# CS 255 Business Requirements Document Project One

## 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 allows students to access online practice exams and classes. The student must have the ability to make reservations for on the road sessions and prepare them for their driving test.
* The client is DriverPass who wants a system that allows online data access, reservation tracking, online course management, and special permissions for user roles.

### 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?*

* The client, DriverPass, wants a system where they can reduce backlog by preparing drivers before making an appointment and heading to the DMV for their driving test.
* To achieve this goal the client wants us to give access for customers to take online classes and practice tests.

Components Needed:

* Online test progress tracker
* User information management
* Reservation system for driving lessons allowing scheduling, modifying, and canceling appointments.
* Assigned roles and permissions management for users.
* Interface to track and manage driving appointments, drivers and packages.
* Security and data management.
* Integration of DMV for compliance and updates

### 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 allow customers to create/ manage online accounts, register/modify/cancel appointments online or via phone, track progress for practice exam scores and select different training packages or schedule lessons.
* When completed the system should allow admins to manage user accounts, manage/report on system activities, ensure security/compliance with DMV regulations and generate activity reports.
* When completed the system should be accessible online from any device, flexible to adjust packages in the future, create role-based access and have a backup/recovery plan.
* The measurable tasks are improved student pass rates, an all-in-one platform for learning, easy access for scheduling/lesson management, better data management, facilitate communication between students/ instructors.

## 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 able to work while serving multiple users accessing information.
* The system should be updated continuously each week.
* The system should run in under a couple seconds.

#### 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 must be available across multiple operating platforms.
* Then system must be able to be ran on Window, Linux and MacOs. The backend requirements will be SQL because of the database that needs to be updated and managed.

#### 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 create a username that is case sensitive and will be linked to their email.
* The system should have an alert when login attempts fail 5 times in the same hour.

#### 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?*

* Must be able to accommodate more users in the future.
* The admin interface must provide the ability to make changes.
* Platform updates should be managed through IT.
* IT admins need permissions for server and database managements.

#### 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?*

* Must protect the user’s data to ensure privacy.
* The system requires a two-factor authentication with password and email.
* After 5 failed login attempts, password must be reset with admin approval.

### 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 needs to be able to create, manage, and delete user accounts.
* To display different content like text, videos, etc.
* Give students ability to submit assignments.
* Provides tools to instructors to grade and post grade.
* Create an environment for instructors and students to create discussion posts.
* Creates reports that track and display student’s performance.

### 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.)?*

* Must be accessible by all users including those with disabilities.
* The different users include admins, students, instructors, It, etc.
* Students and instructors will be able to access content though mobile app or web browser.
* Admins will be able to make changes to appointments via web browser.
* IT will be able to conduct checks and push updates using server and database access.

### 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?*

* It is assumed that the user has basic technical skills to use LMS
* It is assumed that the proper resources are available for development.

### 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?*

* System must be able to be able to be modified with newer functionality.
* User must have stable internet connection to access LMS.
* A limitation I noticed was between 2/4 and 2/11 there is a whole week that could be utilized to get a head start on other steps in the project.
* I would use Agile model to be able to create changes to schedules so that deadlines are met.

### 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.*

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