# Justin Nestle CS 255 Business Requirements Document

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 design a system for DriverPass that provides students with access to online practice exams and on-the-road training to improve their chances of passing the driving test.
* The client, DriverPass, wants a system that offers an all-in-one solution to driving test preparation, including scheduling, training, and testing.

### 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 has identified that over 65% of students fail their driving test because they only study previous tests without real practice.
* The system should provide comprehensive training solutions, including online test simulations and on-the-road training scheduling.
* The system should support multiple stakeholders, including students, instructors, and administrators.

### 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 shall provide an easy-to-use platform for students to schedule practice exams and driving lessons.
* The system shall allow instructors to manage student schedules and provide feedback.
* The system shall ensure secure and reliable data storage.
* The system shall be scalable for future enhancements.

## 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 shall be web-based and mobile-compatible.
* The system shall provide real-time updates for scheduling.
* The system shall support at least 500 concurrent users without performance degradation.
* The system shall have a response time of under 3 seconds for all major functions.

#### 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 shall be compatible with Windows, macOS, and major web browsers (Chrome, Firefox, Edge, Safari).
* The backend shall use a relational database (e.g., MySQL, PostgreSQL).
* The system shall be hosted on a secure cloud environment.

#### 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 shall differentiate between students and instructors through role-based access control.
* The system shall send real-time notifications for scheduling updates.
* The system shall automatically detect and prevent duplicate bookings.

#### 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 shall allow admins to modify user roles without altering code.
* The system shall support API integrations for future third-party tool enhancements.
* IT administrators shall have access to an admin dashboard for system monitoring.

#### 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 shall be required to authenticate with a username and password.
* The system shall encrypt all sensitive user data.
* The system shall lock accounts after five failed login attempts and notify the user via email.
* Users shall have the ability to reset their passwords securely.

### 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 shall allow students to register for an account and schedule lessons.
* The system shall enable instructors to manage their availability and student appointments.
* The system shall provide students with real-time feedback from instructors.
* The system shall generate reports on student progress.
* The system shall allow administrators to manage system configurations.

### 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 interface shall be user-friendly and accessible via desktop and mobile devices.
* Students shall have access to a dashboard displaying their upcoming lessons and progress.
* Instructors shall have an interface to view and modify their schedules.
* Administrators shall have a control panel for managing users and settings.

### 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 will have basic digital literacy skills.
* Internet connectivity will be available for accessing the platform.
* Users will provide accurate information during registration.

### 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 is limited to providing scheduling and training services; it does not administer official driving tests.
* The budget constraints may limit the integration of advanced AI-based learning modules.
* Development and deployment will be constrained to a six-month timeline.

### 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.*

A screenshot of a computer

AI-generated content may be incorrect.