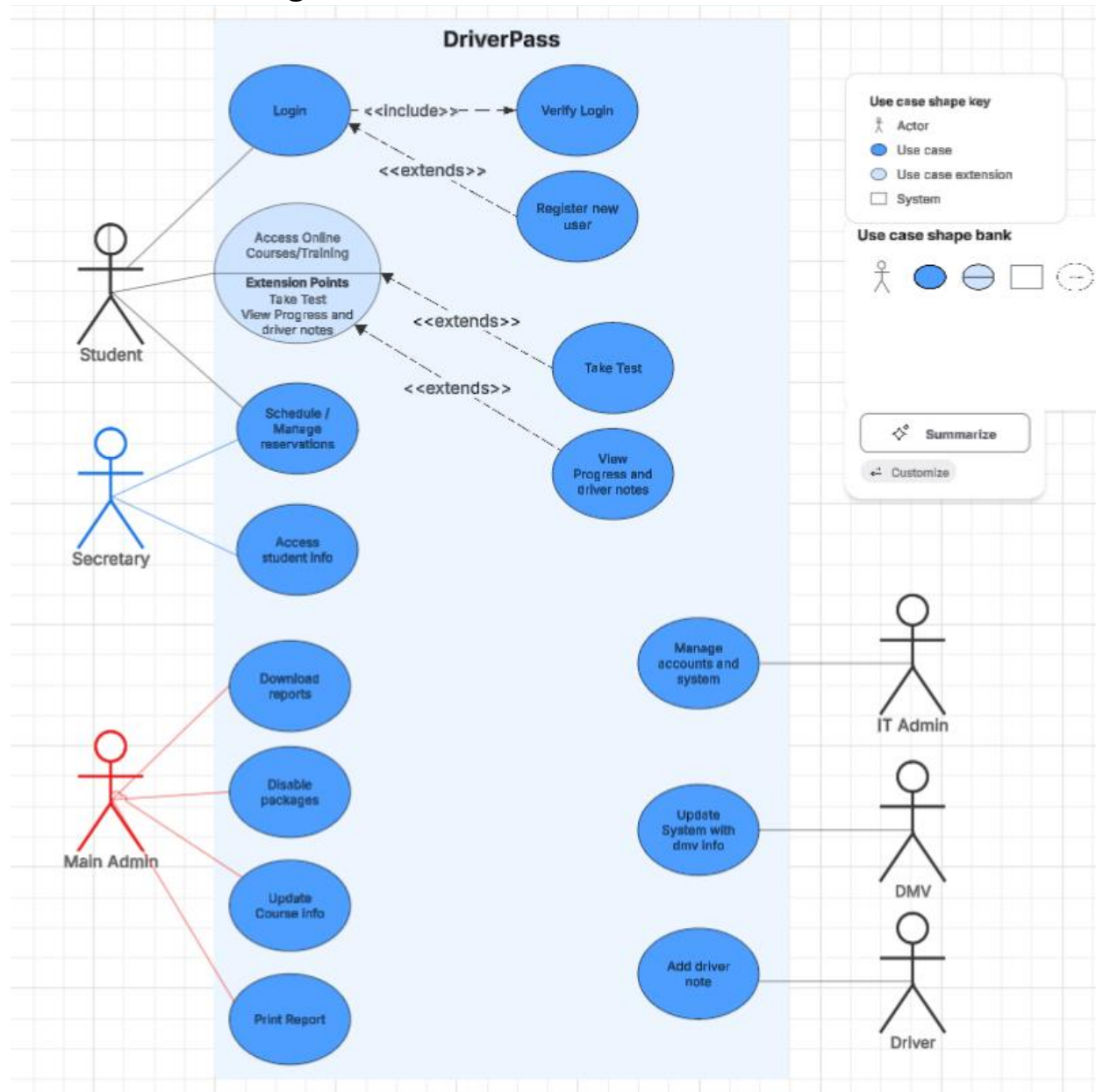


CS 255 System Design Document for User Pass

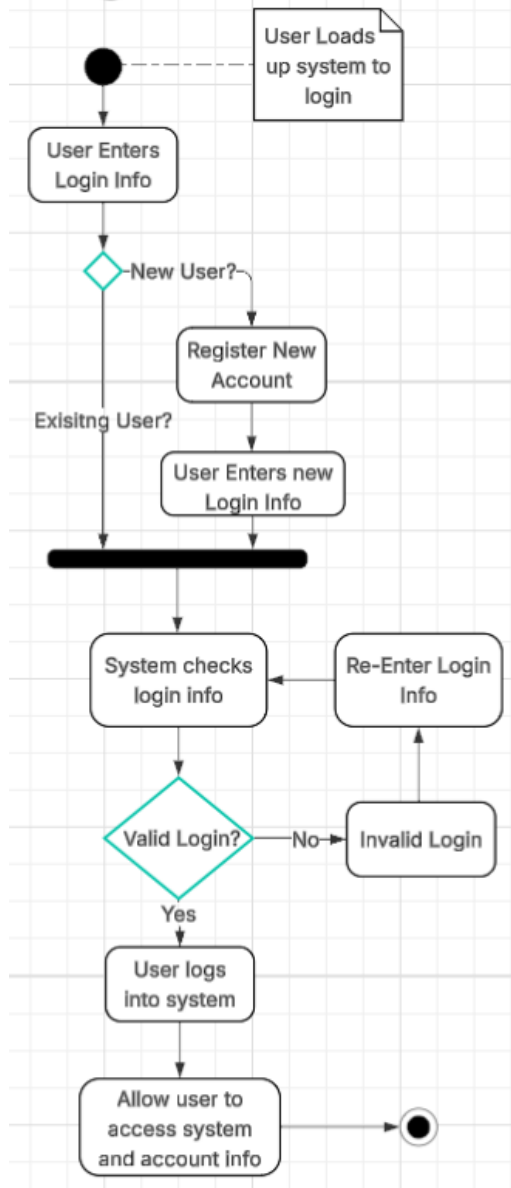
UML Diagrams

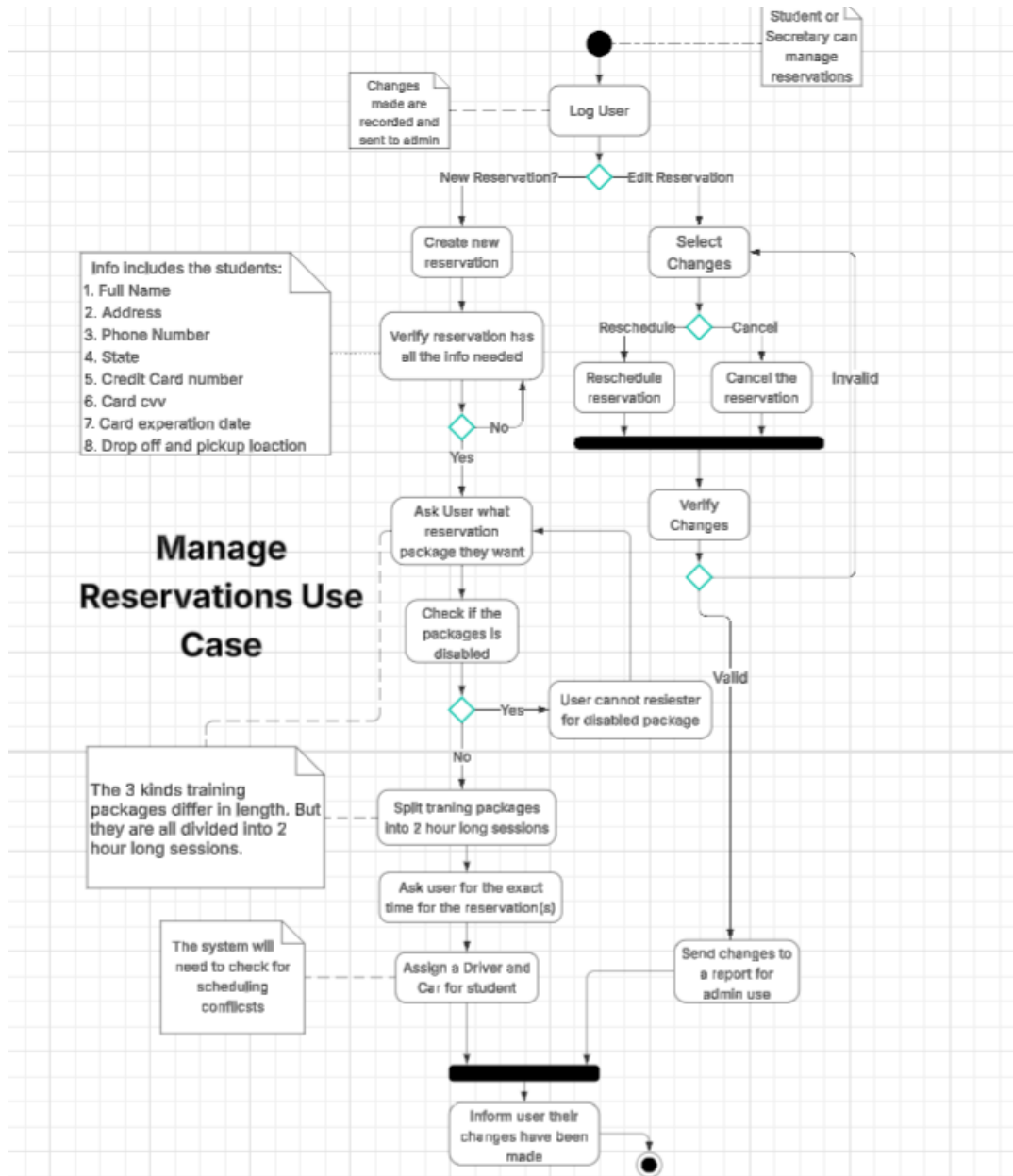
UML Use Case Diagram



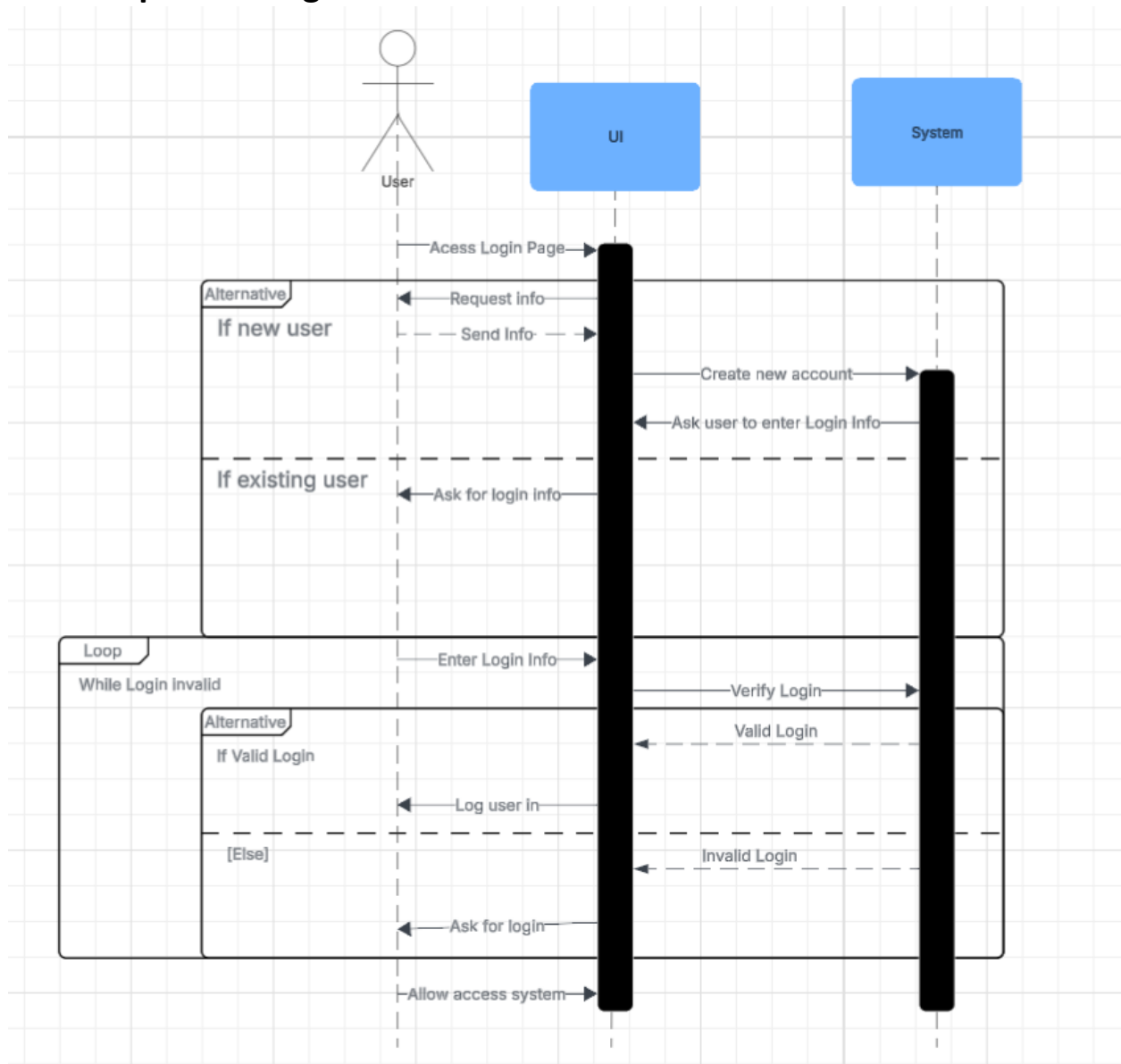
UML Activity Diagrams

Login Use Case

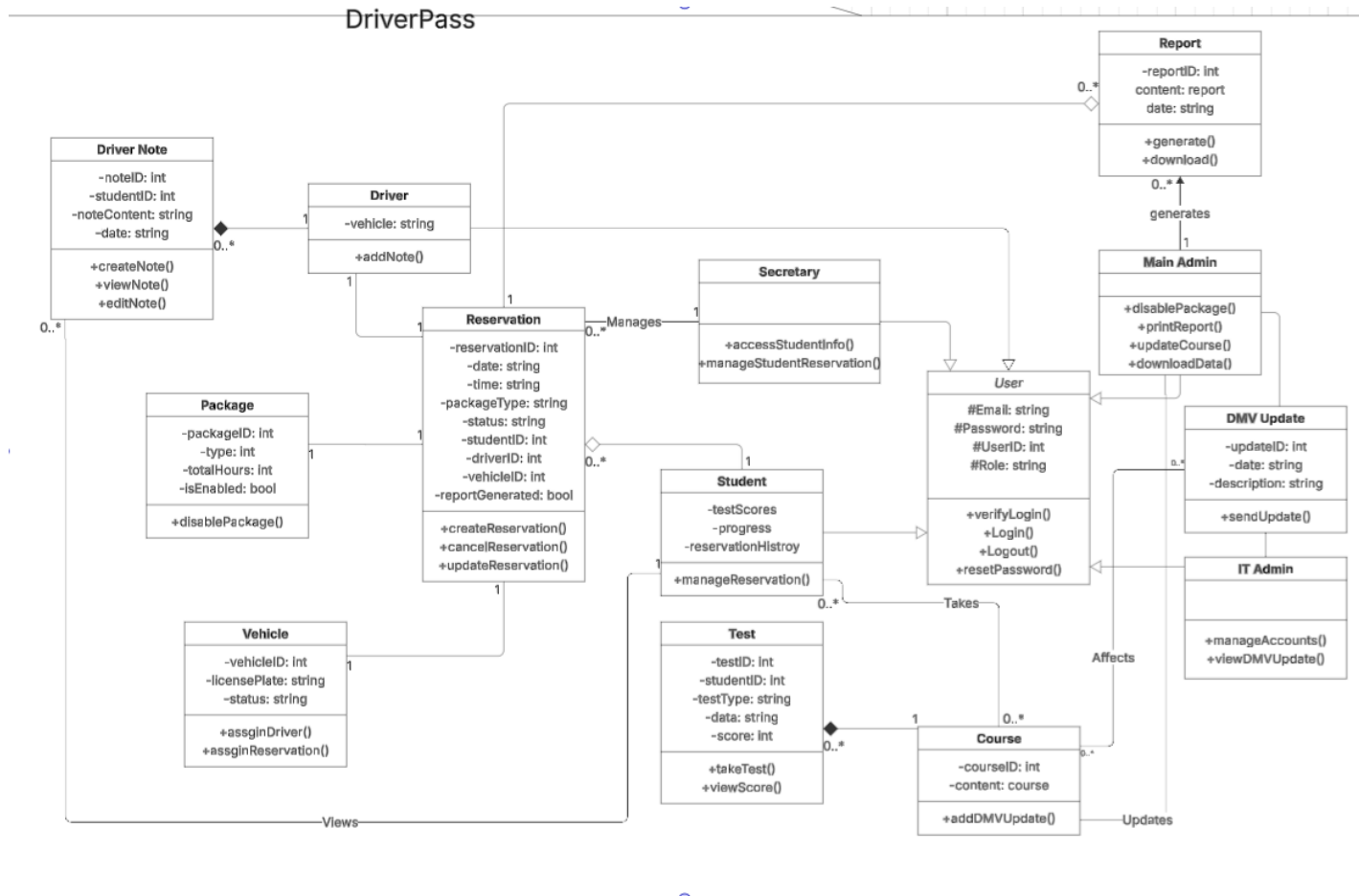




UML Sequence Diagram



UML Class Diagram



Technical Requirements

The DriverPass system will be cloud based so the need for physical hardware or infrastructure is limited. The system should be accessible over the web on many platforms using modern OS/browsers including mobile. The company may only need a few devices with modern browsers/OS and internet access to use the system, but they will not have to manage their own server or database. Some other hardware DriverPass may need could be a printer, the main admin mentioned being able to print reports and use them offline. Having a printer could also allow the secretary or student to print information about courses or reservations.

Hardware requirements and tools:

- A few devices to access the cloud system
- A printer

The DriverPass system will require more software than hardware. It should have limited overhead from Driver Pass's IT admin. The system will require a few databases to keep track of student

info, course info, changes to reservations and so on. Many cloud providers such as AWS offer databases built into a system that the client (DriverPass) can manage and use of their own terms. DriverPass wanted all security to be handled by the cloud. The cloud provider will store sensitive information such as login credentials and payment information in a secure way. The cloud provider will also manage secure data transfer over the web, user authentication, user roles, account lockout, and more. The system will also be automatically backed up by the cloud provider for recovery in case of a disaster.

Cloud and infrastructure requirements:

- Cloud provider (e.g. AWS)
- Databases for data (user info, reservation changes, etc.)
- Online course infrastructure
- Automatic backups and data recovery
- Tools to monitor the system
- Admin tools

Physical Infrastructure requirements and tools:

- Vehicles for drivers
- Place to store vehicles
- Tools to maintain vehicles (this could and likely would be outsourced)
- Physical office (It was not mentioned if students can come in an office to sign up or schedule reservations with a secretary or if it was only over the phone)

Security Requirements:

- User authentication and RBAC
- Account lockout after 10 failed logins
- Secure data exchange via the web (HTTPS)
- Encryption of databases

Driver Pass's system offers an online course environment where students can take practice tests and learn about driving. The DMV, however, often will make updates to driving laws and tests. The system needs to be updated according to updates at the DMV. The system can use some sort of API to connect the two systems and have the admins manage them.

Integration requirements:

- The system needs to stay up to date with DMV changes