# CS 255 Business Requirements Document

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## 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 client is DriverPass. DriverPass has asked us to help implement a website for the purpose of helping driver ed students prepare for their driving test. This website is going to be able to provide students with practice exams, learning tools, and have basic user and administrator access.

### 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 is looking for their system to help increase the success rate of driving tests
* They will increase success rates by providing online classes, practice exams, and schedule training sessions.
* The system will be able to store data on reservations and allow them to be modified or cancelled.
* The system should have security features to secure the user’s information and the system itself.
* Users should be able to access from anywhere as long as they have internet connection.

### 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 users to take tests and classes all online to help prepare for the driving test.
* They should be able to book and modify practical driving training through the site.
* The system needs to allow administrators to make adjustments and access user information when needed.
* Some measurable tasks would be make sure we choose the best language to use and build the code for the website.
* We should prepare for that code by using models and UML diagrams to help map out what we need to get done.
* Getting the correct server system will be an important task.

## 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 needs to be able to run in a web based format as a website accessible from a browser.
* The system should run fast enough that users and administrators do not notice any issues or performance issues.
* Updating the system often will help keep those speeds up. There needs to be consistent updates for new features and OS updates. Those updates need to happen when user usage will be at the lowest they can be.

#### 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 platform should run on windows. All administrators will have access to windows.
* There will be back end support via a database. This will be managed using a cloud based system. This will allow for security support as well.

#### 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?*

* To distinguish between different users, we will have unique user names and passwords, and they will also have a corresponding user code only visible on the back end.
* Password inputs will be case-sensitive, usernames will not be case-sensitive as it is not necessary and could cause unnecessary confusion.
* Administrators will be notified immediately with any problems or warnings if there may be a problem with incorrect password 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?*

* The system will allow for changes to the user without adjusting code.
* System administrators should be able to make changes if requested. The user should be able to make adjustments and make a request to modify password.
* The IT admin will have access to all information and be able to adjust any and all information.

#### 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?*

* Required for the user to log in will be entering their username and password. There is the possibility of a two-factor authentication as well. This can be facilitated using the cloud system.
* Data exchange will be secure via the cloud system.
* If any “brute force” hacking attempts on a user account occur, the account should be locked. To fix this lock, the user will be notified and will need to answer security questions, do a two-factor authentication, and change their password.
* They will go through that same process if they ask to change their password.

### 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 provide practice tests, study classes, and practical tests for users.
* The system shall allow users to book reservations.
* The system shall check user login and validate it with the system.
* The system shall this system will show information about the user including driving instructor pairing.
* The system shall provide security features that keep user information safe.
* The system shall run consistent and not have interruptions.
* The system shall provide a tracking system to show the user what they have completed so far.

### 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 needs to be easy to read and easy to navigate for the user.
* The interface needs to have elements that allow the user to easily make reservations for driving lessons, access to online classes and access to the test catalog.
* The test catalog should show through the GUI the completed tests by the user and which tests they have yet to do.
* The user interface should be able to be the same regardless of operation system accessing the website.

### 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 are assuming that we will get all of our work done with the time that they have asked us to finish by.
* We are assuming that we have enough resources in our budget to get however many staff members that we need.
* We are assuming that the services that we are going to be using such as the cloud database access will be available within our time constraints

### 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?*

* Time is always a big factor for limitations. We are planning to be able to finish on time via our Gantt Chart, but with just over 4 months it could be difficult.
* Increase in staff will help that time but the number of staff members we can add is limited by the budget.

### Gantt Chart

