# CS 255 Business Requirements Document Template

## 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?*

* Purpose – The purpose of this project is to develop a system that trains the users on their driving tests. DriverPass wants it to offer online courses, as well as the ability to schedule on the road training easily, and to offer practice tests for its users.
* Client – The Client is DriverPass and the owner of it is Liam. Liam identified a gap in the market where many students fail their driving tests due to lack of knowledge. He wants to develop a system that will help give the students what they need to pass the tests. He hopes that providing the students with the resources, the pass rate will increase.
* Main Goal - The main goal is to develop a system that allows the user to schedule on the road training and offer the user both online courses as well as practice exams that the user can take. It will also allow the users to see their progress on their training.

### 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 wants the system to allow the user to schedule on the road training and offer the user both online courses as well as practice exams that the user can take. The system is designed to fix the problem of inadequate driver preparation.
* The problem that they want to fix is the number of students that fail their driving test due to not knowing the answers. They hope to do this by giving access to current online resources.
* The different components needed are online courses, online practice exams, on the road training scheduling, User’s Profile, as well and all the different user roles. Like the user, admins, it, etc.

### 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?*

* Functionality of system – The system needs to be able to allow the user the ability to manage their driving lesson. This includes creating the reservation as well as modifying it. The system needs to track the user’s activity. It also needs to provide online courses and practice tests.
* The users need to be able to modify their appointments both online as well as over the phone by calling the office.

## 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 needs to run as a web application. It would be available for any device with internet. It also needs to be able to retrieve and send information.
* The system should run as fast as is necessary. To do this, the system needs to be built with scalability in mind to either increase flow when users are high as well as slow down when users aren’t online.
* The system should allow the users to download their profile data so that they can access it offline. It should be updated when the user is online but not offline. This will help keep the user’s profile accurate and up to date. It should be auto updated once they login with internet access.

#### 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 platforms would be cloud based to store data online. It should also be a web application that is cross platform so that users can access it from their computers as well as their phones.
* We do require a database. It will be used to store all the data from the system. It will store data like the user’s information, scheduling, etc. It will be what is used to store and retrieve data.

#### 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 distinguish between different users by allowing them access to limited functionality. The regular users (students) won’t have access to admin functionality. One way to do this is to hide any buttons or tabs that have those functions. This keeps it hidden and out of the way. These will be visible when an admin user is utilizing the system.
* The system should always inform the admin of any problem, as soon as possible. It is important to get this information from the admins so they can start working on it. The entire system could be at risk and will require immediate attention. To do this, an email could be sent to all admin emails.

#### 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 system should be able to allow the users the basic CRUD functionality. This will allow the system to work without the work of a developer. For example, the users should be able to create, update, read, and delete their on the road training. They should not be able to perform and of those functions in the online course sections. That should be limited to the admin users.
* The system needs to be able to adapt to the updating of platform updates. For example, when windows get a new version, the system should be able to function with the new update.
* The IT admin would be granted all CRUD functionality to the system. He should also be able to reset passwords, block users, as well as monitor the system’s health in case of potential risk.

#### 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?*

* Users need to be able to log in with a correct username and a password.
* The passwords can be reset by the admin if needed.
* To secure the data exchange, the client and the server should have an encryption that will ensure the connection is secure. The system needs to be built where the backend and the front end are not connected. The private data in the backend can be accessed, via private methods in the backend, but the front end cannot communicate to the database other than that. This will ensure that only the backend developers can access the database in any other ways than what is wanted.
* The account should react to a “brute force” hacking attempt. The account will lock down if the user inputs too many wrong 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 allow users to schedule, modify, and cancel the online reservation for the one on ones.
* The system shall validate the user’s credentials when attempting to log in.
* The system shall allow the users access to online courses
* The system shall allow the users access to online practice exams
* The system shall allow the users to reset passwords
* The system shall allow admin access to reset passwords, block accounts, manage online content
* The system shall track user’s progress and display it for them

### 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 have to be an intuitive system that can be used with a phone as well as a computer. It needs to be secure for all devices.
* Students will use the interface to do functions like scheduling on the road training, to access online practice exams as well as online courses. They need to be able to view their progress and reset their passwords as well.
* Admins will use the interface to manage online content as well as reset passwords.

### 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?*

* We assume that each user has access to the internet.
* We assume that the system will have support for updates as well as any errors that come up.
* We assume that the company DrivePass will continue to support the system.

### 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 system is limited to the third-party cloud service. They depend on the cloud service to perform as needed, which can be risky.
* The system is limited in what the users can do. It does not allow the admin to add or remove lessons. If this is needed in the future, they will need a developer to do it.

### 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 graph with blue squares

Description automatically generated