**CS 255 Business Requirements Document Template**

Complete this template by replacing the bracketed text with the relevant information.

This template lays out all the different sections that you need to complete for Project One. Each section has guiding questions to prompt your thinking. These questions are meant to guide your initial responses to each area. You are encouraged to go beyond these questions using what you have learned in your readings. You will need to continually reference the interview transcript as you work to make sure that you are addressing your client’s needs. There is no required length for the final document. Instead, the goal is to complete each section based on your client’s needs.

**Tip:** You should respond in a bulleted list for each section. This will make your thoughts easier to reference when you move into the design phase for Project Two. One starter bullet has been provided for you in each section, but you will need to add more.

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?*

**DriverPass is a company that seeks to increase the rate of students passing their DMV driving tests by offering practice tests as well as practical training. This project aims to build an online system that allows students to sign up, book training sessions, and monitor their status. The system is also expected to assist administrators in managing reservations, tracking students, and checking adherence to DMV rules. Moreover, it must be usable on multiple devices to work on and off the internet. As such, DriverPass wants a robust and straightforward-to-use platform for managing the driver training processes that would ultimately lead to better success rates among students.**

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?*

**Many students are failing their DMV driving exams and not utilizing the proper training resources. This has been an issue for 65% of students at DriverPass. This system will include a web-based platform where students can register for training, an instructor module where instructors can manage driving classes, and an administrator module where progress can be monitored. These core features will enable student training, online payment, and onboarding of lesson schedules with instructors alongside vehicle assignments. This system will help achieve an orderly and organized process for students and administrators, eliminating manual tracking inaccuracies of ranges and increasing the availability of training material.**

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?*

**The user should be able to create an account, book driving practice sessions, and take practice tests using the system. The learner’s progress should be tracked in real-time, teachers should update session details, and administrators should generate activity reports. Security levels are to be defined to safeguard against possible compromises to user information. Also, the system must comply with DMV regulations, so practice tests are never outdated. These goals aim to reduce the number of students who fail the exam and improve the student pass rate with an efficient scheduling system that creates an easy and secure environment for students and instructors.**

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 will be hosted on the cloud to support remote access. Maintenance will be free of charge, and trouble should be set at 99.9% system uptime. Additionally, the system will efficiently manage simultaneous users without noticeable lag while ensuring prompt response times to student assessments and scheduling. In order to deliver a good user experience, the system must load in two seconds or less. Updates need to be made at least once per quarter.**

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?*

**Using a web-based application, the system should operate on Windows and macOS desktop computers and mobile devices. The cloud-hosted backend will need a secure database to support transactions while ensuring user data retrieval and reporting. High scalability must be designed into the database to accommodate future growth.**

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?*

**To prevent errors stemming from incorrect scheduling and payment processing, strict rules must surround the validation of user data. The system must be able to accurately track user modifications so that administrators can effectively monitor reservations and user activities. Each change in the arrangements must trigger automated email confirmation.**

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?*

**Modifying the code itself must be completely unnecessary when enabling or disabling training packages for the system administrators. The system has to be extensible to allow the addition of new training modules or automated compliance updates. Easy integration with other external DMV databases for more up-to-date practice test materials must also be included.**

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?*

**Users should be authenticated securely. Administrative logins must be authenticated through encrypted passwords; multi-factor verification is needed. Sensitive user data must be protected through industry-standard data transmission encryption. Repeated brute-force attempts at logging into the system must be detected, and the user must be locked out. In case the user forgets their password, a recovery option must be provided. Besides this, audit logs need to be kept for changes made by administrators and user activities.**

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.”*

* **Students are required to create an account. They must securely log in to their accounts with a unique username and password.**
* **Users should be able to book, change, or cancel their driving lessons using a simple calendar interface.**
* **Payments for the booked lessons should be made online, and receipts for the payment should be issued.**
* **Instructors should track students' progress and modify the records after every training session.**
* **The system must prepare reports on lesson history, payments made, student progress, and instructor evaluations.**
* **The system must notify students automatically regarding upcoming lessons and practice test results.**
* **The system administrators must control users' activities by generating audit logs and managing security settings.**
* **Resources from the DMV must always be integrated with the system to have updated test materials.**

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.)?*

* **Admin Interface:** This should provide complete internet control, user administration, reporting, compliance, and security.
* **Instructor Interface:** This should permit instructors to update lesson records, track students, and allocate lesson periods via a dashboard-type application.
* **Student Interface:** This should enable students to register, schedule appointments, attempt practice exams, and track their analytics.
* **Secretary Interface:** This will also permit manual appointments, student booking modifications, and other customer care services for appointment help.

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 will have a reliable internet connection to conduct activities on the system.**
* **DMV compliance updates can be integrated into the platform at no additional cost.**
* **Students cannot change training package configurations upon initial release but can do so in the future.**
* **Students will access the system using common browsers (Chrome, Firefox, Edge) - no additional software installation will be required.**

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 system will not allow offline entry of data apart from report exportation.**
* **Budget restraints might affect the inclusion of sophisticated AI-based training analytics in the first release version.**
* **Accessing the platform's online features requires an internet connection, making availability difficult in poorly connected regions.**
* **The interface is built for English users, but additional languages will be incorporated later.**

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.*