* DriverPass will utilize an online platform to provide driving lessons to students.

### 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?*

* As per Liam from the interview: **“**I noticed that there is a need for better driver training. So many people fail their driving tests at the DMV. I’m starting this company to provide this type of training for my customers.”
* Components needed:
  + Online Courses
  + Practice Tests
  + In-person, behind-the-wheel training
  + Reservation Management
  + User Interface

### 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?*

* Client will be able to access reports and work on them online or offline, from computers or mobile devices.
  + Data can only be modified when online.
* Client will have access to tracking usage, such as who made, modified, or canceled a reservation.
* Customers can make, modify, or cancel reservations for lessons online using their account.
* Client needs the system to organize several drivers and vehicles, record start and end times for lessons, keep track of pick up and drop off locations for customers, and store customer information.
  + Backups and security happen automatically.

## 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 system must run in a web-based environment through the cloud.
* The system should load webpages within two seconds.
* The system should send notification when update is available.
* The system should update when requested by administration.

#### 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 runs in any web browser, on mobile devices or desktop.
* The system must have a database to store student and driver information, along with lessons.

#### 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?*

* The system will assign each registered user a role:
  + Boss
  + IT
  + Secretary
  + User
* Users will have information stored about them:
  + First and last name, address, phone number, state, credit card information, driver training pick up and drop off locations
* Input into the system will be case-sensitive.
* The system will notify administration of problems immediately.

#### 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?*

* IT will have full access to the website to:
  + Maintain and modify the system
  + Reset account passwords
  + Block access from employees who have left the company
* Users can be removed from the database.
* Users can be added by the secretary, IT, and Boss roles.
* User information can be modified by any role.
* The system is web-based, so updates will cause minimal downtime.

#### 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 requires a username and password to log in.
* The website will utilize the HTTPS protocol for security.
* The user will be locked out of their account after five missed login attempts.

### 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 allow all users to download and access data from the website offline.
* The system shall only allow data to be modified when the user is logged in.
* The system shall log reservation requests:
  + Who made, canceled, modified reservation list.
* The system shall allow reports and logs to be printed.
* The system shall allow users to schedule a lesson appointment.
* The system shall log which user is matched with specified driver, lesson time, and the car being used.
* The system shall display lesson packages:
  + The system shall provide options between three different packages.
  + The system shall display packages one, two, and three.
  + Package One: Six hours in a car with a trainer.
  + Package Two: Eight hours in a car with a trainer, and an in-person lesson to go over DMV rules and policies.
  + Package Three: Twelve hours in a car with a trainer, an in-person lesson to go over DMV rules and policies, and access to online classes and materials, with practice tests.
  + The system shall indicate that lessons are in two hour increments.
  + The system shall allow any of the three packages to be disabled.
* The system shall allow users to register an account through the website.
* The system shall provide a contact number for the company.
* The system shall connect to DMV servers to provide consistent updates to rules, policies, and sample questions.

### 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 display the user’s current online test progress, their personal information, notes about the driver, any special needs required for the user, a photo of the driver and student.
* The driver and student are the primary users for the interface. The secretary, IT, and Boss roles will also have access.
* The student or secretary will be able to input student’s personal information.
* The interface will clearly display contact information for DriverPass, as well as contact information for the student to be contacted.
* The driver notes section should clearly display several fields of information:
  + Lesson Time
  + Start Hour
  + End Hour
  + Driver Comments

### 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?*

* Internet connectivity is constantly available for access to the site from any user.
* Users have a working computer or mobile device that allows them to access a web browser.
* DMV rules, policies, and sample questions are kept current and are available for free.
* Cloud services to host the website are constantly available.

### 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?*

* Internet connectivity is required; if there is no connection, the website will be inaccessible.
* Lesson packages will not be able to be updated, modified, or completely removed in this build.

### 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.*

