# 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 DriverPass wants to provide students with access to online practice exams and on-the-road training to better prepare them for driving 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 aims to enhance the driving system by providing online training courses, practice tests, and on-the-road instruction. To ensure success, the system must support both offline and online data access, allowing users to seamlessly retrieve and update their information. Our client is committed to improving the overall driver experience and helping users achieve higher DMV test scores.*

### 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?*

* *The system must support both offline and online data access, ensuring seamless synchronization upon reconnection to prevent redundancy. Users should have accessibility to reports that can be integrated with programs like Excel. Secure user authentication with administrative privileges is essential for proper access control. Additionally, appointment tracking must be flexible, allowing users to update, cancel, and create appointments as needed. Regular DMV updates should be incorporated to maintain legal compliance and ensure accuracy of current information. For the initial package, these are the primary requirements. However, add-on features, such as package modifications, will be incorporated as needed. Upon completion, DriverPass will facilitate the monitoring and review of mock driver tests, system analysis, reporting, and data collection. This will enhance the overall user experience and improve drivers’ aptitude, ultimately increasing the likelihood of successful DMV test outcomes.*

## 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?*

* *Needs to be able to run in a browser-based environment*
* *The system would need to be constantly updated in real time to visually locate which driver is with which customer.*
* *To ensure scalability, performance should remain as optimized as possible. Code should be designed thoughtfully, allowing users to access information online efficiently while considering how different PCs and devices handle data loading.*

#### 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?*

* *As a web-based platform, compatibility across all major browsers, including Microsoft Edge, Google Chrome, Apple Safari, and Mozilla Firefox—is essential.*
* *Since the platform is also available on mobile devices, it must be fully functional on both Apple iOS and Android systems.*
* *Given the web-based nature of these environments, cloud-based architecture will be required to store information efficiently, with services like Amazon Web Services (AWS) offering scalable database solutions*

#### 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?*

* *Each user will need to register their information; the email address would be a significant user identification.*
* *Case sensitivity will be needed for password creation which falls into security later.*
* *If a user is locked out of their account, they should have the option to reset it manually. Additionally, an alert should be sent to the admin whenever multiple unsuccessful login attempts occur, ensuring oversight and security.*

#### 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 administrator will need to have the options to modify, add or remove appointments, drivers, et cetera to ensure adaptability when a customer cancels their appointment, or makes changes to their reservation.*
* *IT Officer Ian, along with any future team members responsible for system maintenance and modifications, must have administrative privileges. This ensures proper system upkeep and allows for swift action in the event of an outage.*
* *As a cloud-based system, the software should be designed for flexibility. Leveraging API services for connectivity and modular functionality minimizes the need for extensive redevelopment. Utilizing micro-frameworks enhances stability, ensuring seamless adaptation to platform updates.*

#### 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?*

* *Username and Password will be required for the user, and given most services are cloud based at this point I would recommend utilizing at minimum a multi-factor authentication process given that credit card information will be needed by the customer.*
* *For brute force attacks we will need to secure the account by creating a # of attempts and then lock out sequence/delayed login sequence along with a password reset option.*

### 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 have 24-hour access offline and online*
* *The system shall have user account privileges with administrative privileges*
* *The system shall show progress of the courses and how the user is doing in terms of performance*
* *The system shall ensure all legal requirements are met in compliance with DMV and state laws*
* *The system shall have a cloud-based architecture system that runs in real time*
* *The system shall provide the option to reset passwords or deactivate users at any given time*
* *The system shall have a database that stores customer information*
* *The system shall have reservation options that take input and provide output of date and times of bookings*
* *The system shall have a user interface for the customer and clients viewing privileges*
* *The system shall be optimized for mobile devices and various platforms*
* *The system shall have the ability to export data to xml management systems such as Excel, Google Sheets, et cetera*

### 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 will need a user interface designer to create the sketch sent in*
* *The interface will also need to have a front-end developer design the code for the UI*
* *There will need to be a login page separate from the landing page.*
* *On the landing page the user will need to see their online test progress, personal information such as first name, last name, address, city, state, zip, phone, email, et cetera.*
* *There will need to be a section for the user to see the driver notes along with a section dedicated to any special needs*
* *A photo of the driver and a photo of the student would need to be visible as well to both customer and client.*
* *The administrative page will need to show tracking details and active/future courses along with the ability to manage those said reservations.*
* *The driver’s notes also need to have a secondary section on the landing page that shows a table of their times, lesson time and comments.*
* *There will also need to be a page to contact the company for any issues*

### 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?*

* *All users have an active internet connection*
* *Users know how to navigate a website*
* *Customers will be thorough and on time for their appointments*
* *Customers will have the financial means to purchase packages.*
* *Customers are of the correct age limit in line with legal requirements to drive with a driver.*

### 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?*

* *Limitations could be the budget since the owner was hesitant to consider adding a systems analyst or developer to add or remove modules for future state it could mean that budget is tight right now.*
* *There could be resource limitations to help provide the additional security needed such as security certificates since this is a web-based application.*
* *Having the developers on hand that can do front-end and back end and ui/ux may push our timeline out, so deadlines based on resource availability are possible.*
* *The technology the company has currently may be limited in its capabilities and their systems would need to upgrade to fully utilize the kind of software they are looking to run, even in a web-based environment along with having a strong active internet connection.*

### Gantt Chart

