Southern New Hampshire University

# CS 255 DriverPass System Design Document

Brooks Maerder
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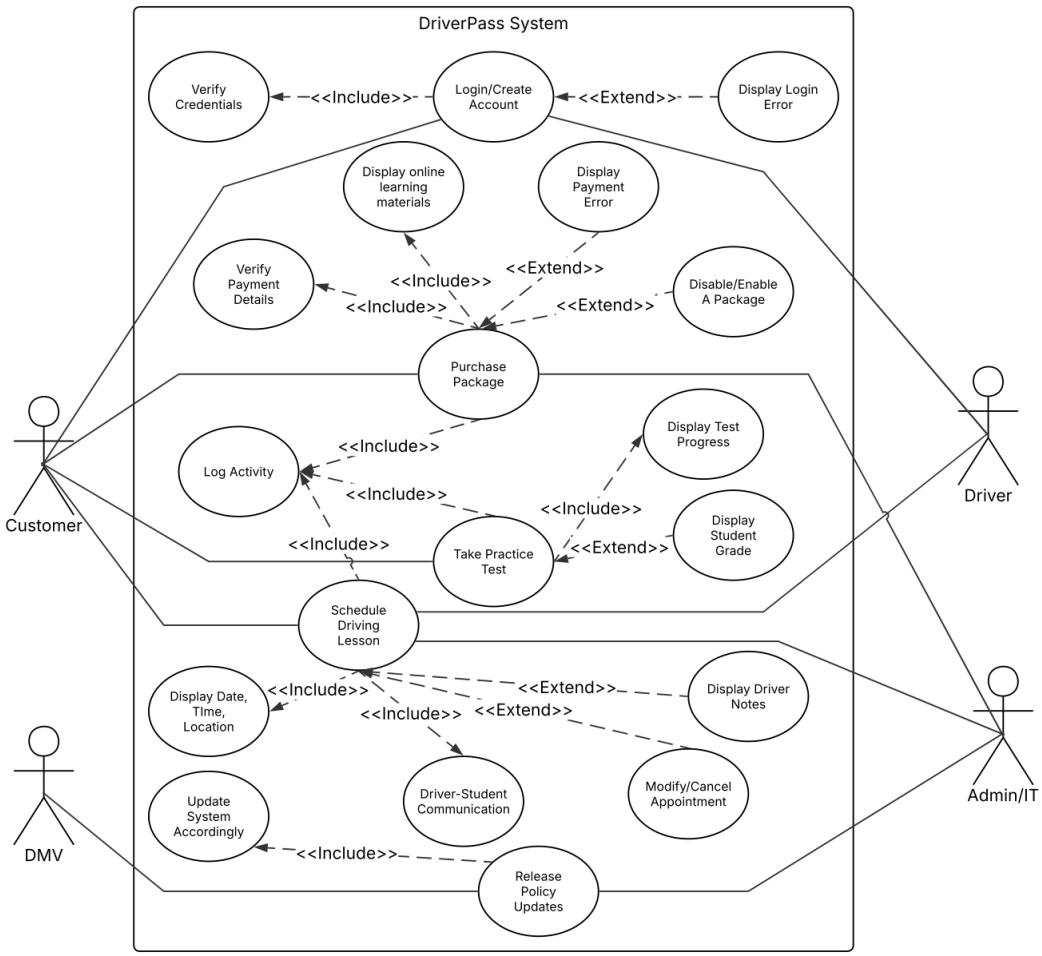
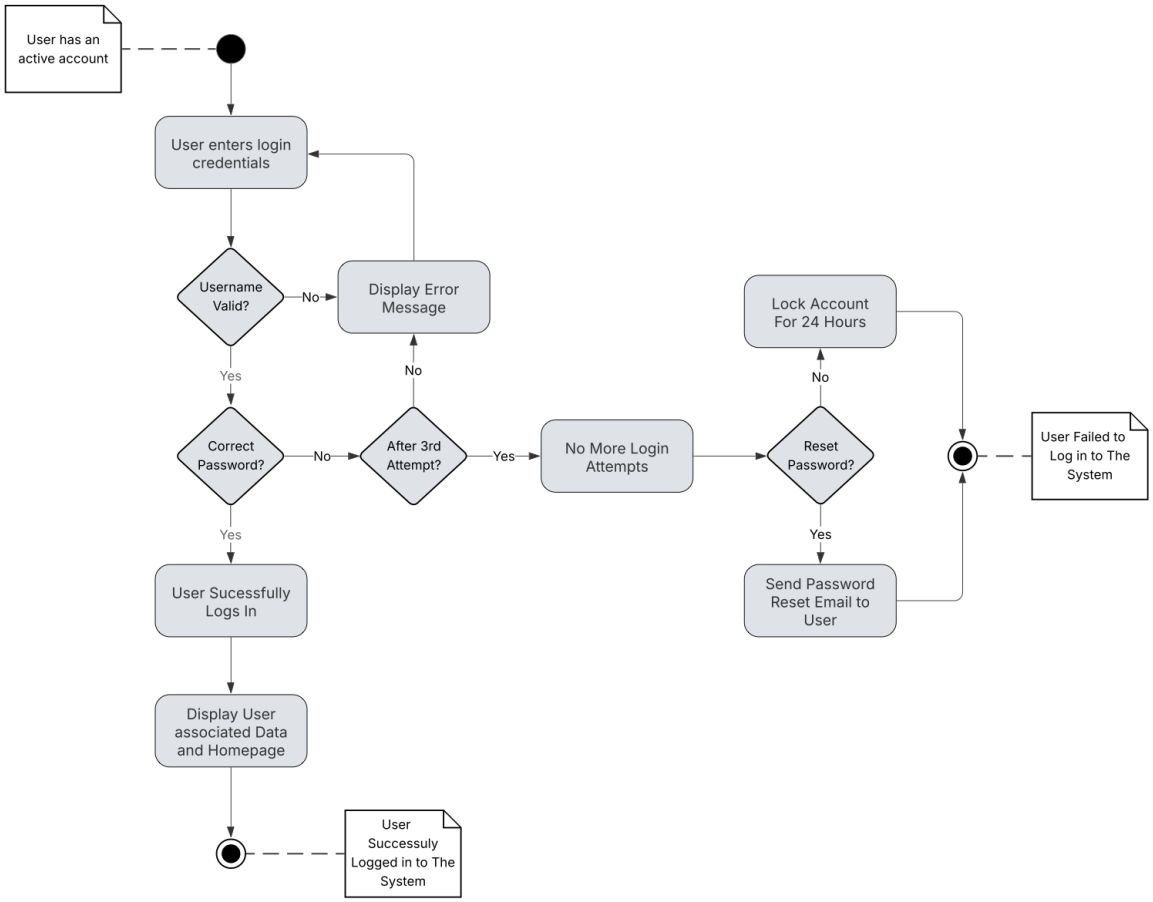
## UML Diagrams

### UML Use Case Diagram

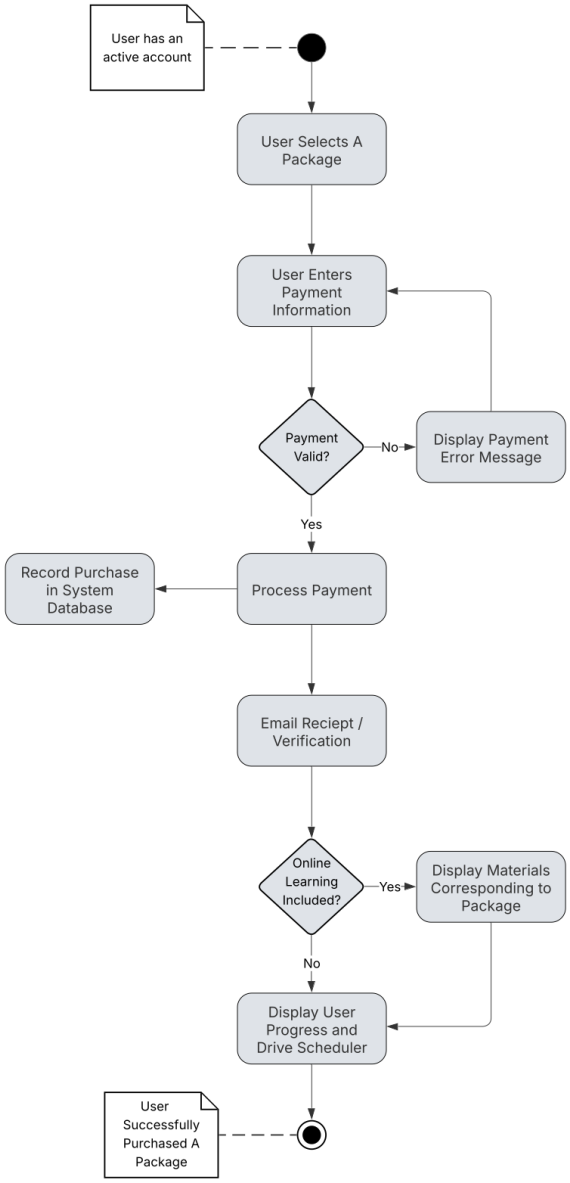


**UML Activity Diagrams**

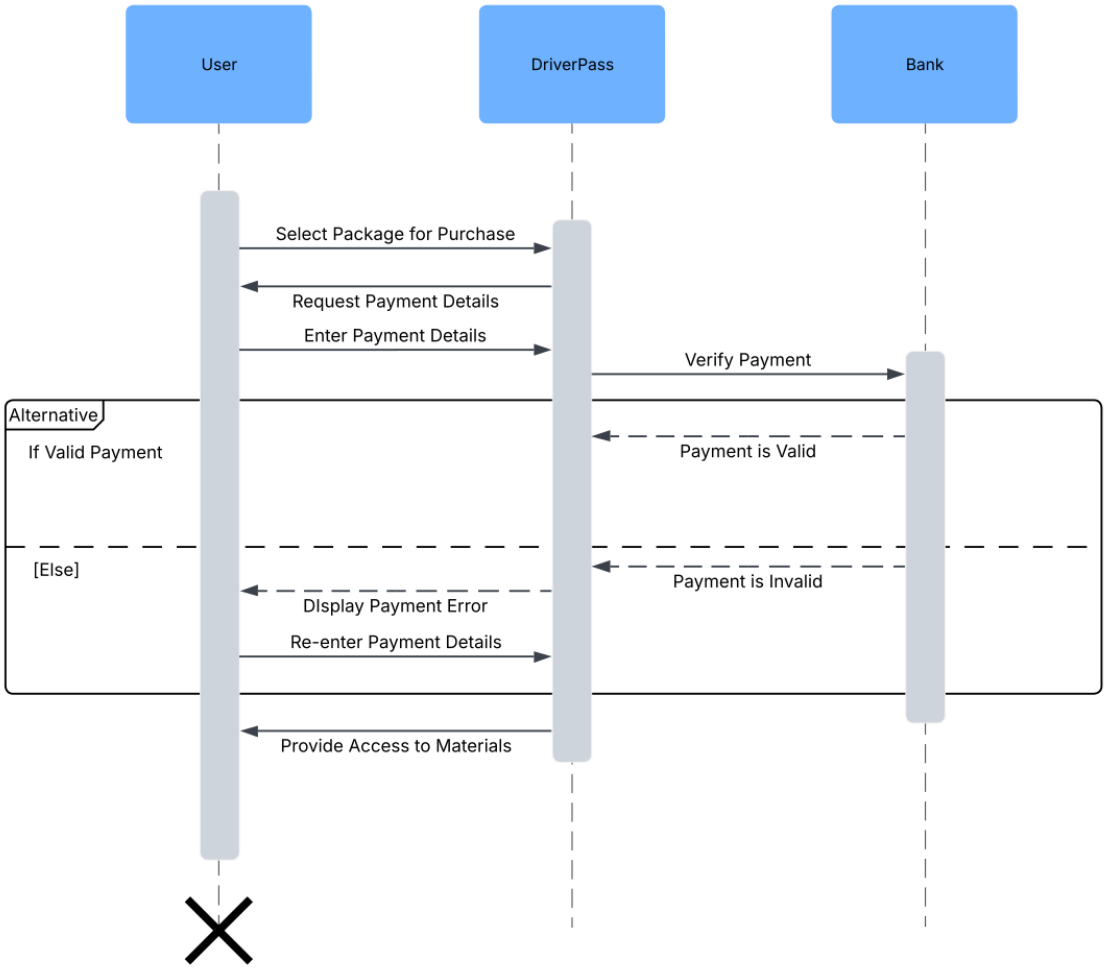
Activity Diagram #1 - User Login



Activity Diagram #2 - Purchase Package



**UML Sequence Diagram**



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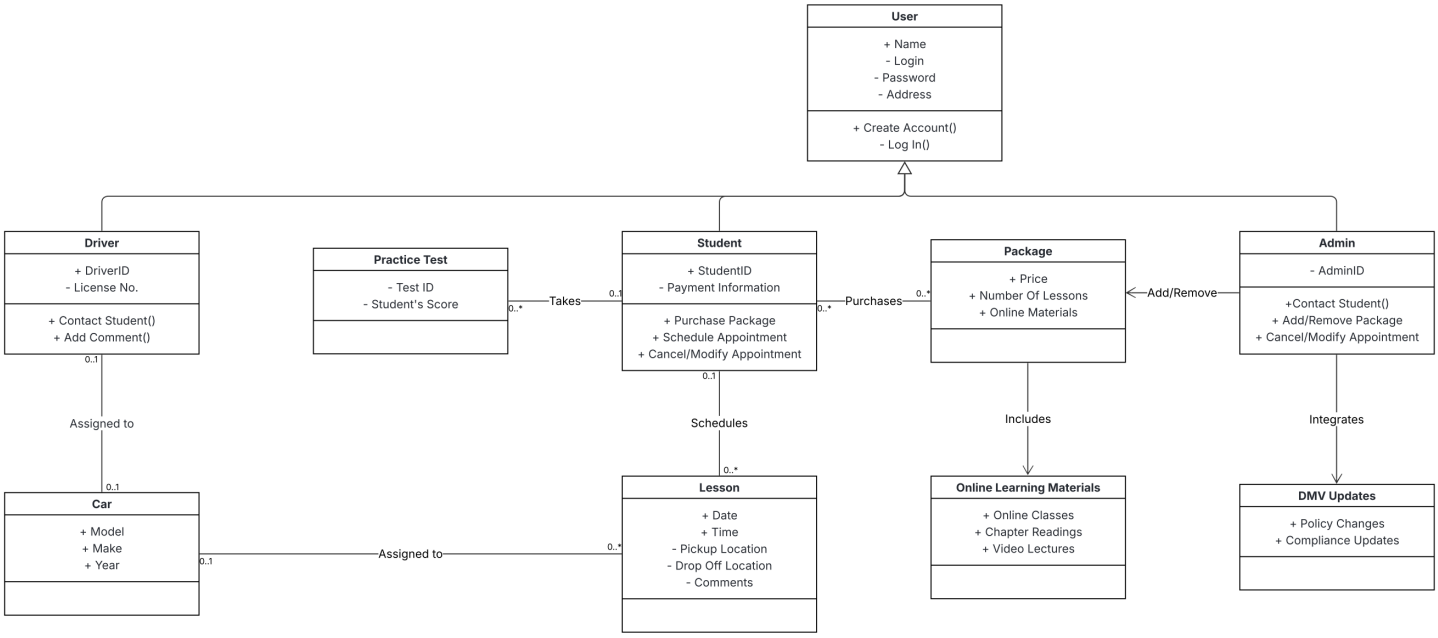
## UML Class Diagram



## Technical Requirements

- Cloud hosted infrastructure capable of handling many concurrent users, with scalable instances to support peak user demand.
- Reliable internet connectivity for users (both students and drivers) and for data sync with DMV systems for updates.
- Operating system compatible with iOS, Android, Windows, macOS, and Linux through web browsers.
- Relational Database Management System such as MySQL for managing users, lessons, packages, and test data.
- RESTful APIs for DMV updates and payment verification systems.
- All data transmissions must use HTTPS with encryption of data.
- Secure account/login authentication using unique usernames and hashed passwords.
- Role based permissions and access control (Admin, Driver, Student).
- Automatic account lockout after 3 failed login attempts.
- Secure payment integration compliant with PCI standards.
- DMV API for regulatory updates and policy compliance.
- Logging and analytics tools such as Google Analytics for monitoring usage and errors.
- Routine updates and patching to be handled by IT Admin or system developer.
- Administrator access to manage users, lessons, and packages without modifying source code.