# 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?*

* DriverPass, a driver education company is looking to help drivers pass the driving test because there are very few driver educational tools on the market.
* DriverPass wants to develop a website with a system that can manage a variety of online features.
* DriverPass allows student drivers to learn online about driving laws and regulations, take practice diving exams, watch videos that will help them prepare for the on the road driving test.
* The purpose of the project is to provide an interactive learning experience for the students and build a system that allows students to make a reservation online to schedule a driving lesson

### 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 provides students with an interactive learning experience to better prepare student drivers for their driving exams.
* Almost 50% of students that take the written portion of the driving test fail, which is the problem DriverPass wants to fix.
* The two components that are needed for the system are the online virtual component and the components that allows students to make appointments to participate in lessons in person.
* The online virtual component provides the students the ability to learn online and take practice driving exams and also allows students and employees of DriverPass to sign students up for lessons by making appointments online.

### 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?*

* Once the DriverPass system is completed student drivers will be able to learn online about driving laws and regulations, take practice diving exams, watch videos that will help them prepare for the on the road driving test.
* Student’s should be able to view their progress when they log into their personal account. Students will also be provided with notes and advice from their diving instructors.
* Students will also be able to login to their accounts and customize their program by modifying their packages by adding lessons, removing lessons based on their training needs.
* Employees of DriverPass will be able to view student progress reports and make appointments for students to take driving lessons.
* Instructors and other administrative staff of DriverPass will be able to grade student tests and provide notes, advice and guidance that the students can later view.
* Administrative and security staff of DriverPass should have the ability to add and remove student access to the student’s DriverPass learning accounts.

## 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?*

* DriverPass requests that the environment for this system be a web-based application, so that it can be accessed by customers online.
* The system should run fast enough to handle numerous customers accessing the website from any device without any difficulties.
* The system should be updated regularly due to policy changes, changes in DMV driving regulations, new practice tests and security updates.

#### 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 environment for this system is a web-based application, so the ideal platform would be Linux; however, the system should also run on Windows and MacOS.
* The system back end will require an online database to store user credentials, transactional data and so that it can be accessed from anywhere.

#### 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?*

* Each user should create a unique username and password that is case sensitive to distinguish between different users, when the users are accessing the website.
* The input should be case sensitive to insure that it is unique and to increase security.
* The system should inform DriverPass admin immediately of any issues with the website to allow the admin to rapidly fix the problems.

#### 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 data can be changed without needing to change code. User data can be added, removed or modified without changing the code.
* The system will have regularly scheduled maintenance weekly and platform updates will be introduced at that time.
* The IT admin need full access to perform maintenance, modify code, update the website and implement 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?*

* The user needs a unique username and password that is case sensitive to log in.
* Encryption will be used to secure the connections or the data exchange between the client and the server. Encryption is part of common protocols to communicate securely with the website.
* If a user implements a “brute force” hacking attempt, that user’s account will be locked and DriverPass IT admin will receive an alert concerning the problem.
* There should be an option on the DriverPass website login screen allowing a user to reset their password if the user forgets their password. The user will have to select the link to reset their password, once the user clicks on the link, the website page will navigate to a page where the user will enter their email address. The user will receive an email with a security code and a password reset link. The user will click on the password reset link and enter the security code they received in their email to reset 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 be accessible through laptop and desktop computers.
* The system shall validate user credentials when logging in.
* The system shall allow users to view their driving schedules and purchase packages.
* The system shall allow users to modify their personal information.
* The system shall have the newest DMV driving rules and policies.

### 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 device has a display screen, a mouse and a keyboard to type input and respond practice test questions.
* The DriverPass developers, DriverPass IT department, DriverPass owners, DriverPass employees and the customers will all use the interface.

### 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 user has a functioning laptop or desktop computer to access and use the DriverPass website.
* The user has access to electricity to plug in the desktop computer or charge the laptop computer.
* The user has access to internet to access the DriverPass website.

### 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?*

* One of the limitations is that the application was developed for desktop and laptop computers, the application is only available for desktop and laptop computers. The DriverPass website is not fully functional on a mobile device and smartphones and tablets are not the ideal devices to access and use the DriverPass website.
* Time is another limitation, DriverPass expects the website to be completed in five months.
* The system will stop functioning once internet or connection to the DriverPass server is lost.

### 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.*

