# 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, owned by Liam
* Provide better training for drivers before taking a test at a DMV
* Customers can use online classes, practice tests, and optional on-the-road training with an instructor via scheduled appointments

### 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 owner of DriverPass has noticed that many people fail driver’s tests several times before passing, he wants the system to help prepare drivers for their driving test
* The system needs a way for students to be able to take online classes and practice tests
* Needs to have a secure way for the customer to log in, store data, and make transactions within the system
* A way to make, modify, and cancel reservations (for optional in-person driving sessions) on the customers end, and a record of reservation activity for the owner
* A place to store a schedule for all reservations, including when its scheduled and with what instructor

### 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?*

* Login Portal/Account Creation
  + Customers first and last name, address, phone number, state, and payment information (credit card number, expiration date, and security code)
  + Customers pick up and drop off location (should be the same location)
* Scheduling appointments
  + Can be done over the phone with secretary or online
    - For online, passwords need to be able to be automatically reset
    - Record of all 10 cars and associated driver/client combinations
    - Customers can pick from 3 packages(all of which need to be flexible and able to be removed):
      * Package One: *Six hours in a car with a trainer*
      * Package Two: *Eight hours in a car with a trainer and an in-person lesson explaining DMV rules and policies*
      * Package Three: *Twelve hours in a car with a trainer, in-person lesson explaining DMV rules and policies; in addition: access to online class with all content and material (includes practice tests)*
  + Tracking
    - Reservations
      * Modifications
      * What clients have which trainer, what time, and what car they will be in
  + Connect with DMV to provide updated information for clients through notifications
  + Show customers their test stats
    - Name of test, time it took, score, and status of test
  + Show driver notes
    - Time lesson took, when it started/when it ended, and any driver comments

## 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-based cloud environment – for accessing data from any device online or offline
* Load times: about 1-3 seconds with the system providing feedback for anything over 3 seconds
* Updates should be once a month OR as needed

#### 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?*

* System needs to be able to run on browsers for computer and mobile devices:
  + Microsoft Edge
  + Firefox
  + Chrome
  + Safari
* Back end requirements:
  + Database for storing user information as well as system information
  + Web server to manage and process requests and responses

#### 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?*

* Customers and employees and admins all need separate login portals to maintain the security of the system as well as case sensitive passwords
* Limit number of incorrect password attempts, when limit is reached then an admin is notified

#### 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 (customers and staff) should be able to create/add accounts or delete/remove accounts, as well as modify or edit user information within account (code should be written to accommodate this feature)
* Browsers will continually update allowing patches and updates to be made to the system behavior when necessary
* System application updates will be done when bug fixes are completed as the scrum development team allows and only during system downtime (not a lot of use of system) to avoid negative impacts of the system
* Agile development will be used to allow smaller changes to be able to be implemented faster and more often with less risk of negative system impact
* IT admin needs full access over accounts to be able to update/reset passwords or block former employee access to system

#### 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?*

* Username and Password needed for login
* For secure communications, networks requests will be made with HTTPS
* Cryptography will be implemented to encrypt data that is communicated across networks that could be sensitive
* IT admin will be notified with the max amount of failed password attempts are reached and the account is locked where the admin can send a reset link to the address linked to the account

### 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 user credentials when logging in and determine level of access based on account type
* The system shall be web-based, data can only be modified online, and instructional materials can be accessed offline
* The system shall track user activity (customer and employee) and place information in an activity log to show who made or canceled a reservation and who modified it last
* The system shall provide reporting (detailed activity reports)
* The system shall list 3 packages for customers to choose from and each package can be disabled or modified, or new packages added
* The system shall accept customer details for account registration:
  + First name
  + Last name
  + Address
  + Phone
  + State
  + CC number, exp date, security code
* The system shall allow users to reset their passwords
* The system shall provide instructional material that is based on the current DMV guidelines
* The system shall display exam grade/progress for users
* The system shall provide instructor feedback for customers
* The system shall allow for exams and material to be changed, deleted, or added by instructors
* The system shall allow for instructors, admins, and the secretary to contact customers

### 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 system is web-based, so interaction with interface will occur through browsers from any online device. The interface will include the following pages:

1. Account registration page
2. Home page
3. Customer info page
   1. Test progress
      1. Test name
      2. Test time
      3. Test score
      4. Test status
         1. Not taken
         2. In progress
         3. Failed
         4. passed
   2. Contact form
   3. Driver notes
      1. Lesson time
         1. Start hour
         2. End hour
      2. Place for driver comments
4. Course material access page
5. Diving lesson reservation page
6. DriverPass contact page

ACCESS LEVELS:

1. Company Owner(Liam) – full access over accounts and can update passwords
2. IT Officer(Ian) – full access over accounts and can also update passwords
3. Secretary – access to reservation scheduling and can create/cancel/modify reservations on behalf of user
4. Customers/Students – access to account creation, learning materials, schedule, and can create/cancel/modify reservations online

### 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?*

* The internet is available 24/7 for the system to always be current and any database information to be up to date as well
* We can assume that the DMV always keeps its guidelines current and that they will be available
* The customers have access to a device that can connect to the internet that meets DriverPass requirements
* With the way the generation is today, the website will receive the most traffic rather than in office visits or phone calls
* With how fast technology has and will continue to advance, a mobile app could soon need to be developed

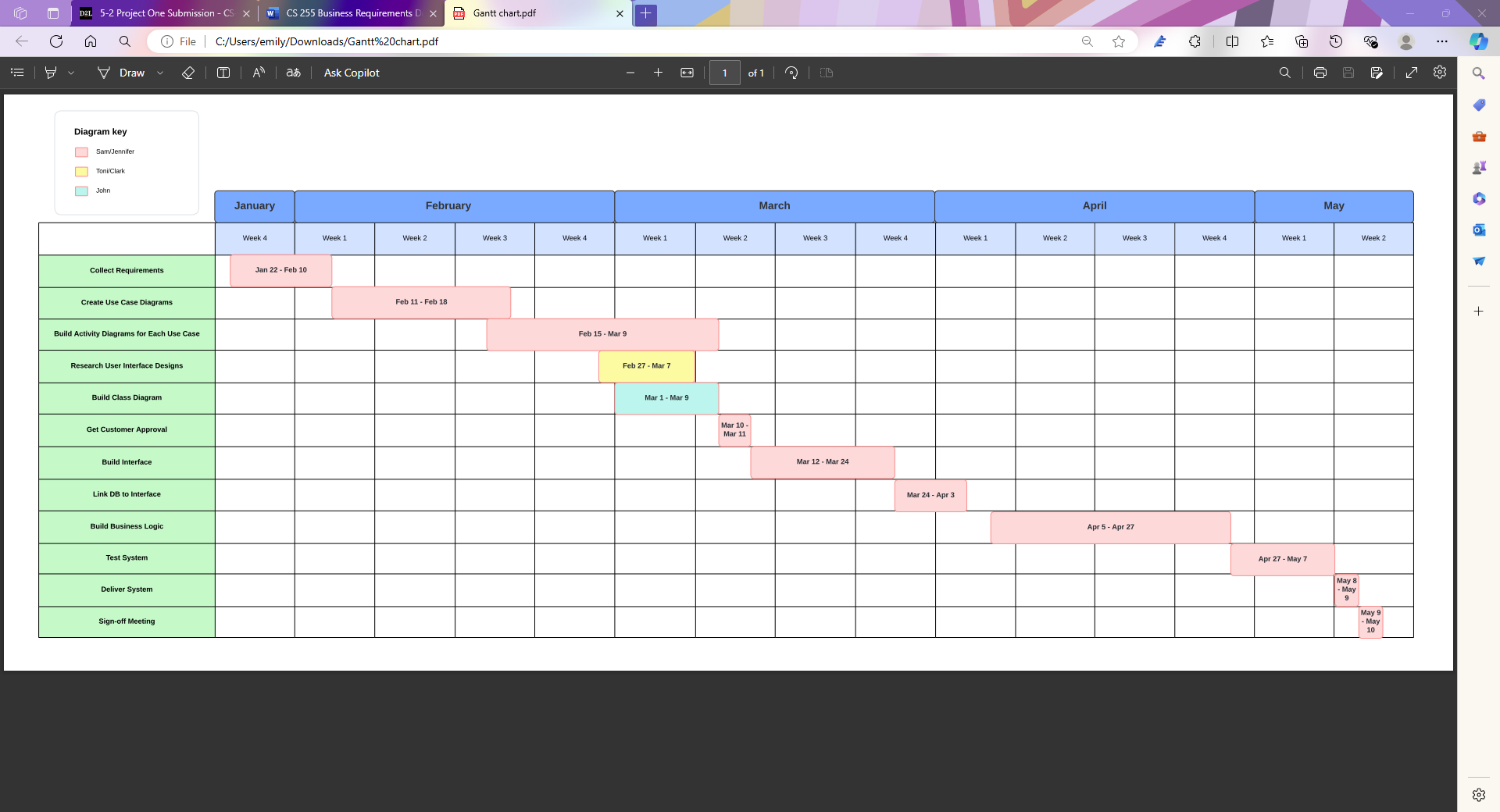
### Limitations

*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?*

* User data CANNOT be created, modified, or removed unless an internet connection is available(web-based system)
* DriverPass content CANNOT be accessed unless an internet connection is available (web-based system/EX: practice tests, classes, reservations)
* Needs electricity to power the DriverPass system as well as the client devices
* Access to the current DMV guidelines my not always be available, that reliability is a key feature of the DriverPass system

### 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.*

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