# 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 Client is DriverPass.
* The Client’s goal is to create a system capable of giving their customers, which are student drivers, the tools and knowledge necessary to pass their driving test. The necessary tools they wish to offer include online classes, practice tests, and in-person 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?*

* DriverPass wants the system to be able to register students for their services. This includes the ability to take online classes, practice tests, and the ability to schedule on-the-road training with various packages being offered by DriverPass. To be able to do this, the system will require several components. A component for offering and scheduling online classes. A component for offering and scheduling in-person over-the-road training. A component containing practice tests. A feedback option would also be needed for the trainers/driving instructors to note the students’ performance. A backend administrative component would also be necessary to securely store various customer data, including their payment details and personal information. A component consisting of the student’s progress, trackable by an admin or user, would also be useful.

### 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 a fully functional website that offers the various services that DriverPass seeks to offer.
* The system should allow students, or users, to take online practice tests
* Users should be able to register for online classes offered by DriverPass
* The system should have a Private backend for Administrators or other authorized personnel.
* Allow employees to access data while offline, then edit or upload while online.
* Manage the various packages offered by DriverPass including Package 1: 6 hours of on-the-road training, Package 2: 8 hours of on-the-road training plus an additional in-person lesson, and Package 3: 12 hours of on-the-road training plus an additional in-person lesson.
* Scheduling interface that updates in real time for both users and employees, allowing both users and authorized employees to adjust on-the-road training appointments as needed.
* Ability to track student progress and grades.
* A feedback section for the instructors to keep a record of student driving lesson progress.

## 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 run in a web-based environment.
* The website should be capable of performing smoothly with limited to no buffering.
* The system should be able to update almost simultaneously regarding scheduling and progress tracking. System maintenance will be required as needed and will require downtime scheduled to implement any system updates.

#### 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 Linux.
* The system should also use Cloud, Cloud can be used to manage data securely and can be used to store the various databases required by the system, including data needed by backend access users.
* The backend would need access to some or all of the user’s information database and the scheduling database. Additionally, the system would benefit from access to the DMV database to ensure that compliance is maintained.

#### 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 each be given a uniquely generated user ID number, the user should also be able to select between creating an account as a student, instructor, or support member. Alternatively, an employee with administrative access could make accounts for instructors or support members as needed to maintain oversight and data security.
* The user should be able to create a customer username and password, separate from their ID number.
* The input is case-sensitive and will allow for letter, numerical and/or special character inputs.
* Two-step authorization is recommended for user account security.
* The system should send reports to the administrator when any security flags are triggered, potentially including periodic error reports.

#### 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 system can allow changes to user information or account status without changing code
* IT with admin access will be allowed to add, modify, or remove entities (user account information) as needed. A report including the IT members’ credentials should be generated when this action is performed.
* If a user is removed or the account type is changed, those changes will be effective immediately. If the user is accessing the account at the time of the modification or remove, the account will be logged out to reflect their new status.

#### 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 log in, the user must provide their username and password. If the user does not have an account, the user will be prompted to create an account.
* Two-Step authentication is required to ensure user credentials.
* Cloud is capable of securely handling any data exchanged between the two parties, client and the system.
* If an account is flagged for “brute force” hacking, the system will flag the attempts and any additional information like where the attempted access was from. The report is then generated and sent to the administrator for review.
* After 4 failed login attempts, the user’s account will be locked and will require an administrator to unlock it.
* If the client forgot their password, they could either contact support by clicking forgot password, alternatively the client can click forgot password and get an email link for a password reset.

### 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 make updates to the scheduling of driving lessons when changes are made.
* The system shall track if any errors occur and generate error reports as needed.
* The system shall offer 3 different packages offering on-the-road lessons for students.
* The system shall allow instructors to leave notations and feedback on student driving lessons and progress.
* The system shall track student progress and test status with a pass, fail, or in progress.
* The system shall allow administrators backend remote access.
* The system shall access the DMV database to maintain compliance.
* The system shall update immediately as any changes are made through the system.
* The system shall securely store user information data and payment information.
* The system shall track and provide real-time instructor, vehicle, and lesson availability. While preventing any overlapping or conflicting schedules.

### 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 for the system should always keep the user in mind.
* It should be user-friendly, for both the clients and the administrators.
* It should be stable and responsive with little to no buffering or lag.
* Different users include students, instructors, administrators, and support personnel.
* Students will need to be able to register for online classes, review resources, practice tests, register for on-the-road lessons, track and view scores, progress and upcoming lessons, and access to their account details with the ability to make edits as needed, including inputting payment information.
* Instructors will need to be able to view upcoming lessons in real-time, input feedback on student progress, and to update their availability as needed.
* Administrators will need backend access to handle any client inquiries, the ability to view and modify account information, scheduling, payment information, and the ability to update package information.

### 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?*

* Security was not deeply addressed since it will be handled by the Cloud.
* It is assumed that the user has a computer or device capable of displaying and running the various functions of the system.
* It is assumed that the user is tech-savvy and knows how to explore and use the various tools and options provided.

### 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?*

* One limitation is the deadline provided for us to deliver the desired product and each of its functions.
* Another limitation is the manpower provided to design and create the system.
* The system must be capable of always operating smoothly, excluding downtime, while also offering the various tools and resources of the company, which may grow as time goes on.
* The system would always require an adequate network connection to run and update progress. If the network is interrupted, user progress can be lost.

### A graph with multiple colored barsGantt Chart