# 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?*

* Purpose of the project – create a user-friendly website to assist their customer
* Client is DriverPass
* They would like their website to be able to:
  + Allow users to schedule driving sessions
  + Have practice exams available to take
  + Store personal information

### 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 their system to help more of their customers pass their driver exam
* The problem that the client would like to address is too many people failing their driver test.
* Components that are needed for this system are:
  + Cloud-based website
  + Ability to store the customer’s information
  + Ability to take practice exams.
  + Ability to schedule appointments

### 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 first measurable task will be the personal data section. DriverPass has a number of items that they would like stored for each customer including the ability to add photographs. Because they are storing credit card data, this needs to be especially secure. The customer should be able to purchase packages in this section. The client wants to have the ability to disable certain packages so they cannot be purchased. Each customer needs to have a password that can be reset themselves.
* Then they would like the customer to be able to take practice exams. This would be the second measurable task. They would like the system to store previous tests taken and scores received. It sounds like they would like the customer to be able to stop in the middle of the test and go back to it so the system needs to hold that place. The tests and website need to be linked up to DMV with notifications so that the exams have the most accurate information.
* The third measurable task will be completing the scheduling area. This will allow the customer to reserve time for a driving lesson. The driver’s schedules must be in the system to coordinate a customer to a driver. The customer needs to be able to indicate pickup and drop-off location. There also needs to be a log kept associated with the customer profile that indicates how many lessons have been done and allows the driver to put in any notes for future lessons. The appointments will need to be controlled so that there are enough drivers for customers for each time slot. The system will identify what driver and vehicle the customer will be paired with for that lesson. The customer needs to be able to book, modify and cancel these reservations. Security and access also need to be addressed.

## 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?*

* This system should be web-based. Working with the tests may be difficult in an app. By being web-based it should also be easier to receive any updates from the DMV. The customer has asked that it be web-based or cloud-based.
* The response time should be within 3 seconds.
* The system should be updated weekly or as necessary with any new changes

#### 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 should run on Windows. This is user-friendly to work with. DriverPass also mentioned wanting to run reports on Excel so this is a good choice. If at any point, they decide to also run on mobile, they will need to increase that to run on ios and android.
* They will need a database to hold necessary information such as a list of the users. A windows compatible database should be chosen such as the Microsoft SQL Server.

#### 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 have a unique username and password.
* Usernames should not be case sensitive but passwords should
* Input for exams and scheduling road lessons should not be case sensitive
* Admin should be notified upon the 5th incorrect attempt to login. They should also be notified if there are any network outages.

#### 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?*

* Changes to the users such as add/remove/modify should be able to be made without anyone manually changing code. This would be done with a method that reads the input when that option is chosen. New users should be able to click a create user button that then requests the needed input. Admins should be able to easily remove a user. Modifying a user’s profile should be able to be done by either the user or the administrator.
* Administrators will be notified if there are any changes to the platform. They will then be able to access and address those changes. If there are any actions such as patches or fixes, the administrator will be able to handle that.
* The IT administrator needs to have full access to the system. They need to be able to fix any errors, run reports, and make changes as needed. This allows DriverPass to make sure that the system is running as required.

#### 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?*

* The user will need a unique username and a secure password. The password will be a minimum of 7 characters including at least one number, one letter and one special character. The username will not be case sensitive, but the password will.
* In order to verify the connection between clients and the server are safe and secure, software should be used that encrypts the data when being sent. There will be a public key for the client’s encryption and a private key for the server. This helps to keep everything as safe as possible.
* If there is a brute force hacking attempt on an account, that account needs to immediately be held and checked for any changes. The account can either be deleted or require the user to change their password upon the next login. Then, the system will need to be assessed to make sure that no malware has come through and that no other client was affected.
* A user will be able to change their password themselves. There will be a change password button that again will require input. The password will still need to meet the password requirements.

### 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 require the user to log in with their username and password
* The system shall allow the user to reset their password.
* The system shall schedule driving lessons in the user’s requested time.
* The system shall keep an up-to-date tracking system of all changes made to the driving schedule
* The system will record the driver and vehicle for the appointment and confirm not double booked
* The system shall offer packages for lessons and track which user has which package and how much of the package is left.
* The system shall hold all user information including first name, last name, address, phone number, state, and their credit card number, expiration date, and security code and the drop off/pickup location.
* The system shall have practice and regular exams for the user to access
* The system shall record the exam scores and save the user’s place in an exam if they pause.
* The system shall connect with the DMV website and notify admin of any updates or changes
* The system shall record previous lessons with driver notes included
* The system shall have a contact us button for the user to easily contact DriverPass

### 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 needs of the interface are to be user-friendly. This means that the user can find what they are looking for easily. The design of each of the areas should be consistent so that they flow smoothly and not be too complex where it interferes with the functions.
* The users of the interface are the owner of the company Liam who will need full access to the system. Ian is the IT officer who will also need full access and be able to make changes to the system. The secretary will need to be able to edit profiles and schedules. The customers will need to be able to access their profile and scheduling.
* At this time, the users will be able to access the system via browser. At a later point, mobile access may be added as well.

### 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?*

* We have not addressed how the driver’s schedules will be accounted for. If they were to request PTO or have a personal appointment that week, how will that be input into the system, so no lessons are scheduled. We briefly touched on payments. Will the user get a receipt? How will the system track how many lessons they have left? Will they be able to schedule a lesson if they don’t have time remaining from their package?
* Assumptions that are being made are that the customer is of age and eligible to get their driver’s license. We are assuming that the user has access to the internet.

### 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?*

* There may be a limitation as to how many users the system can handle both in general and at one time
* There may be limitations in the system design as to the ability of the client to connect to the server reliability
* If two users were to schedule a lesson for the same time and driver at the same time, how would the system handle that? Who would win or would it glitch the system?

### 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 screenshot of a white sheet

AI-generated content may be incorrect.

**Citations**

Dennis, A., Wixom, B., Tegarden, D. (2012). Systems Analysis and Design with UML, 4th Edition. Wiley. <https://learning.oreilly.com/library/view/systems-analysis-and/9781118037423/>

Booch, G., Maksimchuk, R., Engle, M., Young, B., Conallen, J., Houston, K., (2007). Object-Oriented Analysis and Design with Applications, 3rd Edition. Addison-Wesley Professional. <https://learning.oreilly.com/library/view/object-oriented-analysis-and/9780201895513/>

*UML Use Case Diagram Tutorial*. (n.d.). Lucidchart. <https://www.lucidchart.com/pages/uml-use-case-diagram>