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Module 5-2

# CS 255 Business Requirements Document Template

## 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?*

* This project is aimed at one of our clients, DriverPass, who seeks to enhance their system to offer improved driver training.
* The driver training will be available to their customers as an option to better prepare them before taking driving tests at DMVs.

### 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?*

* DriverPass wants to solve the problem of many people failing their driver's tests multiple times before passing. They aim to help individuals be better prepared to pass on their first attempt.
* DriverPass plans to provide online classes and practice tests to offer essential information and evaluate their customers' knowledge before taking the driver's test at DMVs.
* DriverPass also intends to provide on-the-road training as an optional service for their customers

### 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?*

o Account Creation

* Customer's name, address, phone number, and credit card information
* Customer's pick-up and drop-off location
* Scheduling appointments online
* Choosing a training package
* Access to reset password if forgotten
* Additional features:
* Provide access to specific employees
* Monitor which user is paired with a particular driver, time, and car
* Track reservations
* Enable the removal of training packages
* Connect with DMV for updates
* Send notifications for new updates
* Display customer test results and progress
* Test name, duration, score, and status
* Show driver notes
* Lesson time, start time, end time, and 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
* Average load times for users should be 1-2 seconds
* System should provide feedback for load times exceeding 3 seconds
* System updates should occur monthly 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?*

The system should operate on both computer and mobile browsers, as follows:

* Internet Explorer
* Google Chrome
* Firefox
* Safari
* The back end needs a database to store user and system information
* The back end needs a web server to process and manage 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?*

* The system will differentiate between users with separate login sections for customers and employees.
* Each user's password will be case-sensitive.
* The system notifies the admin of any problems daily.

#### 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?*

* User modifications will be handled in the back end without altering the code
* The system should seamlessly adapt to any platform updates
* The IT admin requires access to the database and web server to maintain and modify the 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?*

* A password is necessary for users to log in
* Two-factor authentication adds an extra layer of security for the connection or data exchange
* Users will be locked out after five incorrect login attempts
* A "Forgot Password" button will notify the admin to allow the user to reset their password

### 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.”*

* This system shall verify the user's username and password during login
* This system shall identify user types: customer or admin
* This system shall enable users to reset their passwords if needed
* This system shall allow five login attempts before blocking the user and notifying the admin
* This system shall create user accounts with user information
* This system shall permit access from anywhere online
* This system shall show types of packages for customers to choose from
* This system shall allow customers to select a type of package to purchase
* This system shall let the admin disable packages that are full
* This system shall track which user is paired with a specific driver, time, and car
* This system shall connect with the DMV to get updated information
* This system shall display customer information, test progress, and status
* This system shall show drivers' notes
* This system shall display lesson times, start hour, and end hour
* This system shall display driver and student photos
* This system shall provide customers access to online learning tools

### 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.)?*

* Users will access the system through browsers on computers or other devices.
* Users include customers and employees/administration.
* Customers should have access to:
* Login/register page
* Home page
* Test progress and scores
* Test pass/fail status
* User information with update capability
* Driver notes, lesson dates, and times
* Package information
* Online learning tools
* Contact information page
* Admin should have access to:
* Information of registered customers
* Selected packages and by whom
* Ability to remove full packages
* Customer and driver match details, including dates and times
* Ability to reset user passwords

### 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 users have 24/7 online access.
* All users will understand how to navigate the website.
* Admins possess the necessary skills to navigate and utilize all website functions.
* Customers will be punctual and attend every lesson included in their chosen package.
* Drivers will be available and attend every scheduled driving lesson.

### 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?*

* DriverPass has 10 cars, each of which needs maintenance to remain usable.
* Internet connection issues may occur, causing delays in updating information.
* The limited number of cars restricts the number of packages that can be sold.
* Users may not have the latest technology on their end.
* Meeting all DriverPass requirements within budget and time constraints.
* Customers may only be familiar with certain types of vehicles.