# 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 create a system for DriverPass, a company that helps people learn how to drive.
* They want to offer online classes, practice tests, and on-the-road training.
* The system will handle online and offline data access, and the scheduling and tracking of lessons and tests.

### 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 noticed that many people are failing their driving tests, they want to fix this by providing a training system to better prepare students for driving tests.
* The system will allow students to take online practice tests, schedule, cancel, and modify appointments as well as access control for employees.
* The components needed are online classes and testing, appointments scheduling, user access control and tracking, student registration, DMV connectivity, cloud-based architecture, and a user interface.

### 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?*

* Administration Objectives:
  + Track users status, registration, progress, and tests
  + Manage drivers schedules, vehicle assignments, and package offers
  + Access for updates to DMV rules and policies
  + Log all changes made to system
* Users:
  + Option for users to register online or directly with the company
  + Flexible and modifiable training packages
* Drivers:
  + Access to their schedules, student assignments, and be able to provide comments

## 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?*

* System will be web-based, preferably over the cloud
* Should offer quick response times for best user experience
* Should update regularly to install new features, fix bugs, update training content

#### 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?*

* System is cloud-based is platform independent, it can run on Windows, macOS, and Linux
* Back end tool include: cloud based database, API service for notifications
* Cloud services like Amazon AWS, Google GCP, and Microsoft Azure offer many if not all of the services required

#### 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?*

* User will log in with a unique log name or their email address
* Inputting username should not be case-sensitive, inputting password should be case-sensitive
* System will notify administrator when there has been multiple failed login attempts, system bugs or crashes

#### 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?*

* By using an administrator access program, you can make any changes to the user without changing code
* Cloud-based platform updates are handled by the provider
* IT will have administrator rights to manage user accounts, monitor system access, and other necessary tasks

#### 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?*

* User needs their unique log on name and password
* Use multi factor authentication, one time passcode as a second verification
* Use HTTPS SSL to encrypt communications, server side is encrypted by cloud provider
* After 5 failed login attempts, system locks the account and administrator access users are notified
  + Only administrator level users can unlock the account
* Use a “forgot password” system to reset password
  + Time sensitive password reset link is sent to the email address on registration/profile

### 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 allow users to register online or in person
* The system shall allow users to select or modify training packages
* The system shall have access to online classes and practice tests
* The system shall allow users to schedule driver lessons
* The system shall allow users to make, cancel, and modify appointments online
* The system shall track user progress and test results
* The system shall provide different access levels for administration, IT, and students
* The system shall create downloadable reports on user activities and progress
* The system shall notify administrators to system crashes, security threats, & DMV updates
* The system shall lock user account after 5 unsuccessful login attempts
* The system shall send a link for users to reset forgotten passwords
* The system shall track and log all user activities and system changes
* The system shall update DMV regulations when available
* The system shall provide a user-friendly interface that is accessible across platforms

### 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 shall be user-friendly and reflect the drawing provided by DriverPass
* Display test information, progress, status of training activities
* Students need access to register, select, and modify training package, schedule driving lessons, view/take online courses and tests, view progress
* Drivers need access to their schedules and their students records to add comments
* Administration and IT need to manage all user accounts, view activity reports, monitor system for performance and security
* Users can interact via web page and can be accessed on desktop and mobile devices

### 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 assumes we will be using one of the listed cloud service providers, as they include many of the system requirements like security protocols, API and notification services, and databases
* Assumed the cloud service is providing fast, reliable, scalable, and secure system
* Assumed that the system will be accessible across all devices and platforms

### 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?*

* Need for uninterrupted internet access
* Users need to have some familiarity with the Internet
* Unique designs and features might be limited by the cloud provider
* More features and storage mean higher operating cost

### 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 graph with different colored squares

Description automatically generated with medium confidence