QuickShip

Description:

QuickShip is a web-based application developed to enhance the efficiency and reliability of package deliveries. The system consists of two main user roles: administrators and drivers. Administrators have the capability to add, manage, and remove drivers, as well as create and assign packages for delivery. They can monitor the status of each package and ensure timely deliveries. Drivers, on the other hand, can view their assigned packages, update the status of deliveries, and mark packages as delivered once they reach their destination. The application ensures data integrity and security by using Firebase for authentication and real-time database management. By leveraging React for the front-end, QuickShip provides a responsive and user-friendly interface, facilitating seamless interactions between administrators and drivers.

Scope:

The scope of QuickShip encompasses the essential functionalities required for a robust package delivery system. This includes user authentication, driver management, package creation and assignment, real-time status updates, and delivery tracking. The system is designed to cater to both small and large-scale delivery operations, providing scalability and flexibility. Future enhancements could include the integration of GPS tracking for real-time location updates, automated notifications for delivery statuses, and analytics for performance tracking. The primary goal is to offer a reliable and efficient solution for managing package deliveries, reducing manual

processes, and enhancing customer satisfaction through timely and accurate deliveries.

Functional Requirements

1. **User Authentication**
    - Users must be able to register and log in to the system.
    - Admins and drivers should have different access levels.
2. **Driver Management**
    - Admins can add, edit, and delete driver profiles.
    - Admins can view a list of all drivers.
3. **Package Management**
    - Admins can create, edit, and delete packages.
    - Admins can assign packages to drivers.
    - Packages should have statuses like ‘Not Assigned’, ‘Assigned’, and ‘Delivered’.
4. **Delivery Tracking**
    - Drivers can view assigned packages.
    - Drivers can update package statuses to ‘Delivered’.
    - Admins can monitor the delivery status of all packages.
5. **Notification System**
    - Admins and drivers should receive notifications for relevant actions (e.g., package assignment, status updates).

Non-Functional Requirements

1. **Performance**
   - The system should handle multiple concurrent users without significant performance degradation.
   - The application should load within 3 seconds.
2. **Security**
   - Data should be encrypted during transmission.
   - User passwords must be stored securely using hashing algorithms.
   - Only authorized users should access admin functionalities.
3. **Usability**
   - The user interface should be intuitive and easy to navigate.
   - The system should provide clear feedback for user actions.
4. **Scalability**
   - The system should be scalable to handle an increasing number of users and packages.
   - The database should support efficient querying and data retrieval.
5. **Reliability**
   - The system should ensure data integrity and consistency.
   - The application should have minimal downtime.

Required roles for QuickShip:

1. **Admin**
    - Manages driver profiles (add, edit, delete).
    - Manages package details (create, edit, assign, delete).
    - Monitors package delivery statuses.
    - Assigns packages to drivers.
2. **Driver**
    - Views assigned packages.
    - Updates the status of packages (e.g., marking them as delivered).

Conclusion:

QuickShip revolutionizes the package delivery process by providing a seamless, efficient, and user-friendly platform for both administrators and drivers. With its comprehensive set of features, QuickShip ensures that package management is streamlined, from creation and assignment to real-time tracking and delivery confirmation. The system's robust architecture, utilizing Firebase for authentication and real-time database management, guarantees data security and integrity. QuickShip's scalability makes it suitable for small and large-scale operations, and its user-centric design enhances usability and satisfaction. Future enhancements, such as GPS integration and automated notifications, will further elevate the system's functionality. By minimizing manual processes and improving delivery accuracy and timeliness, QuickShip stands as a reliable and indispensable tool for modern delivery services. This platform not only meets current logistical challenges but also sets the foundation

for future innovations in the delivery industry, ensuring a high level of efficiency and customer satisfaction.

User stories:

Admin:

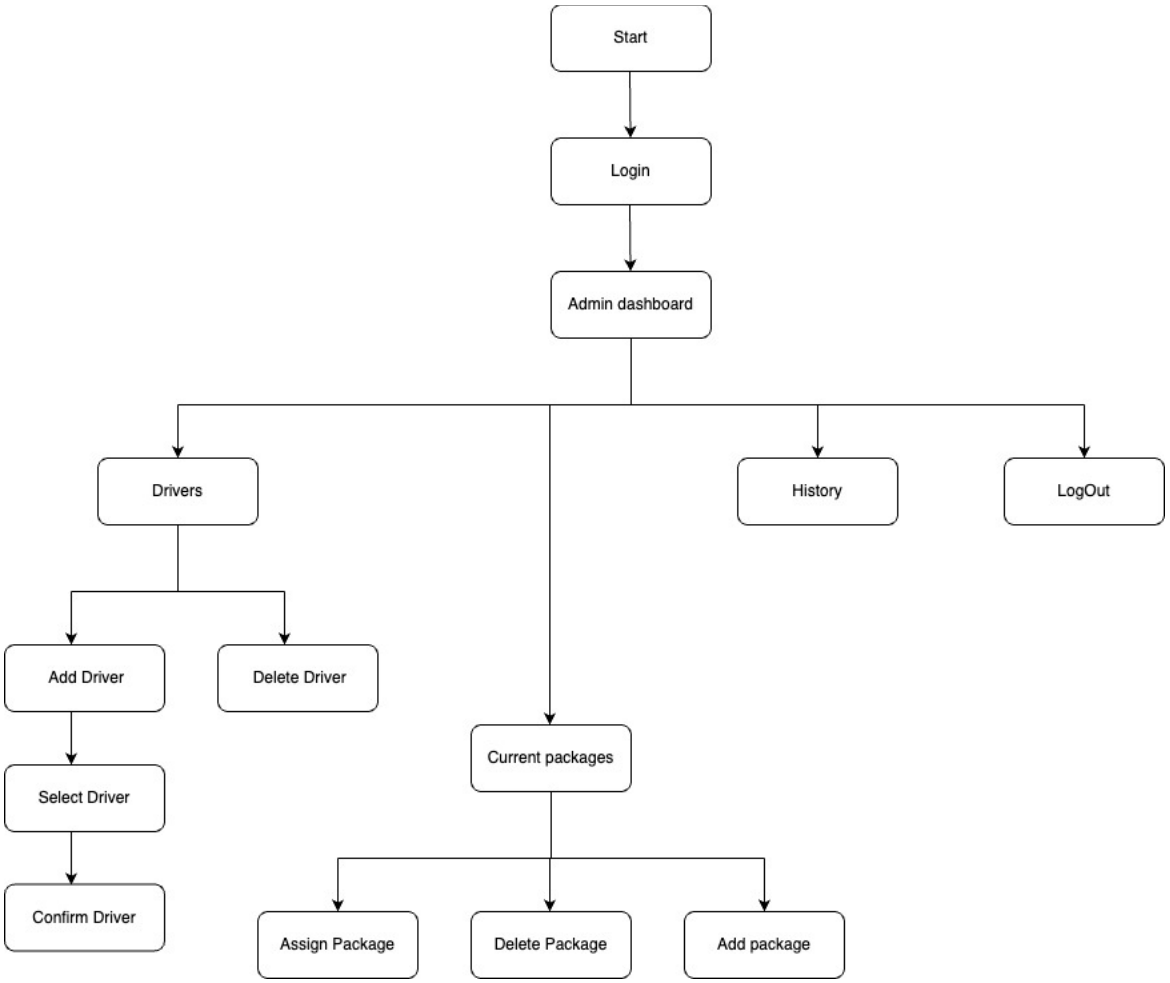
Table 1

User ID	As a	I want to	So that	Priority	Points
ID01	Admin	manage user accounts, including creating, updating, and deleting	I can ensure the integrity of the user database	High	8
ID02	Admin	manage packages, including adding, updating, assigning, and deleting	I can maintain an organised package management system	High	13
ID03	Admin	view the history of delivered packages	I can ensure accurate records and track completed deliveries	High	6
ID04	Admin	assign packages to drivers	I can ensure that all packages are delivered efficiently	High	8
ID05	Admin	view a list of all drivers	I can manage and monitor the drivers effectively	High	3

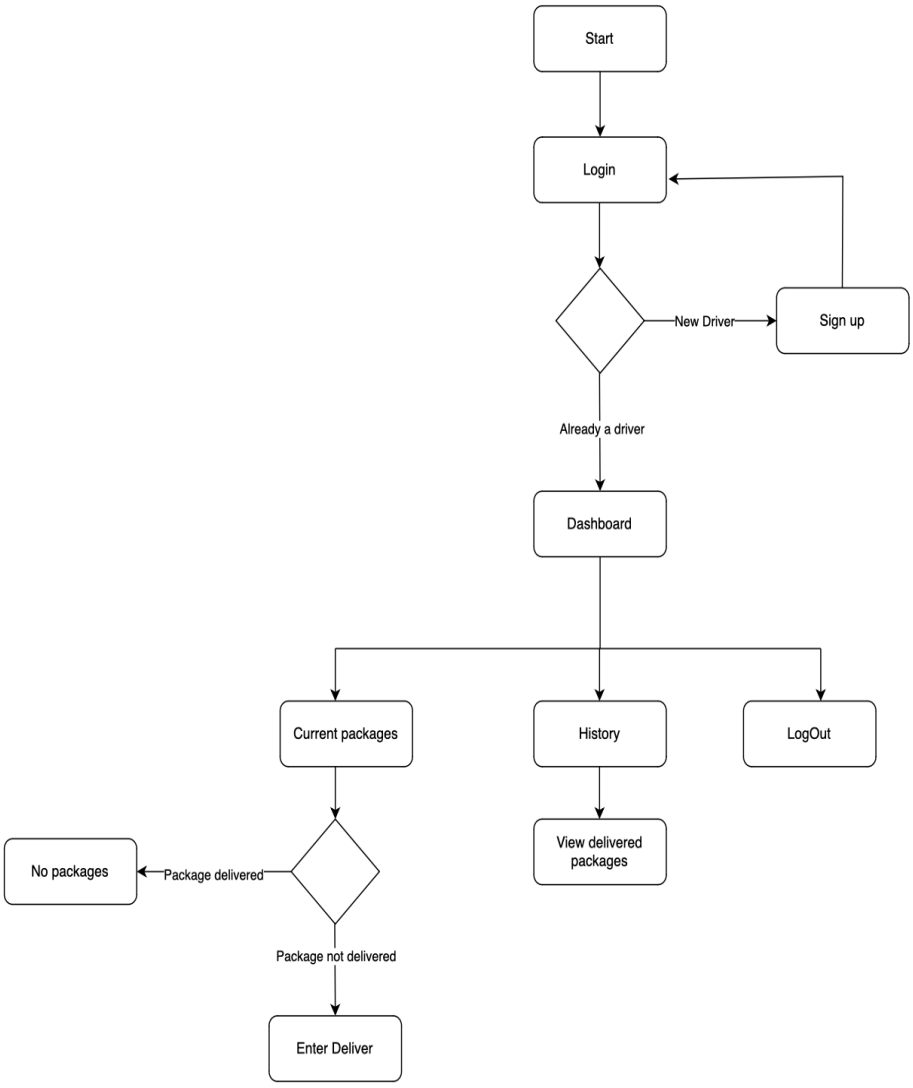
Driver:

User ID	As a	I want to	So that	Priority	Points
ID06	Driver	register an account with my personal information, including name, email, and password	I can access the platform and start using it	High	5
ID07	Driver	log in to my account	I can access my personal dashboard and features	High	3
ID08	Driver	view the list of packages assigned to me	I can know which packages I need to deliver	High	5
ID09	Driver	update the status of a package to delivered	I can inform the system and the admin that the package is delivered	High	3
ID10	Driver	view my delivery history	I can keep track of all the packages I have delivered	Medium	3

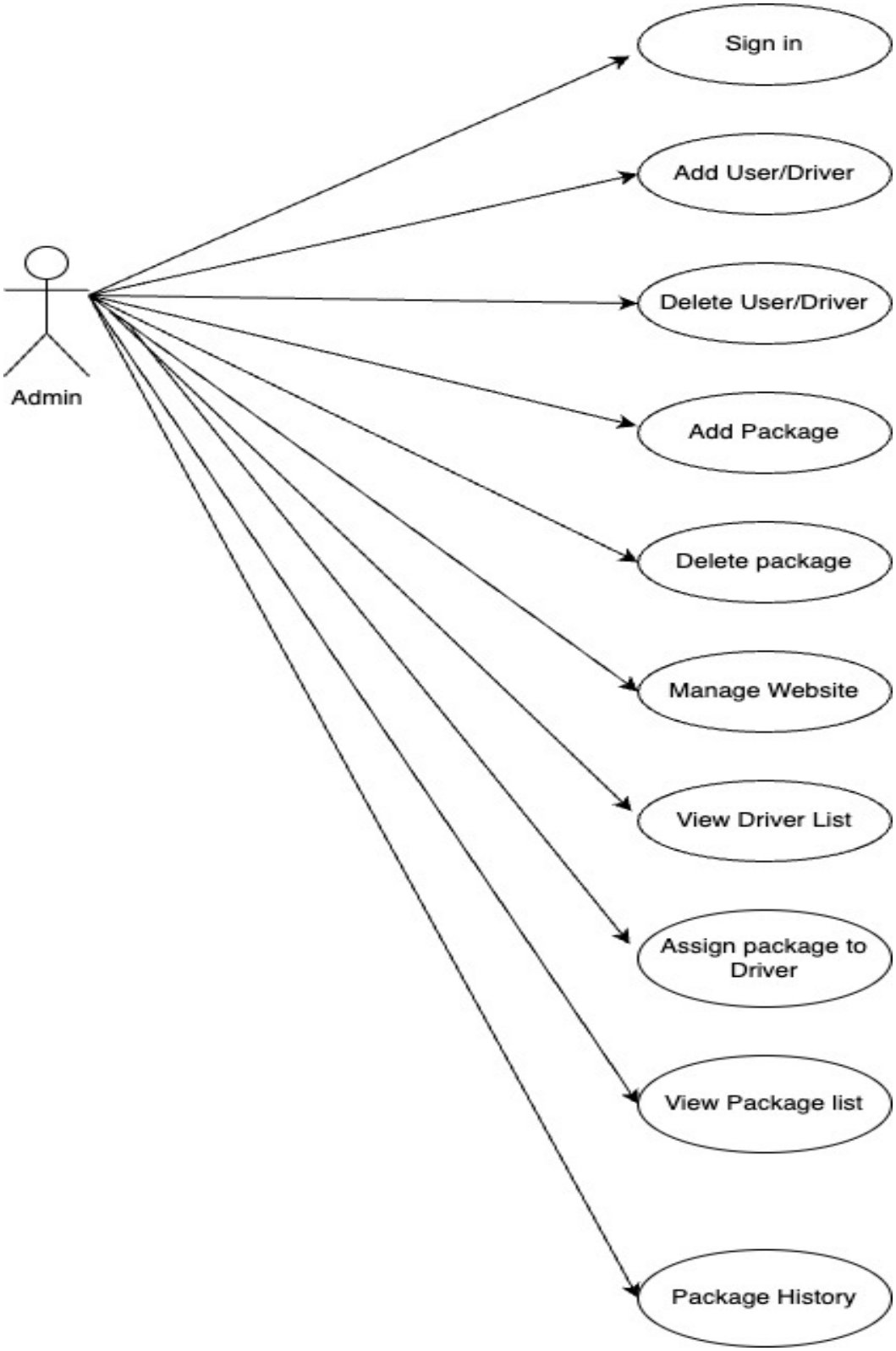
Activity diagram for Admin:



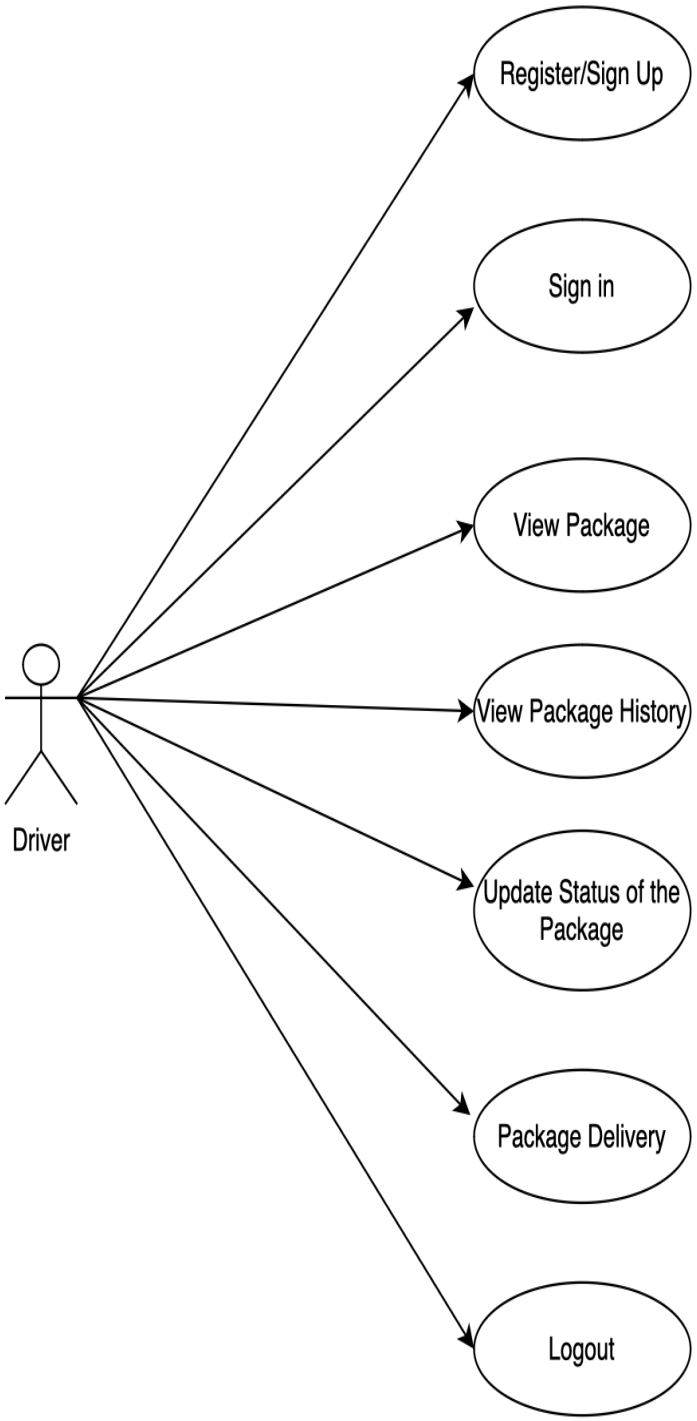
Activity Diagram for Driver:



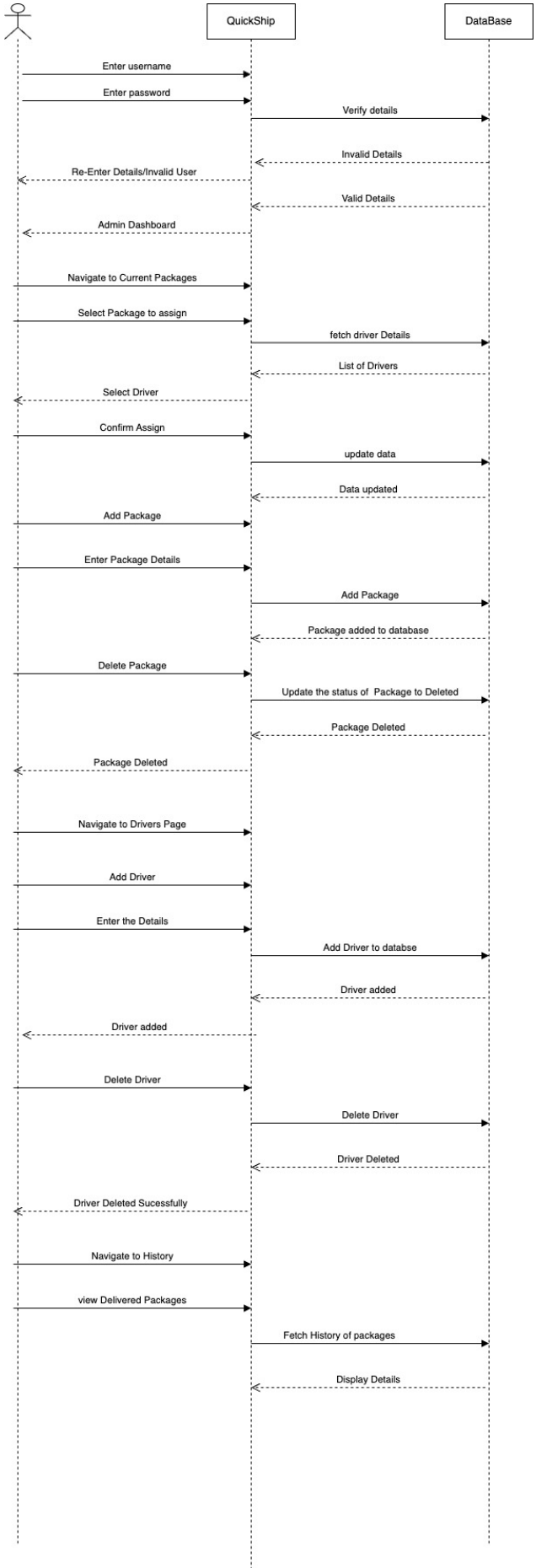
Use case for Admin:



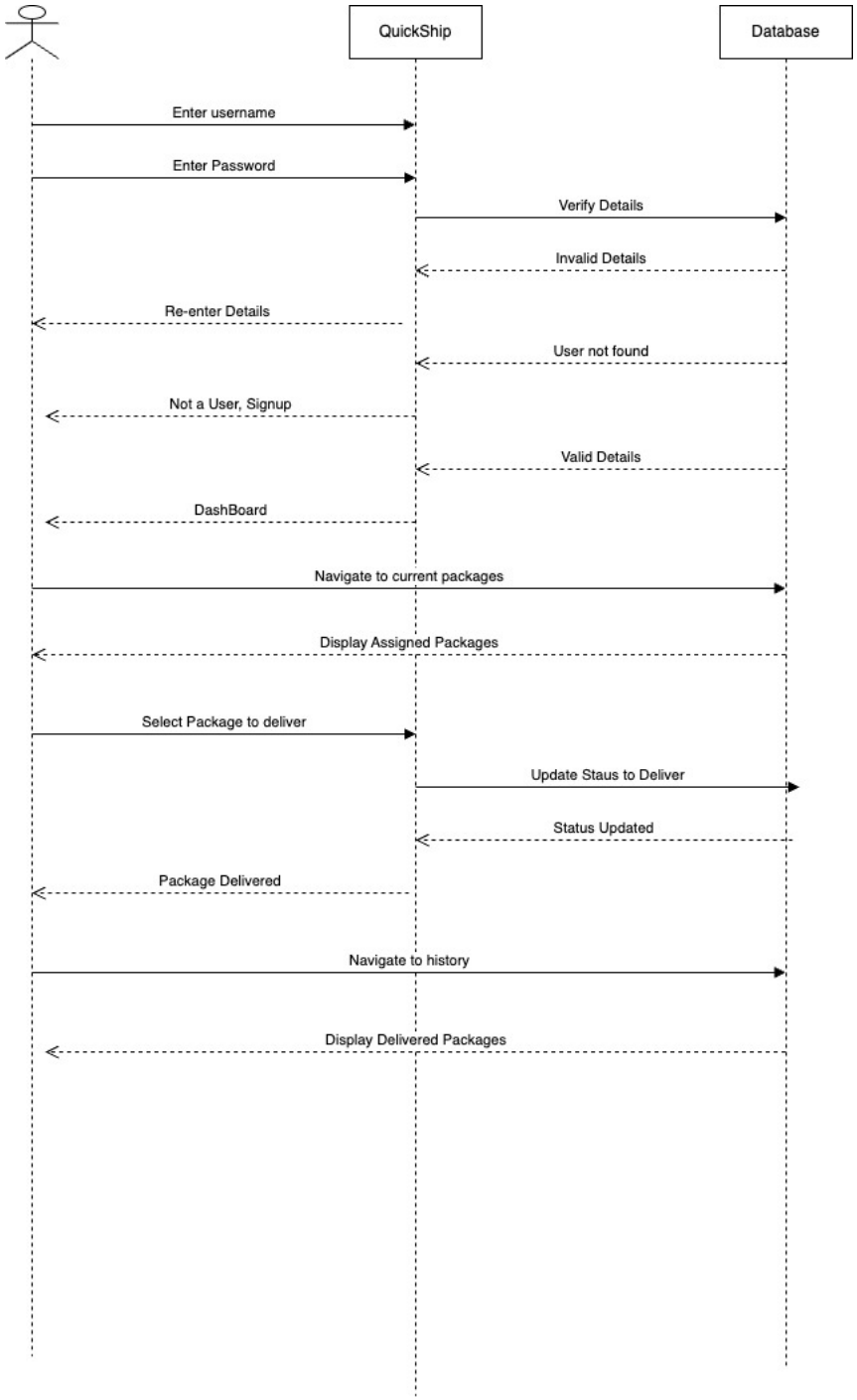
Use case for Driver:



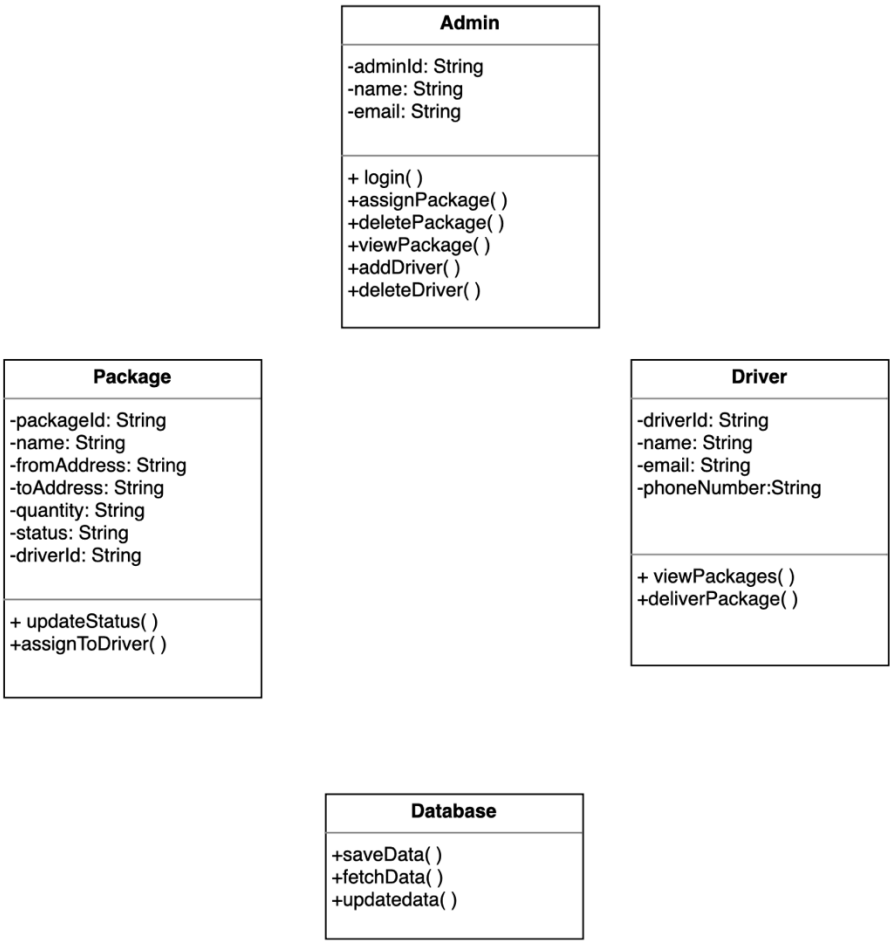
Sequence for Admin:


QuickShip
DataBase
Enter username
Enter password
Verify details
Invalid Details
Re-Enter Details/Invalid User
Valid Details
Admin Dashboard
Navigate to Current Packages
Select Package to assign
fetch driver Details
List of Drivers
Select Driver
Confirm Assign
update data
Data updated
Add Package
Enter Package Details
Add Package
Package added to database
Delete Package
Update the status of Package to Deleted
Package Deleted
Package Deleted
Navigate to Drivers Page
Add Driver
Enter the Details
Add Driver to databse
Driver added
Driver added
Delete Driver
Delete Driver
Driver Deleted
Driver Deleted Sucessfully
Navigate to History
view Delivered Packages
Fetch History of packages
Display Details

Sequence for Driver:



Class Diagram for Admin:



Class Diagram for Driver: