# CS 255 Business Requirements Document

**Tip:** You should respond in a bulleted list for each section. This will make your thoughts easier to reference when you move into the design phase for Project Two. One starter bullet has been provided for you in each section, but you will need to add more.

## 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 purpose of this project is to create a system that helps students pass their driving test on the first time of taking them. The client is Liam, owner of DriverPass. Liam wants a system that is accessible from a computer or smartphone where students can set up driving lessons with DriverPass drivers, take practice tests using up-to-date information from the DMV and take online classes provided by DriverPass. This information should be accessible while connected to the internet or not. If not connected to the internet, then modifications can not be made to avoid any redundancies. The goal is to make drivers better on the road.

### 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 sees that there is a problem with people failing driving courses and would like the system to provide customers with a way to get new information from DMVs and take lessons from instructors to cut down on the failed tests for driving tests at the DMV.
* DriverPass would like the system to be able to take information from a user or the secretary and input it into the system.
* This information includes first and last name, address, phone number, state, credit card number, expiration date, security code, and pick up and drop off location (should match) from a user or the secretary and input it into the system.
* The system should give access to four main types of users. The Administrator access would be given to Liam to oversee the company and be able to adjust where needed. This access will also be able to print out activity reports to see who made modifications and cancelations and when they happened. The technical support access will be similar access to administrative but with access to perform maintenance on the system if necessary. The secretary access will be able to schedule appointments on a user’s behalf. The user will be able to access their own information and schedule and modify appointments for themselves.

### 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 system will have three packages that the user can choose from. One will be 6 hours of driving split up in 2-hour increments. Two will be 8 hours of driving with a trainer (split into four 2-hour increments) and an in-person lesson on current DMV rules and policies. Package 3 will be 12 hours in a car with a trainer, an in-person lesson on DMV rules and policies, and access to the online classes which include practice tests.
* DriverPass will have 10 cars, and each reservation will be assigned to a driver. That information will be seen on the website and on the reports.
* The technical support and administrator access should be the only ones that are able to reset passwords.
* All lessons will include driver notes.
* The hub will have a window that includes the progress of all tests. The format should be as follows; Test name, time taken, score, status. The status should be either in progress, failed or passed.

## 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 program will be web-based, using cloud technology. DriverPass will be accessible via Windows, Mac, and mobile online providers. There will be no application at this time.
* The system should run optimally so that the customer does not experience any lag and should support multiple users at the same time.
* The system should be updated anytime there is an update from the DMV or quarterly after a bug review.

#### 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 system should run on Windows, Mac, Linux and any other device that is able to connect to the internet.
* The back end will be maintained by a cloud-based database from a third-party company.
* The system can be used on any modern web browser such as Edge, Firefox, Safari, etc.

#### 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 will have their own profile with a login and password. The password and the usernames will be case-sensitive.
* The different roles of the system are customers, secretaries, admins and IT officers. Each will have differing roles and responsibilities.
* Admin will be informed if there are multiple failed login attempts, if a password is changed, or if a user’s information is changed.

#### 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 user will be able to make changes to information such as name and address without changing the code. This will just update the objects that are the user’s name and user’s address.
* The system will adapt to updates by implementing its cloud-based deployment. Using a third-party cloud company will keep the business up to date while taking the stress off the employees.
* IT administrators will need full access to the system. They will need to be able to make changes to the system when required. They will need to unlock profiles when customers lock them. If there are any small repairs in the system or updates that need to be installed in the system, the IT administrators will need to have access to implement them.

#### 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?*

* Each user will have a username and password that is unique to them. The IT manager and the owner of the company will be the only ones with access to that information.
* The security and backup of the system will be maintained by a third-party company, preferably through the cloud.
* If a “brute force” hacking attempt were to happen to an account, the account will be locked until the true customer is able to verify their identity. Admin will be notified immediately.
* Password resets will be available through email verification.

### 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 have user authentication with multiple roles and different types of access.
* The system shall implement a calendar of start dates, turn in dates, class end dates, and important holidays.
* The system shall implement a cloud-based database to store user data, reservations, lesson packages and DMV updates.
* The system shall include a scheduling system for booking in-person driving lessons, online classes and practice exams.
* The system shall get updates from the DMV to give current information to the students via updates.

### 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 display the DriverPass logo at the top with an online test progress box and the user’s information next to each other. Underneath the online test progress box will be a box for the driving instructor to input notes on in-person lessons for the user to improve on. To the right of the driving instructor’s notes will be a box that displays any special needs and underneath that will be a photo of the driver and the student so that they are able to meet and confirm that each other are the people they are supposed to meet.
* The different users for the interface will be the customer to see the notes and their progress on tests, the driver will need access to input their notes for the student. The administrator and IT officers will need access to make sure everything is displaying smoothly and input changes to the GUI if necessary.
* Each user will be able to access the interface through a browser of their choice. Their access will be based on their login. Users will only be able to access their accounts, and the drivers will only be able to access the user interface of the students that they are assigned to. Admin will have access to all accounts to update progressions in test and edit information if necessary. They will also be able to schedule a user for a class if the user schedules the class in person.
* There will also be a page to contact the company that the student will be able to access in case they need to communicate with everyone.

### 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 will have access to the internet to get up-to-date information for driver’s tests and appointments.
* The DMV will provide new information for tests.
* The students will know how to use a basic interface to access our 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?*

* Offline systems will not be able to get updates and will be forced to use what they have downloaded.
* The system will have to rely on a third-party for payment processing.

### 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 screenshot of a project

AI-generated content may be incorrect.*