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CS 255 Business Requirements Document for DriverPass

System Components and Design

Purpose:
The purpose of this project is to design a comprehensive system for DriverPass to help students effectively prepare for driving license exams. The client, DriverPass, wants the system to provide students with access to online practice exams and on-the-road training to improve their chances of passing the exams.

System Background:
DriverPass aims to address the problem of a high failure rate (over 65%) among students applying for driving license exams. They want the system to offer two main components:

An online platform for students to access practice exams tailored to their chosen driving license exam type.
A scheduling system to facilitate on-the-road training sessions with certified instructors to improve practical driving skills.
Objectives and Goals:
The system should be able to accomplish the following objectives and goals:

Provide an intuitive online platform with practice exams that accurately reflect the current driving license exam requirements.
Offer on-the-road training sessions led by certified instructors to enhance students' driving skills and build their confidence.
Increase the overall pass rate of students taking driving license exams by at least 30% within the first year of system implementation.
Requirements

Nonfunctional Requirements

Performance Requirements:

The system needs to be accessible via web browsers and mobile devices to accommodate a wide range of users.
Response times for accessing practice exams and loading pages should be fast, preferably within 2 seconds.
The system must be capable of handling a large number of simultaneous users during peak hours without any significant performance degradation.
Regular updates should be performed to ensure the practice exams remain current and accurate.
Platform Constraints:

The system should be compatible with major operating systems such as Windows, macOS, iOS, and Android to ensure widespread availability.

The back end of the system may require a database to support its application.

Accuracy and Precision:

The system should have secure and distinct user authentication mechanisms to distinguish between different users.

The input during user authentication should be case-sensitive to ensure the accuracy of user identification.

The system should promptly notify the administrative staff of any technical issues or errors encountered during user interactions.

Adaptability:

The system should allow changes to user profiles (add/remove/modify) without the need for code modifications, providing flexibility in user account management.

It should be adaptable to platform updates to maintain compatibility and functionality.

The IT admin should have the required access privileges to manage user accounts, and system configurations, and perform routine maintenance tasks.

Security:

User login should require a combination of a unique username and a secure password to ensure authorized access.

The system should implement SSL encryption to secure data exchange between the client and the server, safeguarding sensitive information.

After a specified number of failed login attempts, the system should temporarily lock the account in case of a "brute force" hacking attempt.

Password recovery mechanisms should be in place to help users regain access to their accounts if they forget their passwords.

Functional Requirements

The system shall allow students to register and create accounts by providing personal details to access the platform.

Practice exams shall be categorized by driving license exam types (e.g., car, motorcycle, commercial vehicles).

Instructors shall have the capability to create profiles showcasing their qualifications and availability for on-the-road training sessions.

Administrative staff shall have access to user management features to handle accounts, troubleshoot issues, and manage payment processing.

User Interface:

The interface should be user-friendly and intuitive, enabling seamless navigation and access to all features.

Different user roles (students, instructors, and administrative staff) shall have distinct interfaces with functionalities tailored to their needs.

The user interface should be accessible through both web browsers and mobile devices to cater to various user preferences.

Assumptions:

Students using the system are expected to have basic computer and internet literacy.

Instructors conducting on-the-road training are certified and possess the necessary qualifications.
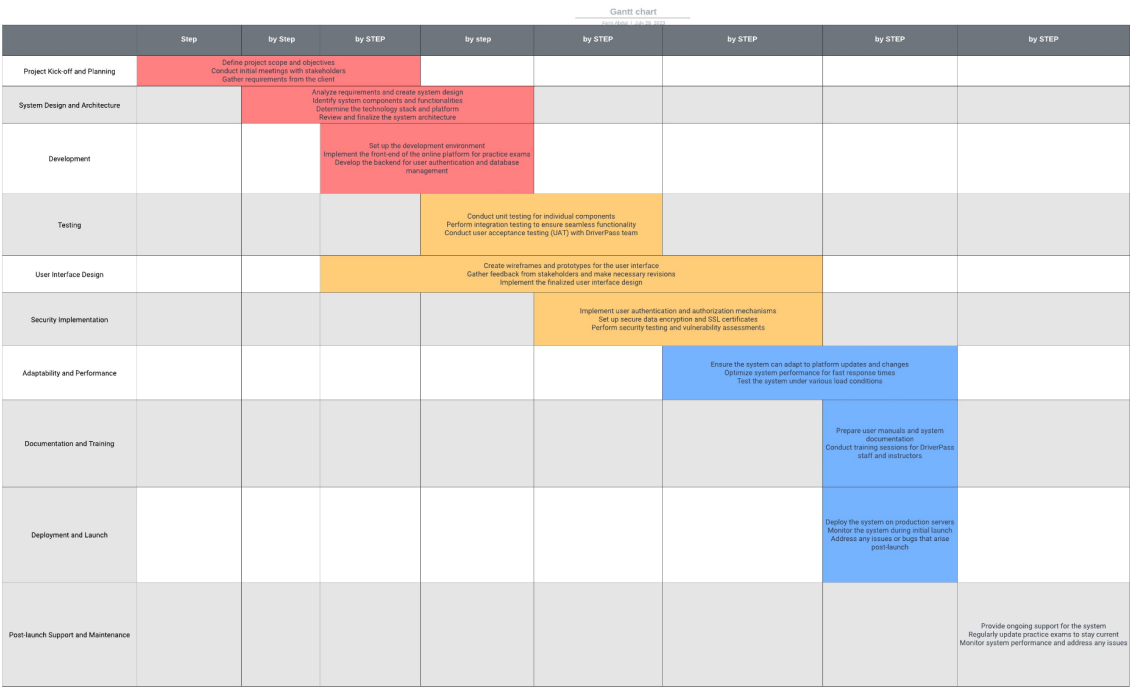
Limitations:

The effectiveness of on-the-road training may vary based on individual learning capabilities.

The system may face challenges in areas with limited internet access, impacting user experience.

Gantt Chart

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	Step	by Step	by STEP	by step	by STEP	by STEP	by STEP	by STEP
Project Kick-off and Planning	Define project scope and objectives Conduct initial meetings with stakeholders Gather requirements from the client							
System Design and Architecture		Analyze requirements and create system design Identify system components and functionalities Determine the technology stack and platform Review and finalize the system architecture						
Development			Set up the development environment Implement the front-end of the online platform for practice exams Develop the backend for user authentication and database management					
Testing				Conduct unit testing for individual components Perform integration testing to ensure seamless functionality Conduct user acceptance testing (UAT) with DriverPass team				
User Interface Design				Create wireframes and prototypes for the user interface Gather feedback from stakeholders and make necessary revisions Implement the finalized user interface design				
Security Implementation					Implement user authentication and authorization mechanisms Set up secure data encryption and SSL certificates Perform security testing and vulnerability assessments			
Adaptability and Performance						Ensure the system can adapt to platform updates and changes Optimize system performance for fast response times Test the system under various load conditions		
Documentation and Training							Prepare user manuals and system documentation Conduct training sessions for DriverPass staff and instructors	
Deployment and Launch							Deploy the system on production servers Monitor the system during initial launch Address any issues or bugs that arise post-launch	
Post-launch Support and Maintenance								Provide ongoing support for the system Regularly update practice exams to stay current Monitor system performance and address any issues

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