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?

- Driver Pass is a company that is looking to provide driving instruction to students to prepare them for the DMV driving tests. They want their system to provide a comprehensive and user-friendly platform to facilitate online practice tests, schedule on-road training with pickup/drop-off locations, secure user management features, and integration with DMV regulations to ensure up-to-date training materials and compliance with the law.

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 is looking to address the challenges of managing their driver training. They are hoping to improve first time pass rates for the driver's license exam by allowing students to partake in online practice tests and schedule one on one driver sessions. They will needs some key components to accomplish this task.
    - User Management: Secure registration and login for students, instructors, administrators, and the owner.
    - Online Learning Platform: Hosting of practice tests with automated grading and performance tracking.
    - Scheduling: Integration with a shared calendar system for booking on the road training sessions, including pickup and dropoff locations
    - Communication Tools: Facilitating communications between students and instructors, possible in app messaging.
    - Reporting and Statistics: Generating reports on system usage, student progress, and business performance for the owner.
    - DMV Integration: Accessing and incorporation of the latest driving test requirements and regulations.
    - Secure Payments: Securely processing payments for training packages.

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?

- Once completed, the DriverPass system should do the following:
    - Provide the student with an engaging online learning platform, easily schedule driving sessions, and track their progress.
    - Streamline the communications needed to schedule time with instructors, and reduce the amount of administrative overhead.
    - Offer flexible training packages, facilitate online payments, and improve first time test pass rates for the license exam.
    - Maintain up-to-date training materials and adhere to all relevant DMV regulations
    - Provide the owner with valuable insights into system usage, student performance, and business performance through comprehensive reports.

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 a web-based application and accessible on both desktop and mobile browsers.
- It should support at least 1,000 concurrent users without performance bottlenecks
- The system should have a response time of under 2 seconds
- Updates should be performed regularly to improve features and security.

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?

- System must be compatible with all modern and up-to-date web browsers
- The back end should run a relational database for data storage and retrieval.
- The system should be deployable on cloud platforms since it is likely DriverPass lacks the necessary hardware to self-host.

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?

- User accounts should be uniquely identified using email addresses and user IDs.
- Input validation should ensure case-sensitive password security.
- The system should alert the administrator when multiple failed login attempts occur or if the system errors affect user experience.

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?

- Users (students and instructors) can be added, modified, or removed via an admin dashboard without code changes.
- The system should automatically adapt to platform updates with minimal intervention.
- IT admins should have full access to user management, course modification, and system settings.

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 must log in using a unique email and strong password.
- All data exchanges between the client and the server should be encrypted using SSL or TLS.
- In case of a brute-force attack the system should temporarily lock the account and notify the user.
- If a user forgets their password, a secure password reset process should be provided 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."

- User Registration & Authentication:
  - Users must create accounts.
  - Secure logins with email and password.
- Course Enrollment & Management:
  - Students can enroll in courses and track progress.
  - Instructors can create, update and manage course materials.
- Practice Tests & Progress Tracking:
  - Students can take practice exams with instant feedback.
  - Progress is tracked with performance analytics
- Scheduling System:
  - Users can schedule driving lessons and exams.
  - Automated notifications for upcoming appointments.
- Payment Processing:
  - Secure checkout for course purchases
  - Integration with credit card processing methods.
- Support & Communications:
  - Support for technical and course-related queries.
  - Messaging system between students and instructors

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.)?

- Interface Needs:
  - The system have a clean and user-friendly interface to facilitate navigation.
  - The Interface should support multiple accessibility options, including screen readers and text resizing.
  - A dashboard should be available for students, instructors, and admins, each tailored to their respective needs.
- Interaction Methods:
  - The system will be accessible via web browsers on both desktop and mobile devices.
  - The interface should allow for intuitive navigation with clearly labeled buttons and menus.
  - Notifications will be sent via email and in app alerts to inform users of important updates.

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 basic computer literacy
- Instructors can and will provide content updates
- External payment methods will function as expected

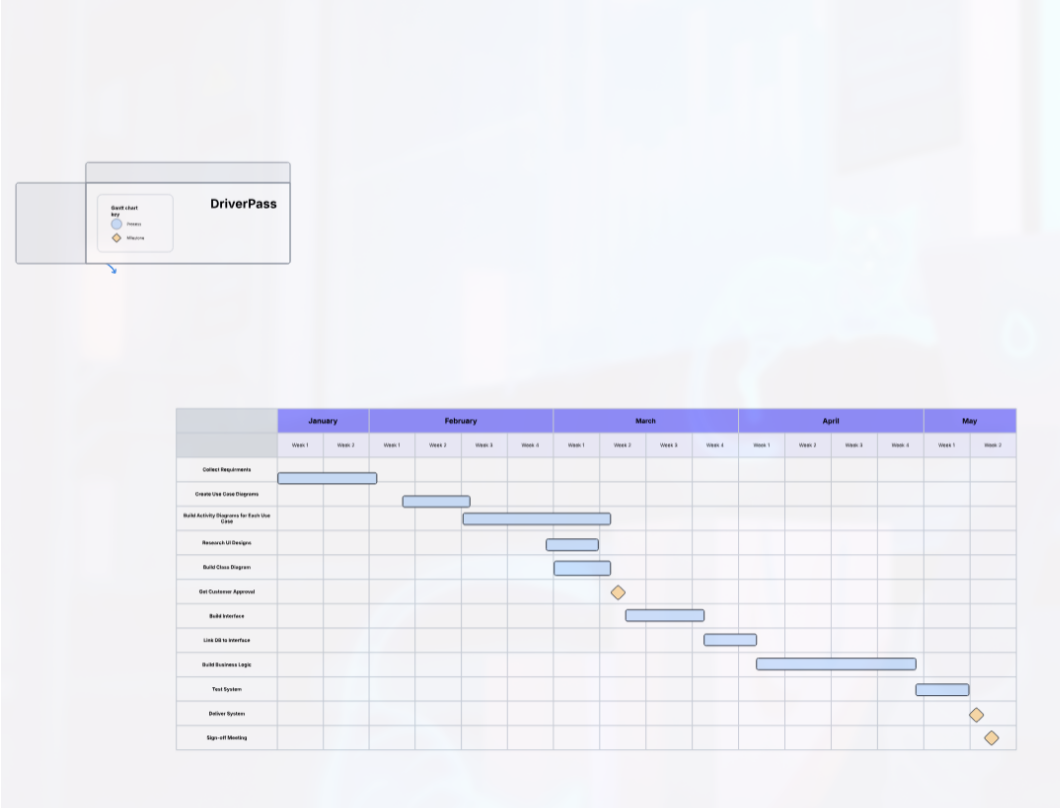
Limitations

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?

- Resource Constraints:
  - Limited development team size may impact the speed of implementation
  - Budget limitations may restrict advanced features or third-party integrations
- Time Constraints:
  - The project must be completed within a defined timeline, which may limit extra features that can be created.
  - Testing and debugging must be completed efficiently to meet deployment deadlines.
- Technology Constraints
  - The system relies on cloud deployment, requiting stable internet access for users.
  - Compatibility with multiple browsers and devices may introduce challenges.
- Regulatory & Compliance Constraints:
  - The system must comply with regional driving school regulations and data protection laws.
  - Changes in regulations may require unexpected modifications to the platform.

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.


DriverPass
January
February
March
April
May