# CS 255 Business Requirements Document Template

Complete this template by replacing the bracketed text with the relevant information.

This template lays out all the different sections that you need to complete for Project One. Each section has guiding questions to prompt your thinking. These questions are meant to guide your initial responses to each area. You are encouraged to go beyond these questions using what you have learned in your readings. You will need to continually reference the interview transcript as you work to make sure that you are addressing your client’s needs. There is no required length for the final document. Instead, the goal is to complete each section based on your client’s needs.

**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?*

* Purpose: Take advantage of the void in the market to train students for their driving test
* Client: DriverPass (Company), Liam (Owner), Ian (IT)
* System: Wants to create a system to allow students to prepare for their driving test by taking online classes, practice tests and on-the-road training.

### 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?*

* System: Wants to create a system to allow students to prepare for their driving test by taking online classes, practice tests and on-the-road training.
* Problem: Wants to fix the problem of people failing their driving test at the DMV by preparing them to be confident and safe drivers.
* Components:
  + Allows customers to be able to make reservations:
    - Each lesson is two hours long.
    - Customer chooses the date and time they want to take the lesson.
    - Make reservation by scheduling online using their account, call the office or visit the office.
    - Allow for reservation modification (cancelling or changing), as well as who made the reservation or change.
  + Be able to track which customer is matched up with a certain driver, time and car.
  + Choose between the three different packages that are being offered:
    - Package One: Six hours in a car with a trainer
    - Package Two: Eight hours in a car with a trainer and an in-person class to teach student about DMV rules and policies
    - Package Three: Twelve hours in a car with a trainer and an in-person class to teach student about DMV rules and policies as well as access to the online class with all the content and material, along with practice tests imbedded in the online class.
  + Customer should be able to create a profile and allow password reset online.
  + The system needs to run off the web, preferably over the cloud; with minimal technical difficulties.

### 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?*

* Be able to access data and information online from any computer or mobile device.
* Different levels of security:
  + Employees have different rights and roles.
  + Ian: Needs full access. To reset passwords and block access to employees who are no longer employed.
* Be able to print activity reports to figure out who is responsible for reservation changes.
* Ability to disable a package if DriverPass does not want any more customers registering for that specific package.
* Be connected to the DMV so that DriverPass can update with the new rules, policies and sample questions. As well as getting notifications when an update has occurred.
* Company wishes to be completely cloud based for data, backup and security.
* Information for registration by phone call:
  + First name, last name, address, phone number, state, and their credit card number, expiration date and security code.
  + Pickup location, drop-off location (which should be the same as the pickup location).
* Web Design mockup:
  + Logo at top of page
  + Online test progress (show what’s in progress and what the customer has completed).
    - Test Name
    - Time Taken
    - Score
    - Status (not taken/in progress/failed/passed)
  + Student Information
  + Driver notes
    - Table showing (Lesson Time/Start Hour/End Hour/ Driver Comments)
  + Special needs
  + Driver photo
  + Student photo
  + Customer information input page
    - Filled in by either student or secretary
  + Contact Page
    - Information to contact the company and a way to contact the student

## 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?*

* Environment: The environment that this system needs to run in is web-based.
* Speed: The system needs to run fast as it needs to run off the web, preferably over the cloud. The system needs to backup and deal with security on its own, that runs with minimal technical problems.
* Update: The system should update immediately when progress is made on training courses, practice tests, driver notes from the driving lessons. The system should also update when reservations are made, completed, changed or cancelled. It will also update when the DMV releases new rules, policies or sample questions. As well as giving DriverPass a notification whenever they have an update.

#### 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?*

* Platforms: The system should work on any platform, so that any computer can access the information. Since this is a web-based system, it needs to be able to work on browser that these platforms use.
* Back-end: To support this application, the system requires a database that is able to be accessed, from any computer or mobile device. Liam, also wants to be able download reports so that he can work on at home on some of the information.

#### 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?*

* Different Users: To be able to distinguish between different users, the system will use password-protected accounts. Usernames and passwords will be used to authenticate different users. Also, all of the users should be assigned roles, that defines what their authorization levels and the access level to what the system offers.
* Case-Sensitive: For greater security the password should be case sensitive.
* Alert: The system should inform the admin of a problem, when someone has tried to access an account when a limit of incorrect password attempts is reached.

#### 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?*

* Changes: The user should be able to create/remove/modify any of their information with out changing any code. Also the instructor should be able to modify the driver notes section of the account so that they can provide feedback.
* Platform Updates: When browsers or platforms are updated it should not affect the back-end of the system. Patches and updates will be made when a user’s update unexpectedly affects the underlying code of the system.
* Access: The IT admin, Ian, needs to have full access over all accounts, so that he is able to fix any issues that arise. Or if he needs to modify or change roles of employees.

#### 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?*

* Log-in: In order for the user to log-in, a username and password is required.
* Secure connection: To make sure that the connection is secure, a multi-factor authentication should be required. For example, sending a one-time passcode to the user’s personal device whether it be through text or personal email.
* Hacking: As said above, limiting the number of attempts in order to access an account should be required. An example of this is no more than three attempts should be allowed to access an account before being locked out, at which point DriverPass’ IT department would need to be contacted to unlock the account.
* Forgotten Password: If a user forgets his/her password there should be an option to change it, which will require them to click on a link that will send them a password reset email to their personal email. When this occurs it should notify the IT department that a password change has occurred.

### 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 provide their customers with three different packages to choose from when they sign up with the cost of each package.
* The system shall show the user all of their completed training courses as well as their progress with their selected package.
* The system shall display all of the details of their reservation to drive with instructor in their account.
* The system shall have an option to see the up-to-date DMV requirements and give the administrator any notifications on any updates.
* The system shall allow customers to make, change or delete any driving lessons on their account.
* The system shall be able to allow customers to view or edit all of their personal information associated with their account.
* The system shall allow customers to enter their pickup location for driving lessons.
* The system shall allow customers to view which drivers and vehicles are available prior to booking their reservation.
* The system shall validate the customers credentials when logging in by using the multi-factor authentication.
* The system shall allow the administrator to track all of the reservation activities.
* The system shall allow customers to access all of the online resources that DriverPass offers, including all of the online training courses and practice tests.
* The system shall allow the customers to reset the password to their account.

### 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.)?*

* Interface Needs: The needs for the interface are allowing customers to make their driving lessons, must allow customers to participate in any online training courses and practice tests, give the customers the most up-to-date DMV requirements, as well as be accessible any different devices, including phones, tablets, computers, etc.
* Different Users: The different users for the interface should be customers that have interest in DriverPass’ services and the administrators who need to view changes to existing customers accounts and reservations.
* User Needs:
  + Customer:
    - The customer needs to be able to add, cancel or update reservations.
    - The customer needs to be able to select which package they would like to purchase and view all of DriverPass’ package options.
  + Administrators:
    - The administrators will need to be able to view changes made to each customers reservations.
    - The administrators will need to have the ability to download reports for each customer.
    - The administrators will need to be able to utilize the interface for any password resets or role changes for their employees.
* User Interaction: Users will have interact with the interface through online browsers through their personal devices, whether that be phones, tablets, computers, etc.

### 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?*

* Design Assumptions: Some things were not specifically addressed in the design, is that limited discussion was held about the website navigation from the perspective of the customer, the only thing seen was Liam’s handwritten sketch. The design needs to be intuitive for both the customers and administrators, for what access they have.
* Technology Assumptions: The assumptions that we are making is that the customer has access to the necessary browsers or platforms required to run the interface, that customers and administrators will be able to navigate through the system with ease, and that IT will be able maintain the system when required.

### 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?*

* Design limitations: The main system design limitation that I see is that as DriverPass grows, there is a limited number of instructors, vehicles and times available for the customer to get the on-the-road instruction that they purchased through their package.
* Resource limitations: The time to complete the system is from January 22nd through May 10th, if everything is done according to the Gantt Chart below. The budget limitation on what the DriverPass is able to pay to get exactly what they want. The technology limitations is if the customer has the required technology to access DriverPass’ system.

### 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 screen shot of a graph

Description automatically generated