**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 provide a service to a void in the market for training gstudents for their driving test. DriverPass wished to capitilize on this niche in the market by providing up to date online classes and practice tests for these students as well as on the road training. DriverPass wants their system to be able to store users that can schedule specific lessons as well as have access to tailored content to practice and improve for their driving tests. They want active logs of appointments, and reservations as well as users. They also wish to have administrative capabilities to perform such tasks such as password resetting and modifying vehicles in the fleet, as well as overall account monitoring capabilities.

**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 Users option to schedule appointments
* Offer online classes, practice tests, and on the road training
* Tools to manage reservations, export necessary data, up to date with dmv info and training
* User, Admin, Vehicle classes to handle objects and data
* Database and cloud services if possible

**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?**

* Provide online classes, practice tests, and on the road training
* Provide multiple tiers of on the road training
* Schedule appointments, modify and cancel
* DMV compliance
* Ensure data is restricted to proper users
* Provide easily navigable UI for user
* Allow administrators access to database for CRUD operations

**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?**

* Application must be web based
* Activity reports need to be able to be generated
* Updates to database in real time
* Cloud based integration preference
* All server requests need to be validated and responded to in an appropriate time limit
* Connections to the server terminated after 5 minutes of inactivity
* Reports available for interactions with server and user interactions

**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?**

* Database required to store Users, Admins, Vehicles, and lessons securely.
* Accessible via web browser
* Should plan to accommodate windows, apple/mac ios, and android

**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?**

* Access for users/administrators should be distinguished by class
* Input should be case sensitive
* Any errors in the application should be handled to maximize security, Reports should be generated upon security breaches or concerns based off of the error handling

**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?**

* Queries can be created to perform CRUD operations on user. User should have access to create and update, but Admins should be reserved the ability to encompass all operations to database
* Admins need to be able to create, read, update, and delete users as well as monitor accounts and security
* Admins need to be able to monitor appointments and perform CRUD operations on vehicles in the fleet

**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?**

* User requires password to access the account. Password reset is made possible for users via 2fa preferably
* Cryptography encouraged to protect data in transit and requests to the server
* Cloud services contain built in security measures, but dependency check should be utilized to check for known vulnerabilities, certificate authentication should be utilized
* Class Objects, aside from administrators, should be restricted in terms of overall access to database and queries
* Brute force hacking attempt should be met with termination of connection to server and a report generated displaying analytics

**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 will verify available appointments with database prior to adding appointments, system will also verify the creation of the appointment and send confirmation to user
* The system will contain necessary CRUD operations for users to manage as well as CRUD operations for administrators for account access
* The system shall allow admins to perform CRUD operations on users and vehicles in fleet
* The system will create reports for admins regarding users and vehicles as well as security

**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.)?**

* Contain user account information
* Show online test progress
* Display any driver notes from lessons
* List special needs of student
* Photos of driver and student
* Friendly and easily navigate able
* Input areas clearly defined

**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?**

* Users have internet access
* Users have basic computer knowledge
* User information is known
* Cloud development

**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?**

* Liam wants to be able to add, update, or delete modules (non-technical)
* Team bandwidth, limited staff
* Integration for all platforms is a time constraint when considering initial release
* Budget concerns for scope of entire project upon release
* Time concerns regarding team bandwidth

**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.**

