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# CS 255

Professor Lewis

# Project One Business Requirements Document

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?*

* Provide students with details and insight resources to pass the driving tests
* Offer online practice exams, online classes, and on-the-road training
* Allow students to book, cancel, and modify driving lessons reservations online
* Allow Liam and the staff to manage accounts, driving lessons schedules and reports
* Align with the DMV new rules, policies, and sample questions

### 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?*

* Increase students passing driver test rate
* Let customers sign up and schedule lessons
* Store customer information securely
* Connects to the DMV to stay updated with rules, policies and tests
* Allow the secretary add appointments for walk-in or phone calls
* System works on both desktop and mobile devices
* Stores all data in the cloud so it’s always available and backed up

### 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?*

* Allow students to create account by phone with secretary’s support
* Allow DriverPass’s students to schedule, modify, or cancel driving lessons online
* Allow DriverPass’s students to access online classes, practice tests, and resources anytime
* Allow DriverPass’s staff to manage reservations, accounts, and training packages
* Allow Liam to print, download, and export activity and financial reports
* Allow Liam to add or change packages as the business grows in the future
* Allow Liam to have full admin rights for the system
* Allow Ian to maintain and update the system without breaking customer access
* Allow Ian to adjust roles, permission and adapt to new features

## 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 should run as a cloud-based web application, accessible by browser and mobile
* Pages and actions should load in under three seconds
* Data such as reservations or reports should update instantly when online
* DMV updates should sync automatically on-demand

#### 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?*

* The system should be able to run in major browsers such as Chrome, Safari, Firefox, and Edge
* The platform should be mobile friendly with responsive design for iOS and Android device
* Back end requires a cloud-hosted relational database
* The system should be integrated with Excel for exporting reports

#### 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?*

* Each user should have a unique account and login credentials
* The system must validate inputs such as dates, credit card information, and phone numbers; make sure input is set as a specific data type
* Admin role should be notified immediately if there are errors in the system
* Customer data must always match correct reservation slots

#### 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?*

* Admin should be able to add, remove, and modify users without coding
* Admin should be able to modify package in the future
* Admin should be able to roll out system updates without downtime
* The system must adapt easily to DMV updates and new features
* The system should be able to scale up if DriverPass grows in the future

#### 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 must log in with username and password
* User need to reactivate their account after more than 5 login attempts
* Data exchange must be encrypted with SSL or TLS
* DriverPass’s students can use an auto password reset via email or phone validation
* Payment info must be stored securely following the PCI compliance

### 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 allow DriverPass’s students to schedule, cancel, and modify appointments
* The system shall enable DriverPass’s students to access practice tests, online classes, and training packages
* The system shall allow the secretary to create and manage accounts over the phone
* The system shall allow the secretary to make appointments for phone calls and walk-ins
* The system shall enable Liam to view, add, delete, and modify reservations
* The system shall enable Liam to reset passwords, manage accounts, and adjust user roles
* The system shall allow the admin role to export reports into Excel for activity tracking
* The system shall notify DriverPass’s students about any changes, cancellations, or DMV updates
* The system shall allow DriverPass’s staff to track cars, instructors, and available time slot
* The system shall keep DriverPass’s students personal and payment data secure

### 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.)?*

* Must be simple, intuitive, and mobile-friendly
* Able to access via desktop browsers and mobile devices
* For DriverPass’s students dashboard:
* Able to view and manage appointments, access practice tests, online classes, training materials, and contact DriverPass
* Display online test progress, the test student’s completed, student’s information(first name, last name, address, city, state, zip code, phone no., email), student’s photo, driver’s photo, accommodation if students request, and driver notes (with lesson time, start hour, end hour, and comments from the instructor)
* For Secretary Dashboard: access to create customer accounts form, manage appointments for walk-ins and phone calls, and view all reservations by car, driver, and time slot
* For Liam Dashboard:
* system-wide view of accounts, reservations, and test progress
* access to lesson notes and test progress for each student
* ability to generate and export reports
* tools to reset passwords, manage roles, and remove accounts
* For Ian Dashboard:
* Admin-level dashboard allows him to maintain the system
* Manage permission, troubleshoot issues and roll out updates
* Access to logs and activity report for auditing

### 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?*

* Customers will have internet access to use the system
* DMV provides reliable API or data for updates
* All payments go through secure online transactions
* Liam can afford all the resources needed

### 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?*

* Internet connection is required for making changes in the system
* Small company budget may limit advanced features such as AI chatbots or multi-language support
* Only 10 cars are available for DriverPass’s students
* System security and scalability depend on the chosen cloud provider

### 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.*

