# 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?*

* The client is DiverPass and the owner, Liam
* Clients should be allowed to take practice exams and classes online, according to Liam. If they choose, they will also provide on-the-road training. He needs assistance in creating a system that can manage everything.
* He wants the technology to make it possible for him to access his data both offline and online.
* It must be possible for clients to schedule driving lessons.
* He must be able to download the reports and other data so he may work on them at home, for instance, using Excel.

### 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, is dedicated to improving driving education for everybody.
* Employees must have access to these components:
  + Liam can offer data on current client drive reservations
  + Ian (IT) can reset staff passwords, and it is possible to track information about scheduled appointments.
* Liam would also like the system to be connected to the DMV for updates on updated rules and sample questions in order to guarantee that his clients got the most recent information.

### 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?*

* These functionalities should be available to DriverPass's employees:
  + To prohibit access to accounts for those who have left the organization and reset passwords for existing workers, the IT officer needs full access to all employee accounts.
  + Liam, the owner, has to have access to staff monitoring data for accountability's reason. This means determining who scheduled the client appointments, who canceled the lessons, and who is modifying the cancellations.
  + System must give an report on activity so that he may review this data.
  + Customer-related information (making or changing appointments) an be accessed by admins in the company.
  + Avoid drivers being double booked for two separate customers at the same time.
* Using DriverPass's system, customers should be able to access their own personal accounts and do various functions, such as:
  + To ensure that privacy and security are given first attention, this system must enable its customers to update their passwords and information on their account.
  + Allow customers to see how they've improved during their driving sessions (test progress, driver remarks following training and up-to-date information on the chosen package's status).
  + For the consumer to have the most up-to-date information, the DMV should notify them of any revisions to its policies and regulations.

## 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?*

* Under what circumstances must this system function?
  + Cloud environment that is web-based
* What is the ideal system speed?
  + The system should load within a few seconds, so customers don’t get tired of waiting.
* What is the recommended frequency of system updates?
  + Often (at least monthly) to maintain security and make sure nothing is out of date. You can also make updates to issues on the fly.

#### 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?*

* Which operating systems are appropriate for the system?
  + All of the most popular browsers for PCs and mobile devices should be able to use the system.
* Does the back end of this program need any tools, such as a database?
  + To store all user data, a database and cloud server would be required. The cloud server allows the team to stop worrying about backup and security.

#### 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?*

* How are you going to differentiate amongst users?
  + Every user will have distinct login information.
* Is the input case-sensitive?
  + Usernames: No
  + Passwords: Yes (helps with security and people’s accounts from getting hacked)
* When should an issue be reported by the system to the administrator?
  + The system should alert admins right away.

#### 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?*

* Is it possible to modify the user without altering the code?
  + All user data is kept on the backend, no need to change the code.
* How will platform updates affect the system?
  + This shouldn't be a problem because of how it is designed.
* What kind of access is required by the IT administrator?
  + The database and server, must be accessible.

#### 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?*

* What does the user need in order to log in?
  + Personal email and custom password.
* How can the connection or data transfer between the client and the server be secured?
  + The best way to secure connections is to use multi-factor authentication.
* In the event of a "brute force" hacking attempt, what should happen to the account?
  + Lock the account after a set number of unsuccessful tries. The user can contact customer service or verify their identity and reset their password to unlock it.
* If a user forgets their password, what happens?
  + Give the opportunity to reset their password via emailed instructions.

### 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 verify their credentials upon login and let customer reset password in needed.
* The system shall list the three different packages for driving, along with their pricing points.
* The system shall show finished classes and the advancement of students.
* The system shall notify administrators of any revisions and show all DMV needs (up to date).
* The system shall let customers schedule their lessons and pickup location.
* The system shall show customers drivers and vehicles there before making a reservation.
* The system shall show all upcoming reservation details.
* The system shall let administrators monitor every reservation.
* The system shall provide customers access a variety of DriverPass materials and information.

### 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.)?*

* What requirements does the interface have?
  + Customers have to be able to schedule driving lessons in advance.
  + Customers have to be able to access the most recent DMV materials and needs.
  + Computers and mobile devices should both be able to use the system.
* Who are this interface's various users?
  + Clients who want to use DriverPass (need assistance with their driver's test).
  + Administrators who must be able to see modifications to reservations and client accounts.
* What capabilities must the interface provide for each user?
  + Bookings must be able to be changed, added or cancelled by customer.
  + Modifications made by customers must be visible to administrators.
  + Consumers must be able to peruse every bundle that is offered and select the one they wish to book.
  + The interface must be usable by admins. They must to change access, reset passwords and download reports.
* How will the interface be used by the user?
  + Computers or mobile devices will be used.

### 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?*

* What aspects of your design above weren't specifically addressed?
  + I feel like almost all of my design aspects were addressed.
* What presumptions about the users or their technology are you making in your design?
  + The browsers that this system will function with are available to each client.
  + Customers and administrators will find the system easy to use.
  + Current IT support can maintain the system as needed.

### 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?*

* What drawbacks do you think your system design has?
  + Must have a reliable system.
  + There are a lot of moving parts. The cars and drivers must be booked and reserved right away so as not to double book them. Also, putting a hold on a driver/car while they are booking is important so someone cannot swoop in and book it from under them as they are completing the process.
* What financial, time, resource, or technological constraints do you face?
  + Finished by 10 MAY.
  + DriverPass's ability to pay will determine the budget.
  + The hardware that DriverPass currently has (their systems might be slow for the administrators and internet connection might be weak, slowing the process down)and devices the customers have (older smart products might not be able to run program correctly) are a few tech issues we might run into.

### 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.*

