**CS 255 Business Requirements Document Template**

**Part 1: System Components and Design**

**Purpose**

* Purpose:

The purpose of this project is to design a website system for DriverPass that offers comprehensive resources and tools to assist students in successfully passing their driver's tests.

* CLIENT:

**Name:** Liam

**Position:** Owner

**Company:** DriverPass

**Description:** Liam is the owner of DriverPass and is responsible for overseeing the project and providing the vision for the system.

* Additional Notes:
* Liam desires access to data from anywhere, both online and **offline**.
* Liam emphasizes the need for data security, user roles, tracking changes, and activity reports.
* Liam wants the system to handle driver training, online classes, practice tests, and on-the-road training.
* Liam wants customers to be able to make reservations, modify appointments, and access training resources.
* Liam has specific requirements for package options, customer registration, password reset, and compliance with DMV updates.
* Liam has provided a sketch for the interface design, including features like test progress and driver notes.

**System Background**

* DriverPass wants the system to provide online classes and practice tests for students preparing for driving tests. They aim to address the lack of effective tools available to train students for passing their driving tests by offering an online platform and training services.
* The problem DriverPass wants to fix is the inadequacy of existing resources and tools for preparing students for driving tests. They want to bridge this gap by developing a system that offers online classes and practice exams, ensuring students are well-prepared and confident when taking their driving tests.
* The different components needed for this system include:
* Online platform: A web-based interface.
* Reservation system: A system that enables users to make reservations.
* User management: Different user roles and access rights.
* Activity tracking and logging: The system should track and log user activities.
* Customer registration and account management: A registration process should be implemented for customers.
* Integration with DMV: The system should establish a connection with the DMV.
* Web-based interface: The interface should be web-based, running on the cloud, to ensure easy accessibility and minimize technical issues.

**Objectives and Goals**

* Some measurable tasks that are required in the system design are:
* Develop an online platform for DriverPass that includes online classes and practice tests.
* Implement a reservation system for driving lessons, allowing users to select specific days, times, and drivers.
* Ensure data accessibility for the owner from any computer or mobile device. Online and downloadable for offline usage.
* Implement user roles and access rights, such as full access for the IT officer and appointment management for the secretary.
* Enable tracking and logging of user activities and changes made to reservations.
* Incorporate a registration process for customers, including the collection of personal information, payment details, and **payment system**.
* Establish a connection with the DMV to receive updates on rules, policies, and sample questions.
* Create a web-based interface that runs on the cloud, ensuring minimal technical problems and easy accessibility.

**Part 2: Requirements**

**Nonfunctional Requirements**

**Performance Requirements**

* The interface should be in a web-based environment, running on the cloud, with a focus on minimal technical problems, fast speeds, and near-instant updates. Quick updates will ensure that all information provided by the DriverPass system is up to date and relevant to current DMV rulings and standards.

**Platform Constraints**

* Platforms. The client wants the system to be accessible online from any computer or mobile device. This suggests that the system should be platform-agnostic and compatible with different operating systems such as Windows, Unix, and mobile platforms.
* Data Access. The client wants the ability to access data from anywhere, online OR downloadable for offline work. It is mentioned that modifications or updates to the data should only be possible when online to avoid data redundancy.
* Backend Tools. The client emphasizes the need for security and mentions different employees with different roles and rights. This suggests the need for a role-based access control system and user management functionality in the backend. Additionally, the client mentions the ability to track changes made to records in the system, indicating the need for an audit trail or logging mechanism.
* Database. With all the information a database would be required to store and manage the system's data. The system would need to store customer information, driving lesson schedules, user accounts, and other relevant data.

**Accuracy and Precision**

* Users will be distinguished from each other by their unique usernames or email addresses.
* The input case-sensitivity was not specified.
* At the very least, passwords should always be case sensitive.
* Usernames and emails are generally not case sensitive.
* If a problem is detected, the system should inform the admin of the problem as soon as it is detected.

**Adaptability**

* It is not mentioned whether changes to the user can be made without changing the code. Usually user-related changes such as adding, removing, or modifying users would primarily affect the database. The database is responsible for storing and managing user information. Therefore, if changes need to be made to the user data, it can usually be accomplished by modifying the database records without requiring changes to the code. However, if new fields or attributes need to be added to the user profile, corresponding changes might be required in the code to handle these new data elements appropriately.
* To ensure the system can adapt to platform updates, it is crucial to follow best practices in software development and system architecture:
* Modularity and abstraction
* API-based architecture
* Use of industry standards and frameworks
* Continuous monitoring and testing
* Documentation and version control
* Collaboration with platform providers or support channels

By employing these strategies, the system can adapt to platform updates more effectively, ensuring compatibility, stability, and a smooth transition to new platform versions.

* The IT admin requires administrative access to manage the system.

**Security**

* Users are required to log in using a username and a case sensitive password.
* The connection or data exchange between the client and server should be secured using encryption protocols. Possible examples could be SSL or its successor TLS.
* If there is a brute force hacking attempt, activate appropriate security measures such as locking the account after a certain number of failed login attempts.
* If a user forgets their password, a password recovery or reset mechanism should be provided, such as sending a password reset link to the user's registered email address or a trusted phone number.

**Functional Requirements**

**Different functions the system needs to provide are:**

* **Practice Exams and Training:**
* The client, DriverPass, wants their system to be able to provide online driving classes and practice tests for students.
* The system should offer a variety of practice tests covering different driving topics and scenarios.
* The system shall also offer on-the-road driving training.
* **User Access and Authentication:**
* The system shall validate user credentials for access.
* The system shall allow users to access data online from any computer or mobile device.
* The system shall support offline access to data for downloading reports and information.
* The system shall have role-based access control with different rights and roles for employees.
* **User Tracking and Management:**
* The system should maintain a record of user actions, allowing administrators to review and monitor activity for security and accountability purposes such as identifying the responsible party of an issue. It should track activities like: reservations, modifications, and cancellations.
* **Reservations and Matching:**
* The system shall allow customers to make driving lesson reservations online or through the office. Reservation details include a specific day, time, and driver.
* The system should provide an availability calendar that displays open slots for driving lessons and allows users to easily book their preferred time.
* The system shall match customers with available drivers, times, and cars for driving lessons.
* **Lesson Packages and Customization:**
* The system shall support different packages for driving lessons with varying hours and additional features.
* The system shall allow customization of packages in future updates of the system.
* Package availability must be controllable in the current version.
* **Customer Registration and Account Management:**
* The system should allow customers to register by providing personal information, such as their name, address, phone number, and credit card details.
* The registration process should include validation checks to ensure the accuracy and completeness of customer information.
* The system shall enable password reset functionality for customers.
* **DMV Integration and Information:**
* The system shall provide up-to-date information on DMV rules, policies, and sample questions.
* The system should periodically sync with the DMV database to retrieve the latest information and ensure that practice tests and training materials align with current regulations.
* **Interface and Accessibility:**
* The interface should be web-based, running on the cloud, with a focus on minimal technical problems.
* The system's interface should be responsive and compatible with various devices, including desktop computers, tablets, and mobile phones, to provide a seamless user experience.
* The system's interface should have a user-friendly design, following the provided sketch or creating a new one.
* **Owner Access and download for offline Usage:**
* The owner needs to access data online from any computer or mobile device and be able to download reports and information to THEN work offline.
* The system should provide a secure login for the owner, allowing them to view and manage various aspects of the business, such as financial reports and performance metrics.
* **User Roles:**
* Different users of the system include the owner of DriverPass, the IT officer, the secretary who answers phone calls and makes appointments, and the students/customers.
* The system should have role-based access control, granting different levels of privileges and functionalities to each user role.

**User Interface**

* The needs of the interface are:
* The interface should have intuitive controls and functionalities, be easy to navigate/understand, and allow users to perform tasks efficiently.
* The interface should be responsive and adaptable to different devices, such as desktop computers, tablets, and mobile phones, to ensure a consistent experience across platforms.
* The interface should present information in a clear and readable format, using appropriate fonts, colors, and layouts.
* The interface needs to provide access to online practice exams and display progress and results of completed tests.
* The interface should allow users to schedule, modify, and cancel driving lesson appointments.
* The different user roles for the interface along with their specific interface abilities:
* **Students/Customers:**

They will use the interface to access online practice exams, training materials, make reservations for driving lessons, and manage their accounts.

* **Owner of DriverPass:**

The owner will utilize the interface to access business-related data, generate reports, monitor system performance, and manage various aspects of the system.

* **IT Officer Access:**

The IT officer requires full access to all accounts for maintenance and management purposes. The system should provide an administrative dashboard for the IT officer to manage user accounts, perform system maintenance, and troubleshoot any technical issues.

* **Secretary Functionality:**

The secretary should be able to make appointments, cancel, and modify appointments online. The system should provide an intuitive and user-friendly interface for the secretary to easily schedule and manage driving lesson appointments on behalf of customers.

* The user will be able to interact with the interface through web browser and mobile devices.

**Assumptions**

* The assumptions made or detail that were not specifically addressed in the above design are:
* The password associated to accounts are case sensitive.
* Users have basic computer and internet literacy.
* Users have access to computers or mobile devices with internet connectivity.
* Users “may” be familiar with the driving license exam process.
* The DMV will provide necessary updates and notifications.
* Customers will provide accurate and complete information during registration.

**Limitations**

* The limitations in the system design, resources, time budget, or technology are:
* The system design assumes a specific timeline for development.
* The system design does not specify on the server capabilities, database systems, development tools, etc…
* The system's offline access is limited to downloading reports and information.
* The system's customization of packages may require additional development work for future updates.
* The system's interface design may vary based on specific implementation or customization requirements. Overall, it should resemble the client’s picture unless changes are to be made to the design.
* The system's data access and security rely on internet connectivity and cloud infrastructure.

**Gantt Chart**

