# 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?*

* DriverPass, owned by Liam, is hoping to take advantage of a void in the market when it comes to training students for the driving test at their local DMV. DriverPass wants to provide training to their customers through online practice tests and on-the-road training that can be scheduled online, call, or visit their office if needed.

### 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 noticed that there is a need for better driver training, and many people fail their driving tests at the DMV. His solution is to provide online practice tests and on-the-road training to customers through his company with this project.
* The components the system should have:
  + Administration where the admin can control different accounts and accessibility.
  + Secretary account where a user can take appointments by phone or from walk-in customers.
  + User accounts where the customers/students themselves can schedule appointments on their own to take driving lessons.

### 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?*

* Objectives of the system include:
  + Automated scheduling.
  + Track user statuses.
  + Track drivers and cars used for driving lessons with each student.
  + Offer online classes and tests to students/customers.
* Goals are achieved if these are completed by the system:
  + Scheduling services for driving lessons- both the customer end and in the office end by the secretary for in-person scheduling.
  + Online classes and tests are integrated.
  + Tracking ability where all operations are logged (reservations, cancellations, edits, when those took place, etc.)

## 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 should run in a web-based environment and load pages in 5 seconds or less.
* The online scheduling system should log the appointments in 10 seconds or less.
* The system should update after every scheduling and at the end of the day to prevent double booking or overbooking of driving classes.
* The system should be connected to the DMV and notify DriverPass if new rules, policies or sample questions come about.
* The system should be able to handle multiple users at a time.

#### 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 for security and abundance of tools available.
* Mobile friendly interface for both Android and IOS operating systems.
* The system should run over a serverless cloud-based interface with RESTFUL APIs.

#### 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?*

* The system should distinguish between users based on username/email and case-sensitive password combinations.
* For tracking:
  + The system should correctly track/identify the driver and the car the customer is scheduled to go out with for their driving lesson.
  + The system should track who made a reservation, who canceled it, and who modified it last.
* The system should have a operations sensor/monitor that automatically notifies admins if the system goes offline unexpectedly or catches a problem.

#### 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?*

* Ian needs access over all accounts for user account management.
  + For example, if someone forgets their password, he can reset them without having to change any code.
* System should be able to be updated based on new DMV rules, polices or sample questions or security and software updates with minimal downtime and pushing updates during less peak hours of the day.
* Since it will be a cloud based system, updates and memory shall expand and adapt based on demand without any delays.

#### 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?*

* Only Liam can print an activity report and disable a package if DriverPass does not want any more customers to register for it.
* Only Ian has full access over all accounts for employee access management for security and accessibility control.
  + For example, block access of employees who no longer work for the company.
* Store user accounts, user private information (credit card info, addresses, names, etc.), employee accounts, and any other private information securely using encryptions.
* Encrypt data being sent between client and server.
* Users are required to have a specific username/email and case-sensitive password combination to login.
  + If a user forgets their password, they should be denied access and must contact Ian for a password reset.
* If a “brute force” hacking is attempted, the system will also deny access to that specific machine within that IP address and the system will have a hold on logins or registrations.

### 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 validate user credentials when logging in.
* The system shall print an activity report for Liam to see reservations, cancelations, and modifications.
* The system shall be able to disable a package if DriverPass does not want any more customers to register for it.
* The system shall allow customers to:
  + Schedule/modify driving lessons online.
  + Input the day and time for their lesson, name, address, phone number, state, credit card info, and pickup/drop-off location.
  + Choose a package of their choice.
  + Reset their password if needed.
* The system shall allow Liam’s secretary to:
  + Schedule/modify driving lesson appointments with the same components as above.
  + Input the day and time for the lesson, student’s name, address, phone number, state, credit card info, package, and pickup/drop-off location- for when customers call or visit their office to schedule appointments.
* The system shall allow Liam’s drivers to view their schedule (student information, date, time, car, etc.)

### 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 should look like how Liam’s sketch portrays.
  + The Online Test Progress section should show the tests the customer took.
    - Display test name, time taken, score and status-in progress, failed or passed.
  + The Driver Notes section should show any comments the driver left for the student for the lessons (Display how Liam’s table is set up).
* The different users for the interface would be:
  + Liam
    - Be able to view activity reports on driving lessons.
    - Disable a package if DriverPass does not want any more customers to register for it.
  + Ian
    - Be able to view all user accounts.
  + Liam’s secretary
    - Schedule/modify driving lessons Customers/Students from in-office scheduling.
  + Customers/Students
    - Schedule/modify driving lessons online.
    - Access online classes and tests (scores, progress, status, etc.)
  + Drivers
    - View their schedule with student information, car, date, time, etc.
* A page for contact info/ways of contacting DriverPass and a way to contact the student.
* Run on a cloud-based interface.
* The interface should be computer browser and mobile friendly.

### 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?*

* Assume that DriverPass has the necessary hardware to run the system within their company.
* The team has all the necessary skills to complete this project.
* The team has all the necessary resources available to complete this project.
* Users will have internet access and a valid email address.

### 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?*

* The system will stop functioning once connection to the internet is lost.
* The system will stop functioning once electricity is lost.
* Complete and deliver the system by May 8.
* System can only update with online connection.

### Gantt Chart

A diagram with different colored squares

Description automatically generated*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.*