# 7-3 Project Two: UML Diagrams

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CS-255: System Analysis and Design

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### UML Use Case Diagram

A diagram of a driver pass system

AI-generated content may be incorrect.

### UML Activity Diagrams

A diagram of a process flow

AI-generated content may be incorrect.

### UML Sequence Diagram

A diagram of a process flow

AI-generated content may be incorrect.

### UML Class Diagram

A diagram of a software system

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## Technical Requirements

In creating this system design document, several essential functional and nonfunctional requirements have been pinpointed and are vital for the effective implementation of the proposed DriverPass system. These requirements shape both the design and operation of the system and provide the technical specifications needed for its deployment. Below, I present the technical requirements based on our identified needs, emphasizing hardware, software, and geographic factors.

**Hardware Requirements:**

* ***Sufficient Storage for Database and Website Data:*** Adequate storage space is needed to hold the database and website data. This includes user details, transaction logs, and any multimedia elements that enhance the user experience.
* ***Firewall Implementation:*** To protect the website and its data, a firewall must be implemented. This will defend the server against unauthorized access and potential cyber threats, ensuring the system's integrity and security.
* ***Dedicated Server:*** A dedicated server is necessary to ensure our application operates smoothly and can manage the anticipated user traffic without slowing down. This server will host both the application and the database, providing the essential resources for peak performance.
* ***Access via Computer or Mobile Device:*** The system should be accessible on various devices, such as computers and mobile phones. This versatility will improve user engagement and ensure the application is functional in different settings.

**Software Requirements:**

* ***Windows Server (Recommended):*** It is advisable to use Windows Server because of its reliability and compatibility with various applications. This operating system will serve as a strong foundation for our server setup.
* ***SQL Server (Recommended):*** For managing databases, using SQL Server is recommended due to its proven stability and performance. This will support effective data management and retrieval, which is essential for the application's operation.
* ***Security Software:*** To defend against malware threats, implementing security software is vital. This will protect the system from potential vulnerabilities and provide a secure experience for users.
* ***Backup Software:*** To reduce the risk of data loss, it is crucial to integrate backup software for both the website and the database. Regular backups will allow us to restore data in case of a failure or security breach.

**Geographic Requirements:**

* ***Positioning Server in a Central Area:*** For better performance and accessibility, it is essential to position the server in a central area. This will reduce latency and enhance the user experience by providing quicker response times.
* ***Ensuring Website Accessibility in the U.S.:*** The system should be designed to guarantee that users in the U.S. can access it easily. This involves optimizing the server's location and infrastructure for fast and dependable access.
* ***Use of Data Center:*** To improve security and reliability, the website and database server need to be located in a secure data center. This setup will offer physical security and environmental controls to safeguard the hardware.