# 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?*

* To provide a systems design overview for online practice driving tests and on-the-road training to prepare people for driving tests.
* The client is DriverPass and they want to be able to provide better and more comprehensive driving preparation for exams and tests.

### 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?*

* Provide online driving training and exam preparation.
* Provide on-the-road training.
* Currently many people do not pass due to only studying previous tests and they would like to help more people pass with deeper understanding.
* Reservation tool to create a reservation for driving lessons online though user account or by calling into the office.
* Roles are CEO, IT officer, Secretary, User.
* Users’ information to store will include:
  + first name
  + last name
  + address
  + phone number
  + state
  + credit card number with expiration date and security code
* This must be done to register.
* Keep up to date by connecting to DVM and sending push notifications for new rules, policies, or sample questions for tests.

### 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?*

* Access data from anywhere online.
* Download reports for offline access and editability with a system like excel.
* Security access rights to specific users with a lead who has access to all rights.
* Activity report to track who makes, cancels, or modifies reservations.
* ID for drivers and vehicles to track which user is matched with which driver/vehicle.
* 10 vehicles and drivers
* User should be able to choose one of three packages:
  + 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.
* Ability to disable packages.
* See sketch for wireframe.
* Online test progress should display:
  + Test name.
  + Time taken.
  + Score.
  + Status.
* Driver notes section should have a table to include:
  + Lesson time
  + Start Hour
  + End Hour
  + Driver Comments
* Multiple page system
* Developed with cloud-based storage and security.
* Student or secretary can fill in the student information (first name, last name, address et cetera)
* Users can automatically reset password when forgotten.
* Page for contacting company.
* A way to contact the student.

## 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 on a web-based environment.
* Options to download data for the **owner** to use in excel or a spreadsheet software.
* The system should not take longer than 5 seconds to respond to any input (downloads may vary but a message should let the user know action is taking place).
* The system should be tied to the DMV for automatic updates and a notification should be sent to DriverPass with any required updates.
* The system should allow the **IT officer** and **owner** to disable packages.
* The system should update the schedule each time any user role books, cancels, or changes an appointment.
* The system should update each users account anytime a new test, practice, or driver note and score is added.

#### 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?*

* Linux platform should run the system with ease.
* Cloud based storage and database integration.

#### 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?*

* Unique usernames and passwords will allow differentiation.
* The passwords should be case sensitive but not required for user name.
* Anytime there is a user locked out of account, a large influx of traffic, many error messages being sent, or other abnormalities should be immediately sent to **IT officer** and **owner**.

#### 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** role can update any information like address, phone, email.
* **Secretary** role can make same changes but also change a users’ name.
* **IT officer** should have full access to information on database
* Ability to make MINOR updates, such as but not limited to, disable certain packages.
* Ability to update user accounts (reset passwords, etc.) including revoke or disable roles/users.
* **Owner** should be able to access and download anything, make updates to accounts, upload edited documents.
* The system should notify the IT officer and Owner of DMV updates to tests or requirements.
* No major updates currently expected but it should be built with future updates in mind

#### 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?*

* Username and Password are required.
* OPTIONAL: Two factor authentication is highly recommended for security since you are handling user data.
* Utilizing the Cloud offsets responsibility for client – server data exchange.
* The system should use encryption algorithms for all user data.
* After 4 attempts with failed login, the account should be disabled by the username, client must call in for IT or owner to reset password.
* A “forgot your password” option should populate to allow the user to self-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.”*

* The system shall validate user credentials when logging in, including if multi-factor authentication is utilized.
* The system shall have users and four main roles of “user,” “secretary,” “IT officer,” and “owner” providing access accordingly to roles.
* The system shall offer users the chance to book, change, or cancel appointments.
* The system shall be quick, efficient, and accurate.
* The system shall update the schedule each time any user books an appointment.
* The system shall communicate with the DMV and keep up to date with any changes.
* The system shall keep a database of drivers, cars, users, and what user is paired to which cars/drivers.
* The system shall display tests and what work the user accomplished.

### 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 must have options to book, change, and cancel appointments.
* Display progress and next steps.
* Display schedule.
* Upload a photo.
* Display current chosen package and upgrade package if applicable.
* Display driver notes and scores.
* Employees need to be able to make updates or changes as needed.
* Interaction from mobile device, laptop, desktop, or tablet should be similar but adjusted to fit each type of screen size.

### 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 access to decent internet and a device that can connect to a web browser.
* No budget was mentioned in the interview, so all items in this list are within the budget.
* Linux is ok with DriverPass to build the system in.

### 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?*

* Legally, we need a budget set before work continues to ensure that all items are within the limitation of the budget.
* Internet connection will need to be maintained at the office for any schedule updates to be made.
* The current schedule is set for over 4 months of build time.

### 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.*

