# CS 255 Business Requirements Document

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 client Driver passed as discussed with Laim company Owner, and chief IT consultant Ian. Is to create a system to allow their company to build and sell training programs with self-guided study and schedule private instructor times.

### 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?*

* This will need a client database that holds credit card information, personal information and pickup address
* A scheduling system that has a super user role for the staff to assign schedules for call ins as well as individual accounts to set their own times.
* A system activities logs, so that super users can track who made what changes to classes.
* Progress tracker for driver time, practice exams, goals for users.
* and DMV update feed for the employees to update their study materials.

### 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?*

* Sell/disable Packages
  + 3 Tiers. 6/8/12 /w-lessons/ Online access materials
* Be accessed remotely, which means there needs to be a usable website for both clients and administer to schedule and manage the separate functions.
* Build Activity Tracker, The admins want to record who changes to class schedules in order to hold accountability amongst office staff and clients.
* Build Client Database, A client database that holds credit card information, personal data such as names and contact information and pickup addresses for scheduling appointments as well as their existing package lesson progress.
* Link Database with Scheduler, The client database needs to be able to use their lesson times and schedule a pickup for driving lessons the Instructors will require a connection point to the schedule to be able to set their own availability.
* Include a Driver lesson notes, Instructors need to have an access level to the accounts to be able to apply notes to each lesson. This would likely be its own screen with only information of the lessons they’ve provided.
* Content Management System for Practice Exams and Study Materials, this is a layout for the student page that will track progress reports on lessons and grades on exam. This same page will also be used for notes from instructors on assignments.

## 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?*

* Web page load time on mobile should be no longer than 10 secs, aiming for 3-8 seconds depending on device.

#### 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 applications.*

* Driver Pass must have a web-browser based access model.
* DriverPass will use a Unix based server that will distribute to pull web files to the various browsers

#### 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?*

* In communication users tiers will have a different color text name. This will highlight conversations between trainers and students. Also when a change to schedule is created their names are added and it becomes visible who made the change by their color.

#### 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?*

* IT admin, will have the ability to change user roles
* They will also have access to admin only actions logs that will view changes made by which users.

#### 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?*

* Two Factor Authentication
* Repeated Attempt Protections

Rationale - Two factor Authentication is pretty industry standard at this point for anything that involves long term profile maintenance since there are multiple roles that require longer access 2FA seems reasonable here. Also to further prevent brute force attacks we’ll pause the account if 5 failed attempts are made without either a password reset or 15 min wait scaling that wait time 2 more times until a password reset is required.

### 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 shall validate user credentials on when logging in*
* *System shall provide users study & quiz materials*
* *System shall maintain a multi-role scheduling system.*
* *System shall allow for the purchase of lesson packages.*
* *System shall allow Trainers and Students to communicate via lesson notes.*

Rationale - I’ve chosen the above diagram as the above as required features as they seem the most important while tracking all of these is a function goal it is less required to maintain the system as the others. Each of these is the basic process a student would be required to do in order to stay up to date on their lessons.

### 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.)?*

* Four User Roles,
  + Admin - Will have all access to provide users with staff role and implement security based changes
  + Scheduler- A super scheduler role can schedule Users/Drivers time slots & locations as needed and update instructional materials.
  + Trainer - Sets availability for lesson slots, update/modify lesson notes.
  + Student - Purchase Lesson Plans, Schedule Lesson Time, Purchase/Access Instructional Materials and Set Pickup/Dropoff Locations

Rationale - I’ve highlight the 4 user roles from highest to lowest, these outline the features of the program that require a human touch and their role in the system with the student having the broadest amount of activities need to do.

### 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 familiar with Web Browser UI and will not need to be extensively trained.
* Majority of the conversations will take place between Trainer and Student, the Scheduler and Admin roles are for alternative solutions and investigation into issues.

Rationale - My assumptions are based on the idea of this system is to make it as little human touch as possible. The goal is to create a symbiotic learning environment where the trainers and students have a productive one on one environment over 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?*

* The scheduling server must be constantly online and when offline schedule changes will grind to a halt.
* A limitation range for addresses that the students can provide must be limited to the area in which we have trainers.

My limitations focus on the resources required to run the system as trainers are the limiting factor of where lessons can be taught. It would be unreasonable for a driver to travel across the country for a 1 hour less so places new students can be taken on will be dependent on areas in which we have trainers.

### 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.*

