# 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 and they want to create an online tool to help folks pass their driver’s license test. This tool gives study materials and practice tests. But it also is how users will schedule their 2 hour driving lessons based on the package they’ve purchased. It also needs to allow DriverPass the ability to manage these packages to allow them to control their business and update their materials as the DMV puts out changes.

### 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?*

* Driver pass is trying to step in and provide training for people attempting to get their driver’s license. The system will allow new drivers to use their online platform to take practice tests and schedule their in person driving lessons. It will also allow them to see their progress in these lessons as well as feedback from the instructor.
* The system needs to work online, as well as be able to take documents offline to work and reupload them later.
* DriverPass should have the ability to control sign ups for certain lesson packages as well as update course materials as the DMV changes requirements.

### 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?*

* Learner view:
  + Contact page for DriverPass (sign up done over the phone)
  + Practice test progress
  + Practice test portal
  + Online lesson material portal
  + Schedule next lesson (online portal)
  + Their personal information
  + Photo of them as well as their instructor
  + Notes section for their lessons that includes: lesson time, start hour, end hour, driver comments
* Employee of DriverPass view
  + Add new student and enroll them in a course package
  + Assign a driving instructor to that student
  + Schedule a driving lesson (if over the phone)
  + Does NOT have control over other users on the platform as an admin
* Management:
  + Has admin access to revoke rights to the platform for other user roles
  + Can change the driving packages offered on the platform
  + Tracking of changes to database and a printable activity report
  + Connected to DMV to get an alert of changes to policy

## 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?*

* DriverPass is a web-based application
* Communication with backend needs to happen in real-time (minus transmission delay) to avoid scheduling conflicts between users
* Updates to the platform should happen on a regular basis, but instructors should be able to upload new lessons on their own schedule as well as students accessing them on their own schedule with minimal downtime (platform maintenance should happen during hours users are unlikely to be online)

#### 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?*

* Primary platform for DriverPass is a website
* Uses AWS database to store user information, lessons, and scheduling
* Data should be backed up to a storage device and this copy should be downloadable to work on offline

#### 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?*

* Role based authentication should be implemented to differentiate Instructors/Students/Administrators within the system.
* When users sign up they are given either a FacultyID or StudentID number that correlates to their account information and will be used as the Primary Key in the database
* Administrators can generate a tracking report to show changes to the reservation system and details of those appointments

#### 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 system will based on AWS cloud services to expand as more demand is needed
* Administrators can update user information such as Role, scheduled appointments, and lesson registrations but not personal information of the user
* Administrator role will be reserved for DriverPass IT department and DriverPass owners

#### 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?*

* All users will have to login with password based authentication that follows industry standards for hashing and usernames will be validated email addresses
* Users will have to reset their password if forgotten through the accounts linked email (which is also their username)
* Admin roles receive alerts when floods of login attempts happen (DDOS attacks) as well as when errors occur to uploading to the database (indications of a service being down)
* Administrator role can remove employees from the system

### 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 login credentials via hashing when logging in
* The system shall show students their registered courses/lessons on a dashboard
* The system shall allow students to work on these courses/lessons on their own time
* The system shall allow students to schedule in person lessons and select their teacher
* The system shall allow teachers to upload training materials
* The system shall allow teachers to upload grades
* The system shall allow teachers to view their scheduled in-person lessons
* The system shall allow teachers and students to update scheduled events and send a notification to the other party involved
* The system shall connect to the DMV to stay up to date with current information
* The system shall allow DriverPass employees to download a Schedule Tracker report to be used offline

### 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.)?*

* Each role Student/Teacher/Administrator should have a different dashboard when logging in
* Students should see current courses/lessons they’ve registered for
* Students should see their progress tracked through lessons
* Students should see upcoming lessons and way to schedule them
* Teachers should see a list of courses their in charge of and the students in them
* Teachers should see a calendar of their scheduled lessons and who is in them
* Both Student/Teacher should see their personal information/contact information and be able to edit it themselves
* Administrators should see a way to generate the Schedule Tracker report
* Administrators should see a way to modify users roles and manage them

### 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 have their own personal email to sign up for DriverPass with
* Administrator role is shared between business owners and IT
* Users have a computer to access DriverPass, it’s not intended for mobile use currently

### 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?*

* Driving instructions are based on USA law so it is only valid for USA customers/teachers
* The system should be available on demand from users, so downtime must be carefully managed and updates done during the early hours of the morning to cause the least disruption
* System is scheduled for use in May so about 4 months of development time to get up and running

### 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.*

