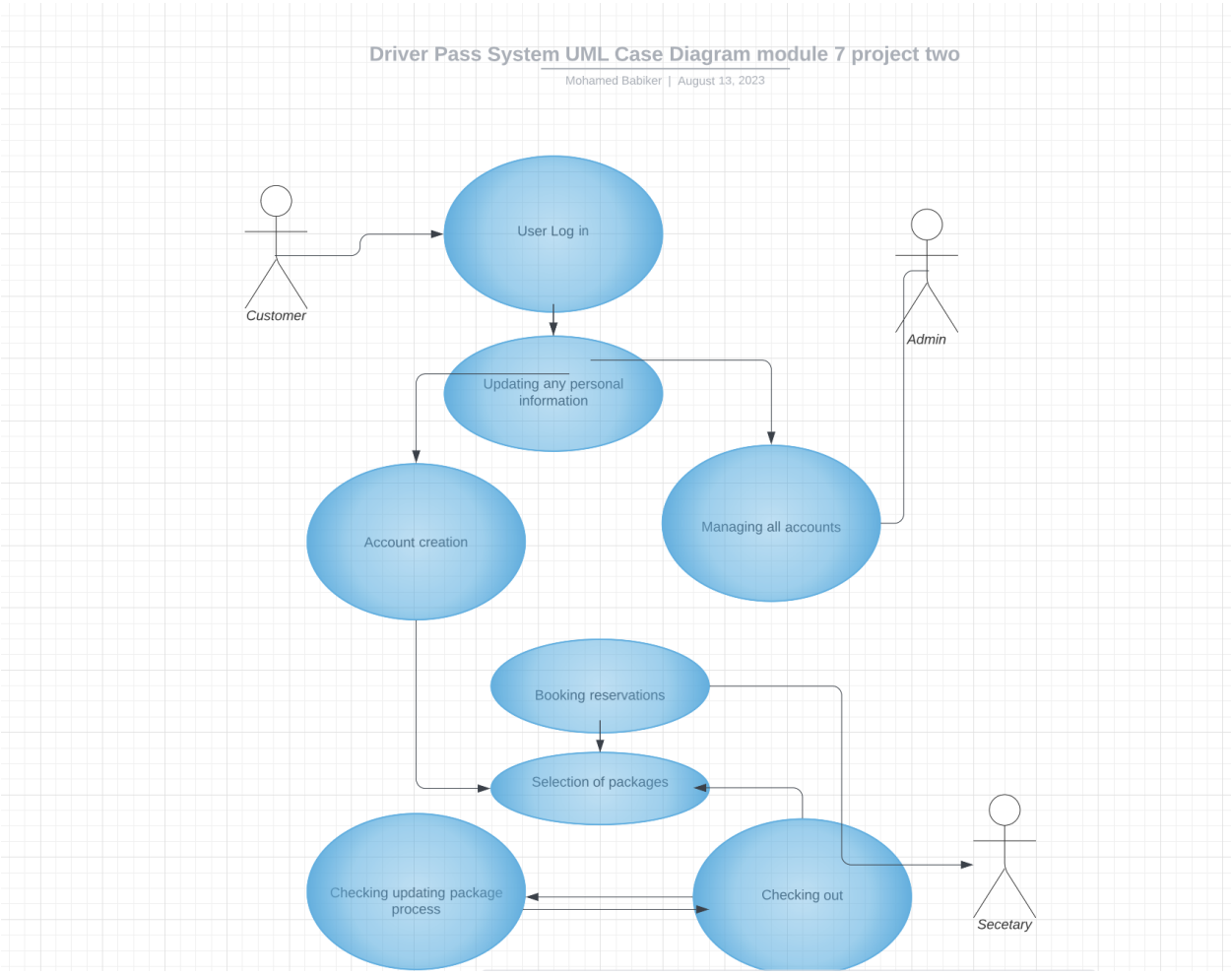
CS 255 System Design Document Template

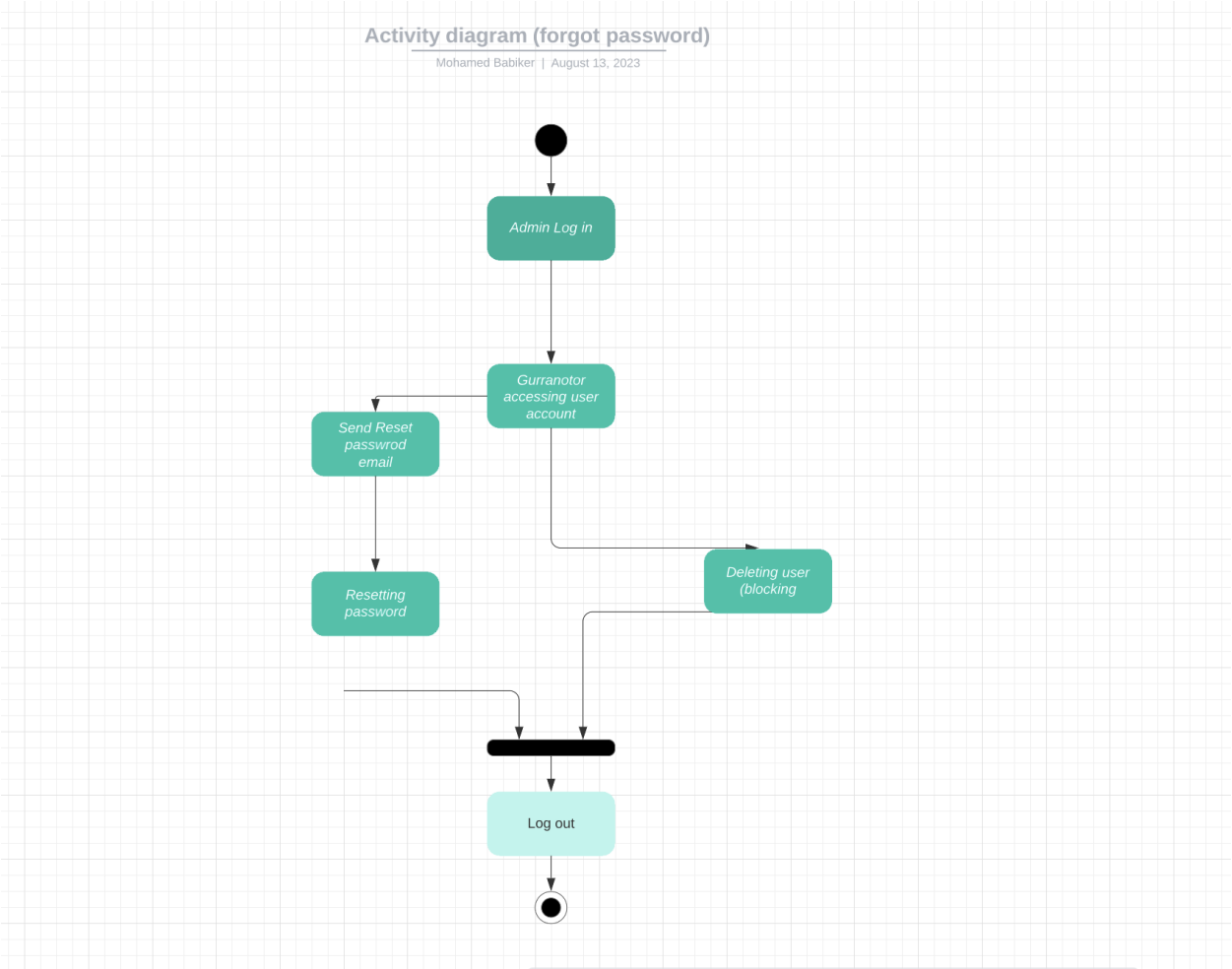
This template lays out all the different sections that you need to complete for Project Two. Each section has guidance to prompt your thinking. You will need to continually reference the interview transcript as you work to make sure that you are addressing your client's needs. There is no required length for the final document. Instead the goal is to complete each section based on what your client's needs are. Remove this note when you are finished, and replace all bracketed text with the relevant information.

UML Diagrams

UML Use Case Diagram

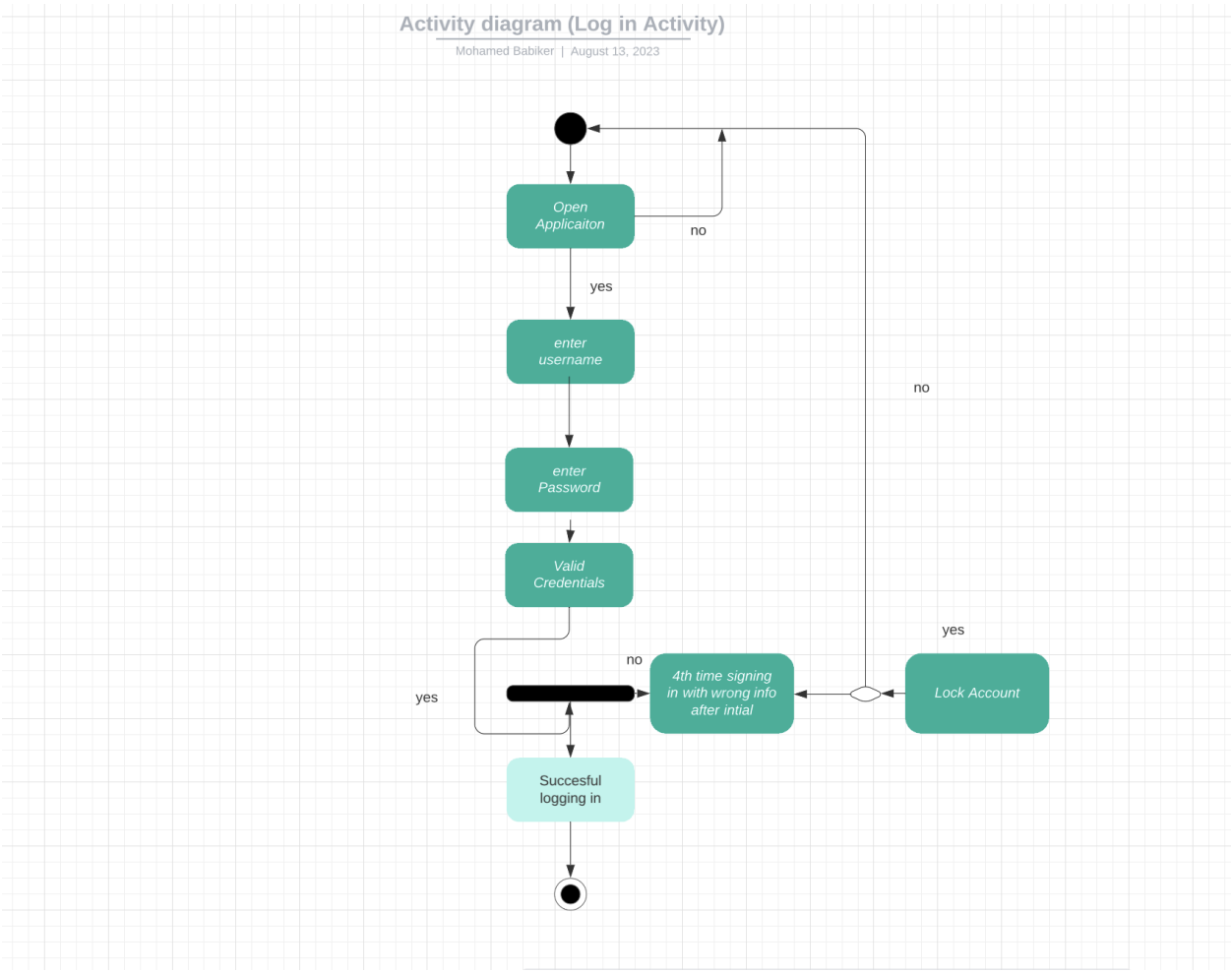


UML Activity Diagrams

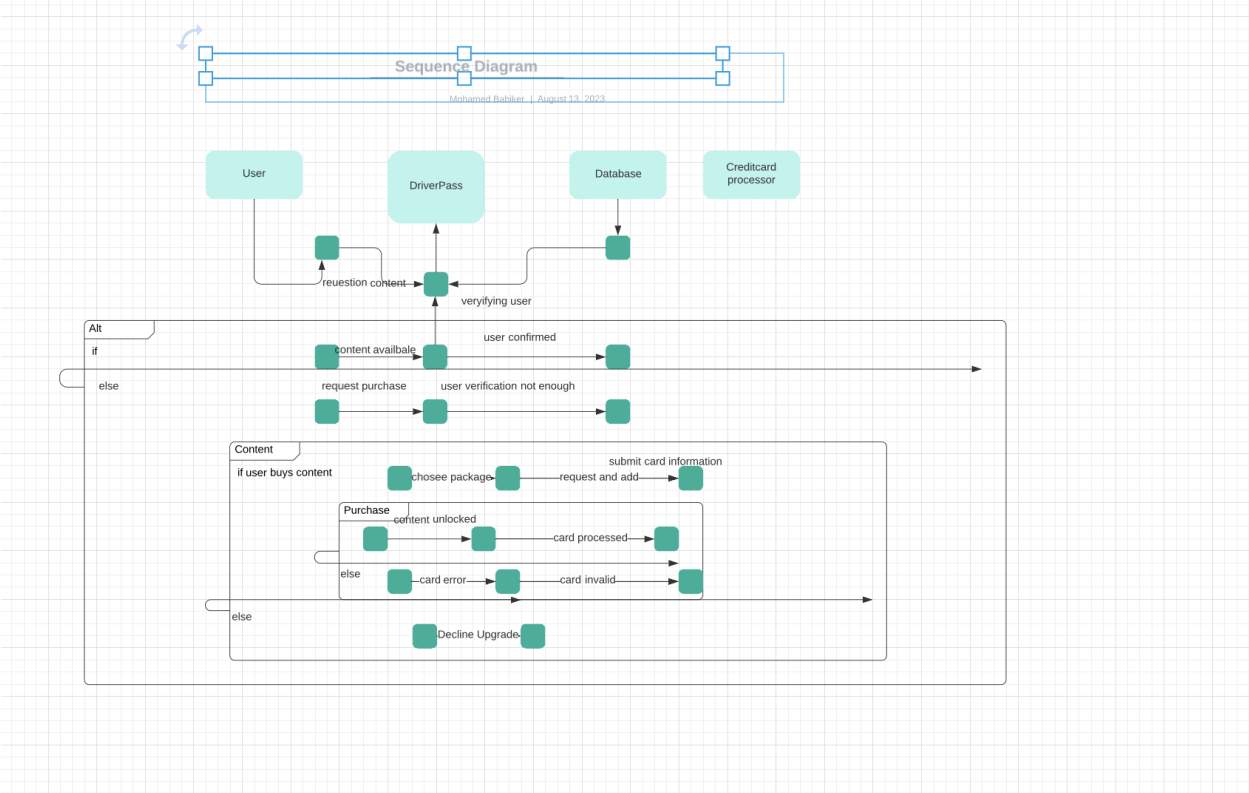


Activity diagram (Log in Activity)

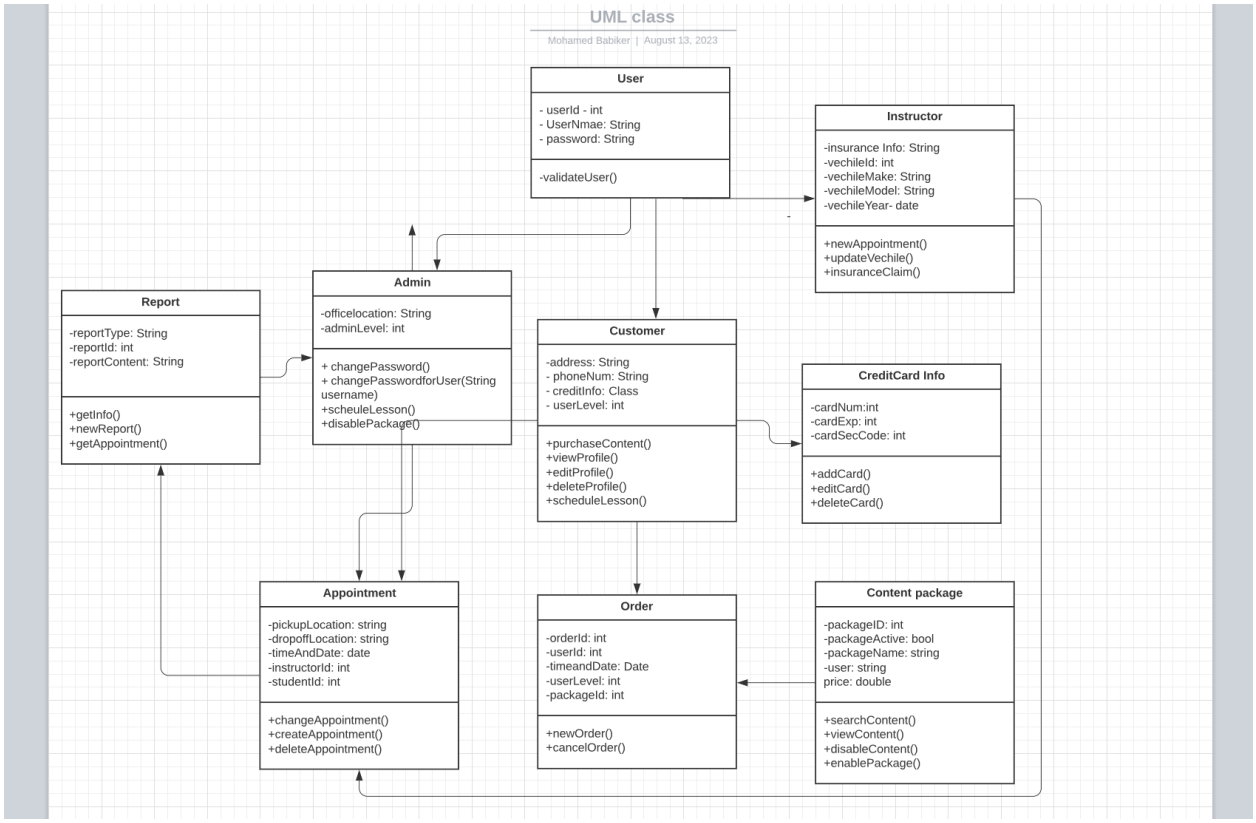
Mohamed Babiker | August 13, 2023



UML Sequence Diagram



UML Class Diagram



Technical Requirements

Technical Requirements for DriverPass System

The hardware, software, tools, and infrastructure requirements for the DriverPass system cover a variety of elements to ensure its efficient functioning. The system requires at least one dedicated physical server to host its functionality in terms of hardware. It is advised to have two physical servers for redundancy, allowing bilocation and backups, for increased dependability. The servers and related equipment must be connected with networking cables in order to achieve continuous communication. Additionally, for effective server management and user interaction, monitors, keyboards, and mouse are necessary, and dependable power sources guarantee continuous system functioning. A reliable and powerful internet connection is crucial for the system's performance and stability.

Desktop or laptop PCs serve as the system's access points on the client side. Additional accessories like mouse, keyboards, and displays are necessary for desktop machines. Users can connect to the system by using wireless cards or Ethernet cables to establish network access. To sustain continual functioning on client devices, dependable power supplies and internet access are essential.

Specific requirements for the hosting environment and client devices are part of the system's software component. The Windows Server operating system, which forms the basis of the system's operation, is a requirement for the hosting server. The many facets of the system's functioning are managed by the DriverPass software, which was developed to meet the demands of the business. The use of Docker software to regulate virtual machine traffic improves operational effectiveness.

Users need web browser software (such as Firefox or Chrome) on the client side in order to view the system's interface. Access from diverse devices is made simple by compatibility with a variety of operating systems, including Mac, Linux, and Windows. Users' private information is shielded during interactions by security software on client devices.

An essential part of creating and maintaining the system is the use of development tools. Developers can construct and enhance system functionality using computers with the appropriate programming software (such as Visual Studio or Eclipse). Uploading system updates and changes requires a steady internet connection. Tools for network administration offer insights into network traffic, making it possible to spot probable irregularities.

Important components for system administration and operation are included in the infrastructure requirements. For the system to be housed, hosting space or cloud provider services are required. The hosting facility's adequate power supply guarantees continuous server operation. For flawless data interchange between the system and its users, a fast and dependable internet connection is essential. Parking places must be accessible for system administrators and employees. To allow hands-on driving training, driving instructors and pupils need access to a fleet of vehicles. The system's operation of a driving training service is subject to state regulations, which include insurance requirements. Last but not least, a deal with a credit card processing business guarantees safe financial transactions within the system.