# 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 is DriverPass
* The purpose of the project is to provide customers with driver training both virtual and optionally on the road.
* The client for DriverPass is new drivers who are attempting to pass their DMV driving test.
* The goal is to provide those clients with quality training that will lead to their successful passing of the test.

### 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?*

* The overall goal here is to fill a gap in the market for driver training. Currently a lot of people are failing their driver tests and DriverPass’s vision is to have the premier driver training tool that will ensure students pass their driver training. The system needs to have online connectivity with each user having their own account to track progress. It needs to get updates to rules changes from the DMV. It will run in a web browser rather than a stand alone application as well as being able to download reports to view while offline.

### 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?*

* user data needs to be entered.
* Users need to be able to log into the system.
* User passwords need to be able to automatically reset if they’ve forgotten their password.
* Logging needs to be done to ensure any changes made to the system can be traced back to a user.
* The system needs to be connected to the DMV so any changes made by the DMV to their testing or rules are sent as a notification to DriverPass.
* Reports of user progress should be downloadable so they can be viewed offline.
* There needs to be different levels of user permissions separating; users, IT, and secretary.
* An appointment system needs to be implemented that will allow users to schedule time with an instructor and only display times that have not already been booked to users.
* The secretary needs to be able to add these appointments to other users accounts if that user calls to schedule the appointment rather than scheduling it themselves using the website.
* There needs to be 3 tiers of service for users to select from when creating their accounts.
* Accounts need to be able to toggle on and off as purchasable during account creation if DriverPass decides they do not want customers to register for it.

## 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?*

* System will be web based
* System should scale as user base size fluctuates
* Appointment scheduling needs to be near real time so duplicate/conflicting appointments are not created

#### 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?*

* Windows compatibility
* Mobile functionality is required
* Linux based backend
* Use REST for required microservices

#### 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 must be unique
* Input will be case sensitive for passwords
* Admin should be notified if automatically if the system goes offline

#### 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?*

* Users and roles should be updatable within the software without changes to the code
* The system should allow for some downtime to perform server maintenance and updates
* IT admin requires access to the database to correct errors that arise

#### 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 use a valid email address as a username to ensure each has a unique userID
* Users should be able to send a temporary password to their email if it is forgotten
* Temporary passwords should be one time use with the user creating a new password upon login with the system generated password
* Client/Server interactions should be done through an HTTPS connection
* Users will be locked out after 3 consecutive failed login attempts
* Locked out accounts should be notified by email that their account is locked out, and a link to restore the account should be sent to the users email upon request

### 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.”*

* System needs to be able to create and store user login information
* System needs to be able to validate user login
* System needs to be able to lockout failed login attempts
* System needs to store available appointment times
* System needs to be able to assign users to appointment times then set the time as unavailable
* System needs to allow users to cancel appointments then set those times as available for other users
* System needs to be able to store and transmit coursework to users
* System needs to be able to grade coursework
* System needs to allow administrative users to update coursework
* System needs to be able to automatically send emails to users
  + Grades
  + Password resets
  + Outage notifications
  + etc
* System needs to receive updates from the DMV
* System needs to notify in person driving instructors of new and changed scheduled appointments

### 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.)?*

* Interface needs to closely resemble the mockup provided by DriverPass
* Administrative functions should not be shown or available to normal users
* Administrative users will need to be able to update normal user accounts
* Normal users need to be able to view curriculum
* Normal users need to be able to view/schedule available appointment date/times
* Normal users need to be able to update account information

### 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?*

* Users will be able to read English
* DriverPass personnel will be available to answer software engineer design questions
* No major delays in development (power failures, sick employees, etc)
* Users will have a valid email address
* User email is not security compromised

### 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 can only work while connected to the internet
* Entire system needs to be deliverable in 16 weeks

### 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.*

