# 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?*

* The purpose of this project is to provide driver training to students.
* The client, DriverPass, is looking to take advantage of a market void in driver training resources by offering online courses, practice tests, and on-the-road training as well as additional resources to help students improve their driving test scores.

### 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 wants this system to fill the void in available resources for driver training.
* The problem DriverPass wants to fix is the high failure rate of students taking their driving tests.
* The system will need to provide online accessibility, cloud connectivity, user data management, and scheduling functionality.

### 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?*

* When completed the system should be able to:
  + Improve students driving skills and knowledge
  + Reduce driving test failure rate
  + Provide current accurate information regarding DMV policies
  + Offer flexible package options that can be updated later on
  + Ensure UI is user friendly
* Measurable tasks needed to be included:
  + User account creation and account management
  + Scheduling system for managing reservations and personnel availability
  + Practice test data (in-progress and completed)

## 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 needs to be a web-based environment with cloud access.
* The system needs to be fast enough for remote access by any user at any time.
* The system should be automatically updated on a regular basis, sending notification whenever an update is available.

#### 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?*

* Since the system will be a web-based service it can work on any operating system with any device that has an internet connection.
* The cloud server will be outsourced utilizing whatever platform the service provider uses. This also mitigates any additional backend resources and tools needed as it is part of the cloud serve.

#### 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?*

* Users will be able to create their own unique username and password during initial sign up.
* The input should be case-sensitive, utilizing special characters and a minimum password length as well as the inclusion of a multifactor authentication to increase account security.
* The system should immediately log any errors or bugs and send a notification to the admin.

#### 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 to the user should be made without affecting the system’s underlying code.
* The system should be able to adapt to platform updates without any issues.
* The IT administrator will need full access as they need access to modify the database and the cloud server.

#### 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?*

* To login the user will need their username and password as well as their multifactor authenticator to verify themselves.
* HTTPS should be used to establish a secure connection between the client and server.
* To prevent “brute force” hacking attempts the account should be disabled after a certain amount of failed login attempts such as 3. When this occurs, a system event should be logged notifying the admin of a potential security breach as well as a notification sent to the user’s email with a link to reset their password.
* If a user forgets their password, there should be a link they can click that brings them to a page asking for the email of their account which will be sent a password reset link. There may also be an account recovery feature using their multifactor authentication method which then prompts the user to reset their password immediately.

### 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 prompt customer with three package options.
* The system shall allow the admin to disable/remove packages when they are full or no longer available.
* The system shall confirm customer’s package selection and personal information: credit card information, first and last name, address, and phone number.
* The system shall prompt the customer to create a user account.
* The system shall validate a user’s credentials when logging in.
* The system shall make a distinction between a user and an administrator.
* The system shall allow a user to reset their password.
* The system shall disable account access after 3 failed login attempts.
* The system shall display the student’s information, test progress and scores.
* The system shall display quizzes and practice tests for the specific packages the customer purchased.
* The system shall allow a scheduling feature for the student to schedule driving lessons.
* The system shall allow the admin to cancel scheduled driving lessons when necessary.
* The system shall display a driving lesson’s duration: start and end time.
* The system shall display instructor’s notes for a student’s driving lesson.
* The system shall instructor and student photos.
* The system shall allow online access from anywhere.

### 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 different users for this interface are the customers/students, the employees/instructors and the admins. The users should be able to interact with the interface through any browser whether it is on a mobile or desktop system.
* All Users:
  + Access Homepage
  + Login/account registration
  + View and modify user details
  + Ability to reset password
* Customer/student needs:
  + View package details
  + Access to online learning tools
  + View test progress and scores
  + Schedule lessons
  + View date/time of lessons and instructor notes
* Employee/Instructor
  + View scheduled lessons
  + View client/student information
  + Add instructor notes to client lesson page
* Admins:
  + Ability to see registered user’s information
  + What packages have been selected/purchased and by who
  + Ability to add/remove/disable specific packages
  + View which instructors are matched with different students

### 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?*

* Some assumptions that were not specifically addressed but can be made are:
  + Continuous site accessibility
  + Interface comprehension by all users including administrator capability
  + Customers following through on scheduling
  + Instructors availability to attend driving lessons

### 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?*

* A major limitation is the site requires network access. If a customer does not have an internet connection, they will not be able to utilize the online platform. This may present either in a customer not having the necessary hardware to access the internet or the internet access is being restricted through an outage or DriverPass servers are experiencing network connectivity issues.
* Another major limitation is in the amount of cars DriverPass has available. If the amount of packages purchased reaches the limit of available cars then customers will no longer be able to purchase that package.
* An additional limitation that is to be expected is meeting all of the requirements within the given budget and time constraints set forth by DriverPass.

### 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.*

