# CS 255 Business Requirements Document

Tyler Gordon

## 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 website for a niche drivers ed program that is actively updating to new DMV requirements and allows customers to choose from different packages to pass the DMV written and practical tests.
* The client is DriverPass and what they want their system to do is to allow customers seeking a streamline program to pass the DMV driver tests by offering tiered packages with offerings for time with a driving trainer, in-person lessons, and online classes.

### 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’ system must provide online practice tests, allow scheduling of a trainer and on-site training sessions, grant access to online test material, and have 24/7 access to customer support.
* The problem they are trying to fix is the lack of access to training materials and sources for passing the DMV driving tests.
* The different components needed for this system will involve, a customer registration form to create an account with the system, a cart and purchasing method to enroll the customers in their chosen package program, an encrypted database for the customer’s data protection, a section of the database for storing pictures and information of the instructors and trainers for the packages, a calendar that allows scheduling of the customer program that suits their availability, and an accessible library for extra learning material for those with the specific package that includes online material.

### 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?*

* When completed the system should provide enough knowledge and confidence for the customer to pass the DMV fully aware of what will be asked of them on the tests.
* Online and Offline study material status tracker, hours behind the wheel tracker, onsite- class status tracker.

## 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 will need to be web-based and accessible via mobile phone to open their clientele’s potential fully.
* The system should run as smoothly as possible without buffering or lag to begin to distract or cause unnecessary stress to the customers.
* The system should be updated routinely for feature updates on a scheduled basis.
* For updating curriculum based on the updates provided on DMV regulations, updates should be made as soon as possible to keep their program running efficiently with the most recent regulations as reference.

#### 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?*

* To keep system security at the forefront, Linux should be the Operating platform the system runs on due to the ease of security implementation Linux offers.
* The system will not need a database as the system will be cloud-based, meaning most if not all database needs and security will be covered by the third party provider.

#### 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?*

* For employees, the differentiation between users is how much backend access they have compared to the Owner. For customers, their access will be determined by the package they purchase.
* To further support security and personalization for the customers, the username and passwords should be case-sensitive.
* The system should report any problems or discrepancies immediately to the Admin accounts, to catch any bugs before the system gets inundated in customers struggling to work through their programs.

#### 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?*

* User information can be modified by admin accounts as needed without the need for code to be changed.
* The system will adapt to platform updates by scheduled maintenance intervals and be updated for general big fixes or feature unlocks. For minor updates sections should be able to be turned off for updates as needed.
* The IT admin access needs full access to add, remove, and modify roles of the other users.

#### 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?*

* Cloud provider will control security measures for database.
* Encryption is suggested to keep customer information private.
* To avoid a brute force attack, the user login attempts should be capped at 5 attempts before the account gets locked out. This will prevent an attack from causing issues on the site.
* Two factor authorization should also be implemented to help secure user logins and prevent brute force attacks from being possible.

### 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 allow customers to choose a package.
* The system shall allow customers to book scheduled training appointments.
* The system shall provide a completion matrix for the user to view.
* The system shall provide practice tests, study material and customer support.
* The system shall provide online resources per their respective package purchased.
* The system shall display the name and picture of their trainer and instructors for the in-person meetings.

### 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 customers with a calendar to make reservations with a trainer and in person class session.
* The interface will display the trainer’s information with a picture.
* The interface shall be accessible via any browser (mobile/pc)
* The interface will have a customer specific interface and employee interface.
* The interface will allow trainers and instructors to accept, modify, or cancel sessions.

### 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?*

* The assumption for security is that the security measures will be taken care of by the cloud provider.
* The assumption on budget is that they have a reasonably open budget for this project.
* There is an assumption that our team will have full access to the technology and cloud provider information to develop, test, and complete this project.

### 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 time frame for this project is 5 months, including all time off and holidays considered.
* The budget is unknown for the project.
* We have single points of failure due to the small team we have to work on this project, and no time for the hiring process.
* The status of the cloud service availability is still unknown, or if affects our part of the budget.

### 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.*

A screenshot of a computer

Description automatically generated