# 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?*

* Client:
  + DriverPass
    - Owner of DriverPass: Liam
    - Information Technology Officer: Ian
      * Maintains system, modifying it, etc.
    - Secretary
      * Handles in-person and call reservations
* Purpose and Wants:
  + Training students for the driving test
  + Keep updated driving laws (notification from DMV if changed)

### 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?*

* System Wants:
  + Ability to access data online (editable) and offline (not editable, downloadable)
  + Able to use on multiple platforms
  + Security: Access roles
  + Tracking: Record activity in the system – viewable and printable to certain access roles
    - Includes: who made a reservation, canceled it, and/or modified a record
  + Flexible system for developers to easily change, add packages
    - Certain role able to disable a package
* Problem they want to fix:
  + Reduce amount of people failing their driving tests
* Components needed:
  + Ability to create accounts and have user information
  + Online test progress
    - Test name, time taken, score, and status (not taken, failed, in progress, passed)
  + Driver notes
    - Lesson time, start hour, end hour, and driver comments
  + Special needs (if applicable)
  + Driver photo
  + Student photo

### 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?*

* Customers creating an account and are able to make reservations for driving lessons online
  + Have their first and last name, photo, address, phone number, and state on file
  + Ability to change, reset password if forgotten
* Include a “Contact Us” section that provides the secretary’s number and office address for other reservation options
* Reservations:
  + Users being able to choose a 2-hour block of time on a day they want to take the lesson
    - If all 10 cars – or drivers – are already in use, have the timeslot as unavailable
  + Users picking one of the three packages:
    - Package one: Six hours in a car with the trainer
    - Package two: Eight hours in a car with a trainer and an in-person lesson where we explain the DMV rules and policies
    - Package Three: Twelve hours in a car with a trainer, an in-person lesson where we explain the DMV rules and policies—plus access to our online class with all the content and material. The online class also includes practice tests
  + Get customers first name, last name, address, phone number, state, and their credit card with expiration date and security code
  + At the end, get their pickup/drop-off location
* Once reservations are put in from the users side, match up with a certain driver/time/car and store in a viewable, searchable file
* Users should, also, be able to cancel and modify appointments online

## 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 should be web-based and run on both computer and mobile devices, meaning portability is important.
* The system should be reliable and work without failure.
* The system should not lag nor have connection issues due to multiple users being on at the same time.
* The system should be updated with information any time a new law comes out or an old one is changed.
* The system should have the ability to be updated when the current update is not sufficient.

#### 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 Windows as it allows for complete access to the system.
* Xojo is a cross-platform development tool that allows mostly any code to be used for any platform.

#### 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?*

* Users will be distinguished by having their own ID number for every account. As an example, IT8483 would be the IT admin having full access while CU9838 would be the customers ID number giving them limited access over the platform.
* Username/email is not case sensitive but the password is case-sensitive for further security.
* The system should inform the admin of a problem when a help button is clicked, or if there is an abundant amount of incorrect log in attempts.

#### 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?*

* Certain roles will have the ability to add, modify, and remove user credentials. Furthermore, Ian will be able to have full access while the secretary will be able to input user information. The customer should be allowed to access and change their information, but not driver notes; etc..
* An IT admin needs complete access to the system - they will have specific access codes that allow them. This will allow them to adjust the system to adapt to platform updates.

#### 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?*

* An email, or username, and a password is required for the user to log in.
* For data exchange, the client prefers the system runs over the web – specifically the cloud.
* If the account is hacked, the account should be reset by an IT admin and compensation should be involved.
* Complete confidentiality and only those with the correct access can view the students grades, coursework, etc..
* If a customer forgets their password, they should be able to automatically reset it.
* If a worker forgets their password, Ian requested to be able to reset all accounts himself (full access over accounts).

### 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 run off the web for both computers and mobile devices.
* The system shall allow students to set up, modify, or cancel reservations for driving lessons and test.
* The system shall include authentication to verify the student is who they say they are.
* The system shall have authorization levels for the teacher and student to access the necessary components.
* The system shall allow easy communication between the student and teacher.
* The system shall store all previous and current grades with historical data.
* The system shall follow all the regulatory requirements; ie follows ethical code, laws, etc..

### 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 system shall show the company’s logo at the top of the interface.
* The system shall show “Online test progress” on the top left below the logo. It will include the name of the test, the time the test was taken, the score, and the status (could not be taken, in progress, failed, or passed).
* The system shall show “Driver notes” below “Online test progress.” The driver notes should include lesson time, start hour, end hour, and driver comments.
* The system shall show the customers “Information” on the right side below the logo. The information included will be their first name, last name, address, city, state, zip code, phone number, and email.
* The system shall show any “Special needs” below “Information.”
* The system shall show the “Drivers photo” and “Students photo” below “Special needs.”
* The system shall have many users: secretary, student, teacher, administrator.
* The system shall allow the student or secretary ability to fill in students information.
* The system shall allow the student to take online tests.
* The system shall allow the driving teacher to input driver notes.
* The system shall be available on both web and mobile devices.

### 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?*

* An assumption made is that it will be people without a driver’s license to get ready for their driver test, but it may be someone who wants better tips to handle certain situations while driving.
* An assumption made is that each user will have an easily accessible computer or mobile device, but they not and only focus on the in-person learning – may cause the admins to create an account for information but unnecessary for online testing.

### 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?*

* A limitation may be the issue of design between laptop and mobile device screens. This will need to be fit-to-screen for both touch accessibility and normal cursor.
* A limitation may be that driverPass wants to expand their business in the future.

### 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.*

