# Garrett Dunn

SNHU

CS 255

9th January 2022

# 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?*

* Our client Liam owns DriverPass. DriverPass is a company that instructs future drivers about the fundamentals of driving while maintaining the rules and guidelines set by the Department of Motor Vehicles (DMV).
* Liam has asked us to develop a program that can extend his instruction into the digital realm. In this program, users will be able to learn the rules of the road, set appointments, and share their experiences with the course for other users to see.

### 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?*

* Liam informed us about the high DMV exam fail rate that his students have been experiencing, and eventually thought of having this utility created to assist the students with studying for the exam. This will allow the students to study on their own time in an effortless way to hopefully increase their pass rates. This will make it much easier for students who do not have time to physically attend the classes.
* The system will be updated frequently to ensure that users will be studying the current DMV rules and regulations of the road. This will also ensure that the official exam given to the students will be of current material that they have studied before.
* The students will also be able to schedule appointments and ask their instructor questions on the program.

### 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?*

* The student will call DriverPass to register with a secretary who will save the information of the student into the database. This will register the student.
* The students will have the freedom to change their passwords whenever they want, since their information will be saved on the cloud.
* The students will be able to schedule their exam appointments through the program. This will be achieved through the code along with the cloud database.
* The system will have the ability to scrape any changes of rules and regulations from the DMV, allowing the students to always have the updated study materials.
* System administrators will have the ability to access the system from wherever they are. This will allow full access to the system. This will be useful if they want to cut off packages, make reports, etc.
* Since the program will utilize the cloud, all the information will be easy to access.

## 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?*

* Liam requests that the system should run entirely on the web using a cloud-based service. Utilizing the cloud will be important as it will provide the proper security needed for the data of the system.
* Ensuring that the system runs consistently fast is crucial because students will be using the site to schedule appointments, access study materials, and communicate with their instructors.
* The system should update whenever there is a change in the rules set by the DMV. This will ensure that students will have access to up-to-date information.

#### 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?*

* Linux will be the most optimal choice for the system, as its ability to maintain bulky programs with ease will be much needed.
* A database will need to be implemented since we are dealing with information and need to have access to that information whenever desired. This is another reason for utilizing cloud-based services. Also, the database will allow the system to be updated automatically in accordance with ongoing changes of DMV guidelines.

#### 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?*

* Liam, Ian the IT officer, and the secretary will all have access to the administrative control of the system. The secretary will oversee the registering and managing of the system’s users.
* The system will utilize case sensitivity as it is a frequent practice.
* The system will notify Ian in the event of an error so that he can address the error as soon as possible.
* The users will be distinguished in the system by their usernames and passwords.

#### 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?*

* Since the system is requested to be as easy and simple to manage as possible, it should allow modifications whenever necessary without the need to update the code.
* The system will be designed with growth in mind and will be easy to update whenever needed.
* The IT admin will have full access to the system to properly maintain it.

#### 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 will need both their username and password to log in to the system.
* The user will be given 5 chances at correctly entering their password. If the password is incorrect more than 5 times, the account will be locked and will need to contact the secretary to unlock it.
* The cloud will be responsible for the exchange of data between the client and the server.
* In the case of a user forgetting their password, they will have an option to reset it circumventing the secretary entirely.

### 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 register new users when their information is inputted.
* The system shall make reservations automatically as users request them.
* The system shall offer the user up-to-date information from the DMV along with the relevant classes and tests.
* The system shall display all three packages available to the user.
* The system shall offer the ability to see their instructor and which type of car is to be driven during practices and tests.
* The system shall be designed to be as user friendly as possible.
* The system shall be as efficient and quick as possible.

### 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 user will be able to select the package they need, make reservations, access the relevant information, classes, and tests, and communicate with their instructors.
* The system needs to be compatible and consistent throughout all devices.
* The user will need their username and password to log in, and then any supported device that is connected to the internet.
* All employees of DriverPass will also have access to the interface and should be allowed to make changes as they are needed.

### 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 cost was not mentioned in any of the conversations held. This assumes that they will be able to afford the system.
* There was no mention of whether they have the necessary resources to develop the system. This assumes that they do in fact have the resources required to develop the system.
* There is the assumption that the users have internet access along with the required electricity for their device to access the system.
* There is also the assumption that the providers of the cloud will have the bandwidth necessary to handle any number of users at all moments.
* DriverPass assumes that the DMV will allow them to receive the automatic updates needed to keep the information current.

### 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?*

* Without the necessary power and internet access, the system cannot function.
* The system is to be built in a span of five months, which is short and could lead to constraints on the system overall.
* There was no consideration regarding the number of staff needed for the system.
* There is no estimated number of how many users the system might receive.

### 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.*

