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# 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?*

* This project is designed for our client, DriverPass, to enhance the way students prepare for their driving exams.
* The system will offer a complete driver training solution, including online practice tests, on-the-road driving sessions, and supplementary learning materials.
* These features aim to help users build confidence and improve their chances of passing the DMV driving test.

### 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 aims to address the high failure rate among students taking their driver’s tests, which is often caused by inadequate preparation and ineffective training tools.
* They want a system that provides comprehensive driver education through accessible online classes, practice exams, and optional on-the-road training.
* The goal is to better equip students with the knowledge and experience needed to pass their driving test on the first attempt.

### 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 DriverPass system is designed to reduce driver exam failure rates by enhancing student skills, confidence, and overall preparedness. It will offer a user-friendly experience for both staff and students, featuring up-to-date content aligned with current DMV rules and policies. The

system will also provide flexible, customizable training packages to meet a variety of learner needs.

* User account creation and management, capturing essential customer details such as name, contact information, payment details, and pick-up/drop-off locations.
* Online scheduling for training sessions, allowing users to select and manage appointments and training packages via the internet.
* Online practice exams and performance tracking to monitor test history, scores, and overall progress.
* On-the-road training management, including scheduling, driver-student pairing, vehicle tracking, and driver notes (e.g., lesson times and feedback).
* Employee access control to ensure secure data handling and role-based access.
* Real-time integration with DMV updates, with notifications about policy or content changes.
* System flexibility, such as the ability to remove or modify training packages and reset user passwords.

## 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?*

* Web-based cloud environment with a companion mobile application.
* Accessible across desktops, tablets, and smartphones.
* Responsive and intuitive interface for smooth user interaction.
* Seamless scheduling process for on-the-road training sessions.
* Real-time auto-refresh for live data updates (e.g., schedules, DMV info)
* Capable of handling high volumes of concurrent users during peak hours.
* Average page load time of 1–2 seconds.
* System should provide alerts/feedback when load times exceed 3 seconds.
* Monthly system updates for bug fixes, performance improvements, and new features.
* Additional updates should be allowed as needed.
* Prompt notifications for any new updates or system changes.

#### 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?*

* Web-based system should be cloud-hosted to ensure access from anywhere.
* Fully compatible with major desktop and mobile browsers:Google Chrome, Mozilla Firefox,Safari
* Internet Explorer (legacy support if required)
* Robust database management system (DBMS) to store and manage user data, schedules, and training progress.
* Reliable web server to handle processing of requests and system responses.
* Use of APIs and web services to enable smooth communication between system components and external integrations (e.g., DMV updates).
* Developed using a secure and scalable programming language, such as Java or equivalent modern technology stack.

#### 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?*

* Separate login portals for different user types:

Customers (students)

Employees (instructors, administrators)

* Defined user roles with specific access levels:

Admin,Student,Instructor

* Case-sensitive usernames and passwords for all users.
* Secure password storage using modern encryption standards.
* Strong authentication mechanisms to verify user identity.

Daily system reports sent to administrators highlighting:

Login errors,System issues,Activity logs,Scheduling reports,Real-time alerts for critical system problems

#### 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?*

* System should be designed with scalability in mind to support future growth and feature enhancements.
* User-related changes should be managed through the back end without requiring code modifications.
* System must remain compatible with evolving platforms and technologies.
* Regular software updates and patching to ensure security and performance.
* Ongoing compatibility testing to prevent disruptions from platform or browser changes.
* IT administrators should have full access to:
* System infrastructure,Database,Web server
* This access enables routine maintenance, troubleshooting, and system modifications as needed

#### 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?*

* Password required for all users to access the system.
* Two-factor authentication (2FA) adds an additional layer of security for user accounts and data exchange.
* Users will be locked out after five consecutive failed login attempts to prevent unauthorized access.
* A “Forgot Password” feature allows users to request a password reset, which triggers an admin notification for approval and assistance.

### 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.”*

* Users must register with a unique username and password.
* The system shall validate credentials during login.
* Supports role-based access for distinct user types: Customer, Instructor, and Admin.
* Two-factor authentication adds an extra layer of security.
* Users are locked out after five failed login attempts, with notification sent to admin.
* "Forgot Password" feature allows users to request a password reset with admin approval.
* Accessible from any device with an internet connection.
* Compatible with major browsers (Chrome, Firefox, Safari, etc.).
* Admins have full access to manage infrastructure, database, and web server.
* View and choose from available training packages.
* Purchase packages directly through the system.
* Access online learning tools and practice exams.
* Track progress on tests including name, time, score, and status.
* Schedule on-the-road training by selecting preferred time slots.
* View lesson details including time, start hour, end hour, and driver notes.
* See driver and student profile photos for easy identification.
* Monitor scheduling, test progress, and training activity.
* Receive alerts for failed login attempts, system issues, or updates.

### 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.)?*

* Web-based and mobile-compatible interface accessible through modern browsers.
* User-friendly and responsive design for ease of use on desktops, tablets, and smartphones.
* Intuitive navigation tailored to each user role.
* Integration with DMV updates for real-time rule and content adjustments.
* Login and registration page.
* Interactive dashboard displaying:
* Exam progress, scores, and pass/fail status.
* Upcoming and completed driving lessons.
* Driver notes and feedback.
* Package information with purchasing options.
* Online learning tools and study resources.
* Personal account information with edit/update functionality.
* Contact and support information.
* View and manage their own lesson schedules.
* Access assigned students and training session details.
* Provide notes and feedback on each lesson.
* User registrations and customer records.
* Driving packages selected by each user.
* Disable or remove full packages.
* Approve password reset requests.
* Update content, including DMV-related material
* Oversee system settings and monitor user activity.

### 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 (students, instructors, and administrators) will have 24/7 access to the system via an internet connection.
* Users are expected to have basic computer literacy and the ability to navigate a web-based interface.
* customers (students) can understand how to use the website and will show up on time for their scheduled lessons.
* Drivers (instructors) will be punctual and available for all scheduled training sessions.
* Administrators have the necessary technical skills to manage system functions and perform administrative tasks efficiently.

### 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 automobile driver training only
* DriverPass has a fleet of 10 training vehicles, which must be regularly maintained to remain in service.
* Training availability is limited by the number of vehicles and instructors, restricting how many customers can purchase packages at a time.
* Customers may have experience only with certain vehicle types, which could affect their learning curve or comfort level.
* internet connectivity issues may cause delays in real-time updates or system responsiveness.
* Some users may access the platform with outdated or incompatible devices, potentially affecting their user experience.
* External factors—such as student commitment, weather conditions, and learning disabilities—may influence success rates despite system support.
* All features and services must be developed within the budget and 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.*

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