# 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 that will help drivers pass their driving tests using driver training. DriverPass would like us to support them in creating a website that will give the customer an opportunity to be prepared for their driving tests by providing access to online classes and practice tests as well as providing a reservations page where the client could make reservations for on the road driving lessons where they pick from one of three of the available packages.

### 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 would like that the system operates on the web, in the cloud. DriverPass does not want to deal with running and maintaining a server but would like the ease, backups and security offered by using cloud services.
* Liam the owner of DriverPass would like to access data and reports online from any computer or mobile device where he could work offline from any location.
* DriverPass would need the system to register a new client, make a reservation by phone or on the website.
* The website will need to have the ability to register a client by needing their first name, last name, address, phone number, state, and their credit card number, expiration date, and security code.
* The client will need to be able to provide a pickup and drop-off location, which should be the same.
* We need to provide full access to the owner, Liam, so he could reset the client’s password or deny access to an employee who is no longer part of the company.
* We need to provide tracking of the records within the system, which will include providing the information on who made a reservation, who canceled it or who modified it last. This must be made available to print as an activity report.
* We need to provide DriverPass the ability to modify the available packages that they will offer. Liam would like the ability to disable a package.
* DriverPass will need to identify which company driver and car is matched with each client and what time the driver is scheduled for each lesson.
* Liam requests that his company be connected to the DMV where they get updates with new rules, policies, or sample questions. He also requests that DriverPass receive a notification of such updates from the DMV.

### 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 client should be able to book, cancel or modify appointments using the DriverPass website.
* The client should be able to make reservations for driving lessons while picking one of the three available packages.
* The client should be able to take practice tests and classes online on the website while having the ability to track their progress.
* The client should be able to see their online test progress, what tasks are completed and what needs to be done. The displayed progress should show test name, time taken, score, and status. The status could show as not taken, in progress, failed, or passed.
* If the client reserved on the road driving lessons, the driver notes will need to show the comments and time for each lessons.
* The client should be able to register their information, such as first name, last name, home address, and also have the ability to upload a picture.
* The Information displayed in the completed version of the program will be Driver notes, online test progress, the client’s personal information, the drivers photo, the students photo and any special requirements the client might have.

## 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 on all the available platforms so the user or company could access the information from anywhere.

* Android App
* iOS App
* Web browsers, including Google Chrome, Safari, Edge, Firefox

The system needs to be integrated with the server so when information is updated on any of the platforms, the updated information is displayed across the application and other platforms in real time.

The system should be updated regularly to ensure high performance and proper security:

* New Security Updates
* Reports of Crashing, Bugs and Errors
* Modifications to the Layout or UI
* Update When New Laws and/or Regulations Come Out

#### 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 platforms the system should run on are:*

* Windows OS
* macOS
* Android
* Apple iOS

The system should run off a server where the database will be stored. The different platforms would run individually on their respective systems but would gather all the information from the servers, which would run in real time to update every platform.

#### 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 have to create an account, that will include first and last name, home address, phone number, credit card information, login credentials – login username and login password.
* The username and passwords will be case sensitive with a predetermine length and use special characters and require 2 factor authentication.
* The system will inform the administrator in the following cases:
  + Too many failed login attempts
  + Forgot user-name request
  + Forgot password request

#### 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?*

* Ian the IT Officer will be responsible for:
  + Disabling or enabling packages
  + Maintenance
  + Modifying the system
  + Update new regulations and laws passed by the DMV
* Platform updates and security will be handled by the third-party company that provides the server
* The developer or system analyst will need to:
  + Access the source code
  + Modify code
  + Add or remove modules

#### 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?*

* For the user to login they will need a username and password.
  + Successful entries of username and password will then be asked to provide the 2-factor authentication code which will be set up with the users email and/or phone number.
  + This enables 2 layers of protection for each user.
* To secure the connection and data exchange between the client and server I would use a SSL implementation.
  + SSL is a security protocol that secures communication between over a network. SSL works by authenticating clients and servers using digital certificates and by encrypting/decrypting communication using unique keys that are associated with authenticated clients and servers.
* To protect against brute force hacks, the IT dept should enable 2-factor authentication, advanced user passwords with long strong combinations, limit the amount of login tries and lockdown the account after excessive login attempts.
  + Any account that has excessive amounts of login attempts will be locked and reported to the IT team and Management.
  + We will set up passive back end 256-bit encryption
  + IT will remove any unused accounts that have been inactive for a certain amount of days, agreed upon by DriverPass.

### 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 show the progress of each driving class.
* The system shall show the progress of each practice test and exam.
* The system shall display the user’s information.
* The system shall show the driver’s notes.
* The system shall display customers special needs.
* The system shall show the driver photo.
* The system shall show the student photo.
* The system shall be updated with new regulations and laws.
* The system shall display appointment information.
* The system shall allow for modifications of appointments.
* The system shall allow tracking of reservations.
* The system shall accept online payments.
* The system shall display account balances and due dates.
* The system shall print activity reports.

### 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 user will interact with the interface on:
  + Computer Web browsers- Safari, Google Chrome, Edge, Firefox
  + Mobile devices application, android and iOS
  + Mobile device web browser
* The needs of the user interface:
  + Display online test progress
  + Display customer information
  + Display driver notes
  + Display special needs
  + Display driver and student photos
* On mobile devices the user will interact using a touch screen.
* On a computer the user will interact with the interface using a mouse and keyboard.
* The different users of the interface are customers and DriverPass employees, management, IT, and secretary.

### 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?*

* The user will know how to use a mouse and keyboard.
* The user will know how to use a mobile device.
* The user will know how to navigate a web browser.
* The user will know how to read and write.

### 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 allotted time does not include for working out any bugs, errors or issues found in testing prior to the delivery of the system.
* The customer wants a hands-off approach and wants the server to do all of the work behind the scenes. We will have to tailor the server based on their budget and expectations, which could become a problem if the platforms require more resources, and the client does not have the budget.
* The application needs to run efficiently on both mobile devices and over the web, where the resources of each device will have different affects on the application. This requires that the code be optimized to run on all platforms.

### Gantt Chart

Table

Description automatically generated with medium confidence*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.*