Southern New Hampshire University

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 aims to create a comprehensive online system to help students get ready for their driving tests. The platform will offer practice exams and allow students to schedule in-person driving lessons. By providing these interactive tools, DriverPass hopes to boost the pass rate for driving tests among its users. The goal is to give students a more engaging and effective way to prepare compared to traditional study methods. This digital solution will streamline the process of learning to drive and increase students' confidence when taking their official 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?

- DriverPass noticed that a significant number of students, about 65%, don't pass their driving test because they aren't preparing effectively. To address this issue, the company wants to create an improved system that blends online practice tests with a well-organized schedule for real-world driving lessons. The proposed system is designed to cater to different user groups - students, instructors, and administrators - each with their own specialized interfaces and features tailored to their needs. The main elements of this system will include a module for online practice tests, a tool for scheduling on-road training sessions, a system for managing users, features for tracking performance, and various communication tools to facilitate interaction between all parties involved.

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?

- Offer a wide range of online practice tests to help students prepare effectively. Set up a system for booking and monitoring real-world driving lessons. Create individual accounts for learners,

teachers, and administrative staff. Gather and analyze user performance statistics to track improvement over time. Boost success rates by providing a well-organized, engaging, and easily accessible learning platform.

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 platform needs to be usable through standard web browsers and on smartphones or tablets. Users should experience quick response times, with actions like logging in or submitting tests taking no more than 3 seconds to complete. To minimize disruptions, system updates and improvements will be rolled out seamlessly using continuous integration and deployment methods, ensuring zero downtime for users.

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 software needs to work seamlessly across current versions of Windows, Mac, iOS, and Android operating systems. For the backend infrastructure, we'll use a robust relational database like PostgreSQL, along with a Node.js server environment. The system will communicate through secure RESTful APIs to ensure data integrity and user privacy.

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?

- Individual user accounts with distinct login credentials for each person. The system differentiates between instructor and student roles, granting appropriate access and permissions based on user type. Usernames and passwords are case-sensitive to enhance security. Login attempts are monitored, with administrators receiving alerts for failed attempts or any unusual system activity. This helps maintain the integrity of the platform and allows for quick response to potential security threats.

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?

- Administrators can customize user roles and access levels through the system interface, eliminating the need for coding modifications. The IT management console provides tools for adjusting the user interface and managing user accounts efficiently. To ensure compatibility, the system is designed to accommodate regular updates to web browsers and operating systems without disruption to functionality.

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?

- Implement multi-factor authentication for all administrator accounts to enhance security. Use SSL encryption to protect data as it travels between the server and client devices. Set up a password recovery system that sends reset links to registered email addresses and requires identity verification. Configure the system to automatically lock user accounts after five consecutive failed login attempts.

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 can sign up for an account, log in, and edit their personal information within the system. Users have access to a variety of practice tests featuring randomly selected questions for each attempt. Instructors are able to plan, monitor, and create reports on training sessions through the platform. Administrators can manage user accounts and system content using dedicated tools and interfaces. The system automatically creates progress reports for both students and instructors to track performance.

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.)?

- Students can log in to review practice tests, check their class schedules, and track their academic progress. The system allows them to stay on top of their studies and prepare effectively for exams. Instructors have the ability to organize and oversee student training sessions, as well as provide detailed feedback on assignments and performance. This helps them guide their students more effectively. Administrators are responsible for maintaining system content, managing user access levels, and monitoring overall system performance. They ensure everything runs smoothly for both students and instructors. All users can access these features through any web browser, with the interface designed to work seamlessly on both desktop computers and mobile devices like smartphones and tablets.

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?

- Most people nowadays have access to the internet and own smartphones or computers. When new users sign up, they'll go through introductory guides to learn how to use the system. DriverPass will supply the initial content for tests and training materials, which can be updated later as needed. This ensures a consistent starting point for all users.

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?

- [Insert text]

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.

The initial version will have a restricted set of capabilities due to financial and time limitations. An internet connection is necessary for the app to function properly. At launch, the product will only be available in English, with other language options planned for future updates.