# CS 255 Business Requirements Document Template

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## 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 project is to assist the new client DriverPass.
* The owner of the company wants users to be able to utilize the system to take online classes and practice tests to prepare for their driving test.
* The system should also give users the option to book in-person appointments with DriverPass employees 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?*

* The owner of DriverPass wants to take advantage of the lack of effective driving training programs, by implementing a new system that will improve driving knowledge and skills before DMV testing.
* DriverPass wants to fix the fact that there aren’t effective training programs for new drivers.
* Liam needs to access data from anywhere, online as well as offline.
* Liam wants to access data online from any computer or mobile device. He needs to be able to download reports and information so he can work from home.
* There needs to be administrative access for IT officer Ian. He needs control over all accounts in case of users needing password resets and to block access for users who are let go.
* There needs to be tracking for reservations, cancels, and modifications. Liam wants to be able to print an activity report in case something goes wrong.
* Customers need to be able to make reservations for two-hour driving lessons by giving the day and time when they want a lesson. This should be done through the user’s account, or over the phone, or by visiting their office. They also need to be able to identify the driver the customer is scheduled to go out with.
* There needs to be three packages available for reservation. All the packages should be easily changeable.
* Users need to be able to make appointments, cancel, and modify appointments online.
* Users should be able to register by providing information that includes: first name, last name, address, phone number, state, and their credit card number, expiration date, and security code. They should also include a pickup location, that should match their drop-off location.
* Users need to be able to reset their password if forgotten.
* There needs to be up to date changes with DMV updates, like new rules, policies, or sample questions.
* The web interface needs to run on the cloud.
* The interface should show online test progress, which includes test name, time taken, score, and status. There should also be a spot for drivers’ notes.
* Theres needs to be a page for contacting DriverPass, and a way to contact the student.

### 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?*

* When the system is completed, it should allow customers to choose between three driving packages once they make an account.
* Package one includes six hours in a car with a trainer.
* Package two includes eight hours in a car with a trainer and an in-person lesson where DMV rules and policies are explained
* Package Three includes 12 hours in a car with a trainer, an in-person lesson where they explain DMV rules and policies. Plus, access to their online class with all the content and material. The online class will also include practice tests.
* Once a package is chosen the user will need to pick days/times of availability, as well as a pickup/drop-off location.
* The site should show completion and progress of practice questions, tests, and driving.

## Requirements

### Nonfunctional Requirements

#### 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 on a web-based environment.
* The website should be responsive and work on all current web applications.
* The system should be updated as needed with downtime scheduled in advance.

#### 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 run on mobile devices and browsers.
* The web frontend will run on all current popular browsers.
* The backend will require a database to store user and system information.

#### 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?*

* All users should have distinct usernames and passwords to distinguish between each user.
* User passwords will be case sensitive.
* The system will send daily reports consisting of all errors.
* The system will send immediate notifications to the administrator if critical errors occur.

#### 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 need full access to all code and programs to make necessary changes. They should be able to add, remove, or modify users at any time without changing code.
* Web applications must remain up to date with updates and changes made to available browsers. The system should automatically adapt.
* IT admin will need access to the database and the server running the web application.

#### 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?*

* There will be a case-sensitive password required for user and admin login.
* The system can implement two times verification (2FA) through email or text to verify safe login attempts.
* To prevent a “brute force” hacking attempt, the users account will be locked after 3 incorrect password attempts. The user will be alerted of this via email or text.
* If the user forgets their password, they will have the option to reset their password through an email link sent to the email associated with their 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.
* The system shall process 2FA logins based on the users selected device type if 2FA is turned on.
* The system shall lock customer accounts after 3 incorrect password attempts and require a password reset.
* The system shall update customer and order information on the backend based on user input.
* The system shall track available appointments with scheduled appointments to avoid conflicts.
* The system shall schedule customer appointments in response to orders placed.
* The system shall provide users with progress charts for classes, tests, and training, which should also include instructor notes.

### 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 interface needs to be web-based on the cloud, and it needs to be able to adapt for desktop or mobile devices.
* The interface should show online test progress, completion, driver photo, student photo, student information, and driver notes.
* Liam will be a system admin and will need to be able to download system data online and offline and be able to disable DriverPass package.
* System admin also needs to maintain the system, modify employee access, download system activity report and can reset employee access passwords.
* The secretary needs access to scheduled appointments and update customers information.
* Customer users should have access to their account information, orders, and package information.

### 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?*

* I assume users have access to an email account.
* I assume users have access to a mobile device or computer.
* I assume the system can track changes made from the DMV.
* I assume the website will be user friendly and easy to navigate.

### 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 timeframe set by the client is 15 weeks, which may not be enough time.
* There are only 10 vehicles available for driving practice, which may not be enough if there’s a high demand for driving practice.
* Vehicles will need constant maintenance, and if a vehicle breaks down there may be scheduling issues.
* Changes to DMV regulations, changes to web browsers, or mobile device updates, could occur at any point.
* This project will be very expensive, and the budget could be an issue, especially when accommodating so many platforms.

### Gantt Chart

*A screenshot of a chart

Description automatically generated*