# CS 255 Business Requirements Document Template

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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, noticed that there was a void in the market for training students to prepare them to take their driving test at their local department of motor vehicles. Liam, the owner of DriverPass, wants to take advantage of this void and provide an option to those students to be better prepared by offering online classes, practice tests, and also to be able to sign up for on-the-road training. They would like this system to be accessible from anywhere, including on mobile devices.

### 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 provide a system that prepares student drivers for taking their driver’s exam at the DMV. They have identified the need for this system as there is a large number of people that fail this exam at least once. To be able to provide what their customers need, the system will need the following:

* The system will need to be available from anywhere, including on mobile devices, to be able to be accessible to all customers as well as employees. The system will need to be available over the cloud so that DriverPass doesn’t need to be concerned with keeping up with backup and security.
* The system will need to be able to provide secure access to information based on a login with a username and password.
  + Liam would like to have system wide access as well as Ian (DriverPass’s IT officer) so that they can have full access over all accounts. This would allow them to do things such as:
    - Access back-end reports.
    - Track changes made in the system.
    - Reset passwords.
    - Block access of former employees.
    - Make changes to services offered.
  + The customer will need to be able to have access to and ability to:
    - Input and change their own personal information that is needed to register for an account.
    - Sign up for classes.
    - Access study materials and tests.
    - Sign up for on-the-road training sessions and schedule, change, or cancel these sessions as needed.
    - See progress reports for classes and feedback from on-the-road instructors.
  + The secretary should have access to register new customers and also help schedule customers for on-the-road training.
  + Driving instructors would need to have access to certain student information needed to conduct on-the-road training. They will also need to be able to provide feedback from the lessons and have that feedback shown on the customer’s profile.
* The system will also need to be compliant with the DMV, so DriverPass wants the system to be connected to the DMV so that they can be notified of new rules, policies, or sample questions.

### 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 should be accessible on the web over the cloud with none to minimal interruptions to access.
* The system should be accessible from a computer or mobile device.
* From the user side, once completed, the system should allow a user to create a profile from which they can sign up for online classes, take practice tests, schedule on-the-road practice, and see their progress in each area.
* From the client side, the system would need to allow access at different levels, with a select few having full access to the full system.
* The system will also need to track activity and changes made within the system and provide this information in reports accessible to Liam and Ian.
* Driving instructors should be able to access their schedule and update the driver notes portion of a user profile with information about a lesson.
* The system should be able to provide the most up-to-date information and practice tests that are obtained directly from the DMV.

## 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?*

* For this system, a web-based system using the cloud would be the best to provide the customer and client with the needed and desired access to the system. This would allow for access to the system anywhere there is internet access.
* Response times of the system should be able to handle expanding traffic and have response times that are less than a couple seconds.
* The system should be updated in real time.
  + When there is an update to services available, on-the-road lesson time availability, or instructor feedback, these changes should be shown immediately.
  + Current progress through courses or tests should be continually updated as the student goes through them.
  + Updates from the DMV should be reflected immediately to make sure the system meets compliance.
  + Access rights should be updated immediately as well to ensure the system is secure.

#### 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 be accessible on desktops, laptops, and mobile devices. Because of this, the system will need to be compatible with multiple operating systems and the most popular browsers on those systems.
* Based on the needs of the client, the backend would need to take advantage of a reporting tool to generate reports of system wide activity and show changes made to the system.
* The system will also need a database that can store customer information that is shown when the customer logs in, stores class and test information, stores schedules for on-the-road training, and stores employee profiles.

#### 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 a unique login with a username and password.
* The system will also generate a unique id number to be associated with each user.
* The username is not case sensitive, but the password would be.
* The system would allow for 3 attempts of inputting a valid username and password before alerting the admin of a login issue. As for other system issues such as bugs or system access issues, an alert would be sent as soon as it occurs.

#### 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 IT admin would have access to the database, which would have code in place that allows for the addition, removal, and modification of a user without having to change the code.
* Due to needing to be compatible with multiple platforms, basic updates will be done once per week, and will be scheduled to take place during non-peak hours to allow for minimal interruptions to users.
* The IT admin will need to have full access to the system. This will allow them to have access to the code to perform additions, changes, and modifications. This would also allow them to perform larger updates to fix any bugs.

#### 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 a user to log in they will need to supply their unique username and password.
* The connection or data exchange will be secured through a web-based server.
* If there is a “brute force” hacking attempt on specific accounts, an email will be sent to the user and IT admin. The email will prompt the user to verify if this was them, and if not, to change their log in information. If the attempt is on the system as a whole, for example someone trying to hack into the database, an alert would be sent to the IT admin so a timely response to the attempt can be made to protect the system.
* If the user forgets their password, there would be an option to be able to reset the password by answering security questions as well as providing a security code generated by the system, and sent to the user’s email address or mobile phone after correctly answering the security questions.

### 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 be accessible from desktops, laptops, and mobile devices when they are connected to the internet.
* The system shall allow users to create a profile using a valid username and password.
* The system shall validate user credentials when logging in.
* The system shall provide an option to reset a password by answering security questions and receiving an email or text with a code to enter.
* The system shall allow customers to sign up for classes, tests, and on-the-road training based on the package they select.
* The system shall allow users to pay for services.
* The system shall allow instructors to view their schedule and update driver notes.
* The system shall allow the secretary to register new customers and sign customers up for on-the-road training.
* The system shall provide full access to the owner and IT administrator.
* The system shall send a notification to the IT administrator whenever there is an update from the DMV.
* The system shall generate reports of changes made to those with admin access.

### 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 to be compatible with multiple platforms and displayed the same for each platform to help aide in brand recognition.
* The users of the system would be Admin, Customer, Instructor, and Secretary.
  + The Admin will need to be able to have full access and privileges to the system through the interface. This would allow the Admin to reset passwords, add/remove/change user roles, run reports on all changes made to the system, and update the system with the most recent changes from the DMV.
  + The customer will need to be able to register for an account, input/edit personal information, select a learning package, pay for selected package, view learning materials, take tests, and sign up for on-the-road training (if this is in their selected package).
  + The instructor will need to be able to view their schedule, view student data, and update driver notes from on-the-road lessons.
  + The secretary will need to be able to register new customers and sign customers up for on-the-road training (if this is available to them).
* The users of the system will be able to interact with the interface through PC (desktop or laptop) or mobile devices that are connected to the internet.

### 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?*

* One thing that was not addressed above is the budget. There is an assumption that the project will be able to be completed within the budget as set by DriverPass.
* Another area that is not addressed above is when DriverPass would like this delivered by. The assumption is that all necessary work will be able to be delivered in a timely manner.
* Another area that is not addressed above is expected number of users, and a plan for if the number of users becomes to great for the current system. The assumption is that the currently proposed system will be able to handle the number of users.
* One assumption we are making about the user is that they have the needed technology (desktop or laptop computer, or a mobile device) to access the system.
* Another assumption is that the user will be using browsers that are up to date.

### 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?*

* All work will need to be done within an allotted budget.
* All work will need to be done within a 5 month period.
* Since the system will be provided over the cloud, availability of the system will rely on server availability.
* Since the system is accessed on the web, limitations on the performance of the system will be dictated by the internet speeds of the users.

### Gantt Chart

*Chart, timeline

Description automatically generated*