# 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 purpose of this system design is to provide our client, DriverPass, with a system that provides driving training. It can achieve this by…
  + Providing students with a better method to learn and prepare for the DMV.
  + Support students preparing for both the written and driving test by linking them with a teacher and up to date study materials.

### 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 background of the proposed system is provided to solve the problem that 65% of students fail the driving test. It can do this by preparing students before they take their test and…
  + Offer up to date practice written tests and optional driving tests with trained teachers by linking student and teacher profiles.
  + The ideal outcome is students being able to pass their driving tests the first time they attempt thanks to DriverPass’ services.

### 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?*

* The objectives in a system analysis are to provide an accessible system that allows the student to access content after paying for DriverPass’ services and the goals are…
  + Account creation system for the user or a customer service representative to access to allow account creation and management.
  + Password based security system to manage privileges.
  + Cloud based system.
  + Live updates to both teachers and students.
  + Reservations system to link teachers with students.

## 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 needs to run in a web-based environment hosted on the cloud with offsite servers and the security should be handled by the server host.
* The system needs to be updated regularly with DMV updates using a link to the DMV system.
* Load times should be quick enough that the user can easily access content (no more than a few seconds) when needed with the overall goal being to help the user pass, availability will be vital.
* Regular system updates and support to keep the system running smoothly for OS updates.

#### 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 should run on both mobile iOS and Android and OS platforms Windows and MacOS through most used web browsers.
  + Google Chrome
  + Safari
  + Microsoft Edge
  + Firefox
* System should rely on off site databases and web servers as the client would not like to support security and storage for the systems, this is achieved via cloud computing.

#### 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?*

* System will use account creation to validate username and password.
* Passwords will be case sensitive.
* Users will be locked out after 3 attempts and a report will be sent to an admin once a day after the end of the business day.

#### 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 support back-end account creation for new users and removal/modification from a systems administrator, so no code modification is needed.
* The system will receive regular updates to avoid issues with new operating systems. It may require support for larger updates such as new Windows versions (10 to 11) or MacOS versions.
* Both the IT admin and the CEO require full access to the system at any given time, and the ability to work offline is required. They also need the ability to track what each user does.

#### 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?*

* A password is required with requirements for it to contain at least one symbol, capital letter, lowercase letter and number.
* After a month the admins will be required to change their passwords, new passwords follow the same rules as listed above and cannot repeat the last 5 passwords.
* Two-factor authentication with the users email or phone number or SSO (single sign on services)
* The user will only get **3 attempts** before the account is locked out and requires admin approval to unlock.
* Users will be able to change password using a forgot password function automatically using two-factor authentication.

### 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 allow for account creation online and over the phone.
  + The student will provide their first name, last name, address, phone number, state, credit card information, and pickup location to an online prompt.
  + Students will be able to provide the same information to a customer service representative.
* The system shall give the student updates on the home page with the following functionality…
  + Show student progress with practice test scores, scores will be reflected by name, time taken, score, and status. Status will consist of either not taken, in progress, failed, and passed.
  + List student information such as first name, last name, address, city, state, zip code, phone number, email, etc.…
  + Drivers notes if the user paid for the optional driving service including the lesson time, start hour, end hour, and driver comments.
  + Any special needs the student requires.
  + A photo of both the student and the driver (if applicable).
  + Contact page for the student.
* The system shall give the student and a secretary the ability to create appointments.
  + Students will be able to select from various options or packages for driving appointments.
    - 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 where we explain the DMV rules and policies.
    - Package Three: Twelve hours in a car with a trainer, an in-person lesson where we explain the DMV rules and policies—plus access to our online class with all the content and material. The online class also includes practice tests.
  + Each session is two hours long.
  + Functionality is required for admins to update or change the offered packages.

### 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 user interface will run through a browser via cloud computing and include 4 types of users.
  + Student
    - Personal information
      * First name
      * Last name
      * Address
      * City
      * State
      * Zip code
      * Phone number
      * Email
    - Appointment creation
    - Drivers notes
      * Lesson time
      * Start hour
      * End hour
      * Driver comments
    - Online test progress
      * Name
      * Time taken
      * Score
      * Status
        + Not taken
        + In progress
        + Failed
        + Passed
    - Special needs
    - Assigned driver and student photo
  + Driver
    - Upcoming appointments
    - Assigned students
    - Driver notes input form
    - Contact
  + Secretary
    - Set appointments
    - Add users
  + Admin
    - Access to all previous functions
    - Account modification/deletion

### 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?*

* All 4 types of users have access to the internet.
* Users have access to a phone or computer.
* Students are eligible for a driver’s license per age guidelines for the state the system will be in use in.
* Teachers have a driver’s license and a car that is working.
* Students have the physical ability to drive a car.
* The student has not yet passed their driver’s test.
* Both students and teachers will be available at the appointment times.
* All cars are automatic and are consumer class cars.

### 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 support a certain number of students due to the fleet currently consisting of 10 cars.
* All 10 cars need to be maintained and in complete working order.
* Off- site server needs to be well maintained and have enough space to include larger volume in the future.
* Drivers may use various cars, each of which is slightly different to drive or more significant between manual and automatic.

### Gantt Chart

A screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generated

Sources

Statcounter. (2024). Browser Market Share Worldwide. StatCounter Global Stats. <https://gs.statcounter.com/browser-market-share>

Ramírez, P. (2023, March 15). What are the most used operating systems in 2022? - ITSoftware. ITSoftware. <https://itsoftware.com.co/content/most-used-operating-systems/>

Password Best Practices. (n.d.). UC Santa Barbara Information Technology. <https://www.it.ucsb.edu/general-security-resources/password-best-practices>