# 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, is an educational business aimed at assisting students in passing their driving exams.
* DriverPass is looking for a new, cross-platform software intended to track student educational progress and schedule driving instruction.
* Liam, the owner of DriverPass, would like the system to allow users to register and make reservations for “on-the-road” driving instruction based on 1 of 3 available packages.
* He would like the system to be web and cloud-based, accessible from anywhere.

### 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 is looking to better assist students with their driving exams by providing online educational material and in-person driving instruction for practice.
* They need an application that allows students to study and take practice tests.
* The application should also be able to handle instruction scheduling conducted by the customer or by an employee.
* The application should be able to keep a record of student information.
* There is also a need for tracking in-person driving instruction(and all details pertaining to the appointment) as well as test-prep progress.
* The application will require a login element with a password that the users can change.
* The application will need to handle different types of users(owner, administrator, editor, student) with varying levels of access to data.
* Several types of users will need the ability to create, change, or access reservations.

### 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 application should allow users to create a new account or log in to an existing account.
* The application would keep data on student information, including name, address, email, payment information, etc.
* Students should be able to access educational resources and practice tests. The app should track their progress.
* Students should be able to purchase 1 of the 3 available packages.
* Users(student and employee) should be able to schedule, cancel, and change in-person instruction.
* Employees should have access to appointment information, including date/time, pick-up/drop-off location(these should be the same), driving instructor, and vehicle being used.
* Driving instructors should be able to leave notes on the driving instruction(time-allotted, commentary, etc.) viewable by the student.
* The system may also have a way to stay up to date on DMV requirements.

## 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?*

* DriverPass will be web-based, so it will need to run on a browser environment (e.g. Chrome, Firefox, Edge, Safari).
* On the server side, a web server like Apache would be necessary for HTTP requests and an Application server, like PHP or Node.js, would be necessary to process requests, interact with the database, and generate responses.
* Cloud-based services should be considered for hosting.
* The system will need to run fairly quickly and efficiently as it will receive frequent updates to the database and will be handling various users, many at the same time.

#### 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?*

* DriverPass may consider using Windows or Linux as platforms for its system.
* Both are fairly easy to use, Windows especially has many tools that allow web application development to be more seamless. Linux however provides more security.
* Back-end will probably require a way to connect and manage the database, SQL might be a solution here.

#### 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?*

* Usernames can be given to employees or created by customers and must be unique.
* All users will have a password-protected account. Password should be case-sensitive for added security.
* Username and password will be used for authentication.
* System users should be assigned roles, with defined degrees of authorization to ensure that need-to-know data is secure and only accessible by the appropriate user.
* The system should inform the admin of a problem when there are multiple failed authentication attempts.

#### 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?*

* Customers and employees with the proper authorization should be able to make changes to users' accounts.
* Use of agile development will allow smaller changes to be implemented more frequently. This will minimize the risk that is imposed by larger system changes.
* The Web application and database should also be regularly backed up, and updates should be tested before taking effect.
* IT admin should have access to employee accounts, with the ability to add/remove/or modify employees and their roles.

#### 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?*

* Users should be required to use a case-sensitive password to log in; an option for passcode verification could be considered for added security.
* Use of HTTPS over HTTP for data transfer would ensure data is encrypted. If data is somehow breached, it will remain unreadable.
* There should be a maximum number of attempts for the password. If the password is consistently incorrect, the account can be locked. Option for users to wait a brief period for another attempt or to perform a password reset.
* If a user forgets their password, they should be able to reset it with email verification.

### 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 allow users to create accounts with valid credentials: username. Password, email address.
* The system shall validate user credentials when logging in.
* The system shall optionally send a verification code to further validate the login.
* The system shall allow users to reset their passwords securely.
* The system should allow users to update their profile with name, contact information, and payment information.
* The system shall provide the appropriate admin with the ability to create, modify, and delete user accounts.
* The system shall allow users to select and purchase driving instruction packages.
* The system should generate invoices for user transactions.
* The system shall allow users to schedule and manage driving instruction with available dates and times.
* The system shall update the driving instruction schedule and manage driving test appointments, assigning available instructors' appointments.
* The system shall display upcoming appointments on the user profile.
* The system shall allow instructors to leave notes on instruction and display notes on the user profile.
* The system shall be able to allow users to access learning materials.
* The system shall track user progress in learning materials and practice tests.
* The system shall generate reports on user activity and progress, available to the admin.

### 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 system should have a clear and intuitive system for scheduling and managing driving lessons.
* The interface should allow users to easily browse, enroll, and access online driving courses and practice tests.
* Users should have a clear way to monitor their progress in courses and practice tests.
* The interface should make it simple to manage profiles, update information, and access important information like upcoming lessons.
* The interface should have easy-to-use input controls like text fields and dropdown menus adjusted for mobile and desktop screens.
* Use of containers like panels and cards will ensure organized information and create an appealing layout.

### 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?*

* It is assumed that users have basic computer literacy and are familiar with similar interfaces.
* It is assumed that the user has access to the internet.
* It is assumed the user is familiar with the purpose and function of the system.

### 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?*

* The system is limited by internet access and network connection. Systems can’t be accessed, modified, or updated without a connection.
* Budget/time limitation may affect the number of staff assigned to the project and whether outside contracting is an option.
* Budget and time constraints may exist based on the current staff skill level in developing the system. Considerations may need to be made about training current or new staff.

### 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 diagram with a number of boxes

AI-generated content may be incorrect.