# 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?*

* Our consulting company hopes to fulfill the needs of our client DriverPass, by creating custom software, database, and physical/cloud infrastructure to enable them to increase sales and drive business performance. DriverPass requires a sophisticated web-based application that can be easily accessed by their customer base, with simple CRM functionality that is scalable for future iterations of design. Since time is of the essence and DriverPass hopes to rapidly deliver this system to their clients it is important we come within the range of our estimated deadline for our client.

### 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 wants the system to create better relations between them and their customer base through the usage of custom software and computer infrastructure. DriverPass is hoping to offer their customers a secure and convenient portal to purchase training packages, check their driver training progress and schedule driving appointments. This system will require a cloud-based server and database architecture with REST services, along with web and mobile applications. This system will also need integrated management functionality so that DriverPass and their IT team can easily monitor and make changes to the database and software systems.
* DriverPass will need a standard server architecture so their client platforms can make use of a database connected REST API. Special attention should be given to security and authentication through different types of user accounts including standard users, managers, and administrators.

### 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?*

* Our team will begin by collecting more requirements, creating use case diagrams, and researching UI and interface designs that can simulate the model provided by DriverPass. Upon completion of this system, DriverPass will be able to offer their customers a secure and functional client application that is scalable and easily managed by their team through integrated management functionality. This system will need to undergo testing by both DriverPass and their clients before the final delivery of the system.
* DriverPass hopes to offer their customers a simple and intuitive learning management system that helps organize course materials and coordinates driving practice scheduling.

## 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 should be accessible from browser, mobile and any other relevant client platform. Offering maximal platform compatibility is a great way to offer students and instructors easier and more frequent access to our to the DriverPass software to check their progress and leave comments for driving students.
* The system should be fast and responsive. A fast and responsive system promotes usage from users. These benefits can even drive business to DriverPass through a fast and well-designed interface.

#### 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 from browser, mobile and any other relevant client platform. This will help to increase usability regardless of client OS.
* The backend system and server architecture with attached database will run on a ubuntu server, with MySQL as the preferred database. I chose these platforms as they do not require any special tools or licenses and are what I am personally most familiar with.

#### 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?*

* Confidential student information is protected through password authentication, and authorization through the user’s client platform. This platform will make use of a REST API with an attached database. When attempting to sign into the DriverPass client application an HTTP request will be made, and the users entered email and password will be sent to the server and then tested against the credentials stored on the database to assure a valid account is being accessed and that the password being used matches the associated account.

#### 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?*

* Because the application makes requests for data and authenticates through a REST API that runs independently on its own machine, changes to the client software will not affect any data on the server or database, and the same API calls will be of used regardless of client platform.
* IT admins will have access to the main server and its attached database in order to make custom queries and modify data from the backend in emergency situations or to provide server maintenance.

#### 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?*

* Confidential student information is protected through password authentication, and authorization through the user’s client platform. This platform will make use of a REST API with an attached database. When attempting to sign in the DriverPass client application an HTTP request will be made, and the users entered email and password will be sent and then tested against the credentials stored on the database to assure a valid account is being accessed and that the password being used matches the associated account.
* Passwords will also be protected via captcha codes and a limit to entry attempts that will blacklist the IP address of the users attempting to access the client.
* If a user forgets their password, they will be able to reset it using the “forgot my password” button on the login screen. This will send a secure email to the user containing password change update.

### 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 should provide users the ability to register and choose driving packages.
* The system should provide users with the ability to check driving schedules and curriculum completion.
* Students should be able to review their past driving lesson times and comments from their instructor on their progress.
* Administrators should be able to print activity reports to see which users modified schedules.

### 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.)?*

* There will need to be user interfaces designed for both users and backend administrators/managers.
* User interfaces should be polished and simple to manage.
* Students should be able to make changes to their driving schedules and upcoming class easily using a browser or mobile application.
* The user interface should match the design and layout provided in the initial drawing to DriverPass.

### 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?*

* This design assumes DriverPass and their target customers have a rudimentary understanding of accessing a web application through the use of a web browser on a PC or mobile device.
* This design also assumes DriverPass and their IT department have an understanding of cloud computing services and using a query language like MySQL in the event custom queries or specific data are needed.
* This design assumes DriverPass can provide our team with the required data to populate a database and migrate any physical data to our new server/database archictecture.

### 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?.*

* This project like most projects is heavily limited by time and budget. By utilizing the use of a REST API and client web applications we are hoping to achieve a high reusability for beginning iterations of this project that can be directly translated into any focused platform specific applications in the future.
* This project is limited by time especially as DriverPass hopes to take their business to the market as soon as possible to maximize on the opportunity to offer their services before there is intense competition.

### 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.*

Chart, timeline

Description automatically generated