**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?*

* The purpose of this project is to implement a better system to allow student drivers to be trained for their driving tests.
* Liam is our main client in this project, and he seeks to push that idea forward by the use of online and practice tests.
* This also includes being trained by certified DriverPass trainers who have years of experience.

**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 the system to be able to access data anywhere even offline.
* However, the developers are about the risk of data redundancy, since modifying or updating data can only be done online.
* The system needs to be run off the web, preferably over the cloud to avoid backup and security issues.
* The developers seek to have as many mininal technical issue as possible when running the system on the cloud servers.
* There needs to be different employees that specialize in security to have access to private information.

**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 system should be able to have proper registration implemented, through the use of a phone call along with customer information that is provided.
* Include the pickup location on where the customer wants to be picked up, as well as a drop-off location. Both need to be in match for consistency.
* Allow customers to schedule their appointments over the internet. If they forget their pasword, enable them to automatically reset it.
* Ensure that online practice tests and driving courses are up-to-date with what the DMV requires. Be connected to the DMV to receive any updates regarding their policy changes.
* An input form where the student fills out their information such as first name, last name, address, etc. That also includes adding a page to contact DriverPass and to contact the student with their listed information.

**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 needs to be updated regularly to avoid any bugs or errors, that could inflict software damage what has been deployed on the cloud.
* It has to be able to run off of the web.
* The servers need to be able to receive and send data in a reasonable rate. This would imply that the server tick rate needs to be high, so that customers can keep track of their driving progress and studying using the online practice exams.

**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 be compatible with most common operating systems as such as Windows and MacOS. That also includes iOS and Android for mobile devices.
* It needs to be optimized for web browsers such as Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari. Each of them need to be up to date for full functionality.
* System requirements need to appeal to web coding languages such as JavaScript, HTML5, and CSS3 for full compatibility.
* This would require a relational database to store and retrieve data, Most notably, these options would range my MySQL to SQL server.
* The system has to leverage well-known cloud services to manage hosting, storage, and security. Choices such as Google Cloud, Azure, and AWS would make great options.
* Backend development would require programming languages such as Python, JavaScript, and Ruby.
* Smartphones, tablets, and other mobile devices to need to have full integration with the system's software to allow for a seamless learning experience.
* The system needs to integrate with API tools such as the DMV's, so that it can receive updates based on their software.

**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 should be able to distinguish users based on unique usernames and passwords.
* Input sensitivity should be based on input fields for usernames, passwords, and other data.
* The system needs to notify the admins in the event of multiple failed log-in attempts, unauthorized breach of access, and other scenarios.

**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?*

* The system should allow the IT admin to add, modify, and remove user accounts with the need of removing code from the source code itself.
* The system needs to adapt to platform updates, regardless of what browser is currently being run in the background.
* The IT admin should have full acces to user management, system settings, and software data reports.

**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 need to be required to log in with a username and password.
* The system shall use SSL/TLS encryption for all data exchanged between the client and the server.
* The system needs to automatically lock a user's account, if they fail 5 log-in attempts, and notify an admin for further inspection.
* The system should provide a safer method to allow users to reset their password via email verification.

**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 needs a moment to authenticate all user details during the log-in process.
* Users shall be allowed to update, modify, and change their appointment times.
* The system shoud allow users to take online practice driving tests and monitor their progress.
* The system needs to show records of user transactions and changes, including user activity.
* The system shall provide an accurate report provide for management, financia records, system usage, and user activity.

**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 UI needs to be user intuitive and friendly, so it can cater to those may not have technical experience; essentially be abstract.
* Admin IT officers need full access to manage user accounts, monitor system performance, and assess detailed reports.
* The secretary needs access to schedule and plan appointments, manage daily operations, and view customer information.
* Customers should have the ability to take online practice tests, and have access to through simple navigation of the software.
* For interaction, the application should be accessible via web browers and also mobile devices.

**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?*

* It is assumed that users have a secure device to able to have a stable connection to the system's cloud servers.
* It is assumed that the information customers record for system records are accurate and up-to-date.
* It is assumed that the system will be durable enough to handle heavy user traffic, and maybe more as the business expands in the future.

**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 may not be fully designed for offline system use, and must be with a reliable internet connection.
* The development team may have budget and planning stumbling blocks, which can prevent the advancement of features for the software.
* The system may not support older hardware or software, depending on what the system was initially designed for in terms of technological connectivity and stabilization.

**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.*

