# CS 255 Business Requirements Document Template

By – Robert Mayweather Jr

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.
* Liam aims to create a new experience for training students for the driving test at their local DMV.
* Students will have the ability to take online classes and practice tests.
* Students will also have the option for on-the-road training.

### 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?*

* Enable access to data from anywhere, both online and offline.
* Allow data access from any computer or mobile device.
* Provide the capability to download reports and information for offline use.
* Support working on downloaded data using applications like Excel.

### 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?*

* Allows customers to schedule driving lessons by selecting the day and time.
* Enables customers to make reservations online through their account.
* Provides alternative options for scheduling via phone or in-person at the office.

## 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 be web-based and cloud-hosted
* Must be accessible from any computer or mobile device
* Must support real-time access to data when online
* Should allow downloading of reports for offline viewing
* Must maintain current DMV rules and policies through updates
* Should provide notifications when DMV updates occur

#### 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?*

* Web=based system running on cloud infrastructure
* Requires database backend for storing user information, reservations, and test results
* Must support Excel compatibility for downloaded reports
* Must integrate with DMV systems for updates
* Needs to support multiple concurrent users (secretary, drivers, students, admin)

#### 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?*

* I would use a Role-Based Access Control setup to distinguish between users. For example,

1. Owner – Liam – highest level access

2. IT Officer – Ian – full system administration access

3. Secretary – appointment management access

4. Customers – limited access to their own accounts and appointments

5. Drivers – access to their assigned appointments and ability to leave comments

The system does not indication the input is case-sensitive, but we could incorporate some user-friendly systems:

1. The system should store and display names and information in their original case format
2. Passwords should remain case-sensitive for security purposes
3. Username could be case-insensitive

#### 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 IT Officer (Ian) requires full administrative access to manage all account, including the ability to reset passwords and block access for terminated employees
* The system must include comprehensive tracking capabilities to monitor who makes reservations, cancellations, and modifications, with the ability to print activity reports
* The system will operate via web/cloud infrastructure to minimize technical maintenance burden, with security and backups handled by the cloud provider
* User management includes automated password reset functionality for customers, role-based access controls for different employee types, and secure handling of customer data.

#### 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?*

* Login Requirements for user
  + User needs unique login credentials to access their accounts
  + Access should be web-based and cloud-hosted
* Securing the connects and data exchange:
  + The system must securely handle sensitive information including:
    - Personal information
    - Credit card information
    - User credentials
  + Cloud-based security implementation is preferred by Ian
  + All data modifications should be tracked and logged for accountability
  + Data should only be modifiable when online to prevent data redundancy issues
* Brute Force Protection - The system should:
  + Track and log all login attempts
  + implement account lockout after multiple failed login attempts
  + Monitor and record suspicious activities
  + Maintain and audit trail of all system access attempts
* If user forgets their password:
  + Users should be able to automatically reset their forgotten passwords without administrative intervention
  + IT officer needs the ability to reset passwords for users when necessary
  + The system should provide a self-service password reset functionality

### 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
* The system shall enable password reset functionality for users who forget their passwords
* The system shall allow customers to create and manage their accounts with personal information
* The system shall allow customers to purchase one of three training packages
* The system shall enable online scheduling, modification, and cancellation of driving appointments.
* The system shall track appointment details including driver, vehicle, time, and pickup/drop-off locations
* The system shall maintain a two-hour duration for each driving lesson
* The system shall track and display online test progress showing test name, time taken, score, and status
* The system shall record and display driver notes and lesson times for each training session
* The system shall allow secretaries to schedule appointments and manage customer information via phone or in-person requests
* The system shall enable downloading of reports and activity logs showing user modifications to records
* The system shall receive and display notifications for DMV rule and policy updates
* The system shall process and secure customer payment information including credit card details
* The system shall allow administrators to enable or disable training 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.)?*

* Interface Needs
  + Web-based interface with cloud hosting
  + Must display test progress, driver notes, and lesson schedules
  + Forms for student information input and contact management
  + Minimal technical maintenance requirements
* Users for the interface
  + Owner, IT Officer, Secretary, Customers, Drivers
* User capabilities
  + Owner – full system access and reporting capabilities
  + IT Officer – system maintenance and user account management
  + Secretary – appointment scheduling and customer information management
  + Customers – account access, appointment scheduling, online classes
  + Drivers – lesson scheduling and note-taking capabilities
* User interactions with the interface
  + Online self-service portal for customers
  + Phone/in-person booking through secretary
  + Automated password reset functionality
  + Activity tracking and logging system

### 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?*

* Though credit card information collection was mentioned, the actual payment processing system and security requirements weren’t discussed
* While DMV updates were mentioned, the specific notification methods (email, SMS, in-app) weren’t defined
* Though Liam wanted offline access, the limitations weren’t fully discussed

### 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 relies heavily on cloud infrastructure for web-based operations
* This system lacks flexibility for administrators to create new training packages without developer intervention
* Only basic package enabling/disabling functionality is available
* Limited to 10 cars and their corresponding drivers
* System requires updates from DMW for rule, policies and sample questions
* The entire project must be completed between January 22nd and May 10th

### 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.*

**