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DATABASE LAB
CSE3104

FINAL PROJECT REPORT

Courier Management System

Submitted by

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1 Introduction

Courier Management System is a project which helps a customer to send his parceled goods to the desired place. In this project, the customer will give his parcel to an admin. The admin will take the parcel and then, will enter the customer and parcel details. After the admin enters all the details, it will be stored in a database. After that, the admin will assign the order to an employee. After processing the order, the parceled goods will be sent to the receiver. The order will contain the necessary information about the customer, the receiver and detailed information about the parcel. The admins will be able to see total monthly and annual transactions and can also check the performance of the employees.

2 Objective

Courier services are being used a lot these days by people from all walks of life. Due to the increasing number of the courier service orders, sometimes it becomes cumbersome for a courier service company to find and process the information related to the orders. If the information is not processed properly, a receiver might not receive the desired parcel which can result in inconveniences.

The main objective of this project is to help the courier service companies so that they can easily manage all the necessary data from one place without any waste of time. They will be able to manage the employees related to the shipments. They can also analyze the information related to the courier shipments for the betterment of their services. This project can be an efficient solution for the courier service companies for maintaining their regular workflows.

3 Features

- A customer can place a courier service order to send a package to the receiver.
- A receiver will be able to receive the package sent by a customer through a deliveryman.
- A deliveryman will deliver the orders assigned to him to the receivers.
- A vehicle will be used to transport the couriers to the destination addresses.
- An order may contain a package from different categories.
- A customer needs to make a payment to confirm the order made by him.
- Each order will have a payment associated with it which needs to be confirmed by the customer.

4 Entity-Relationship Diagram

The Entity Relationship Diagram represents the overall structure of the Courier Management System Database through Entities, Attributes and Relationships. Each entity set holds a set of attributes including the Primary key and the Foreign keys. These attributes are the properties of the entities in that entity set. Attributes that will work as the Primary Key is underlined in the ERD. Each relationship represents connection among two entity sets.

4.1 Entity and its attributes

4.1.1 Entity-01: Customer

This entity set represents the people who will request a courier service. The attributes associated with this entity set are following –

1. CustomerNID: Data type - varchar (Primary Key)
2. Name: Data type - varchar
3. Phone: Data type - varchar
4. Address: Data type - varchar

4.1.2 Entity-02: Receiver

This entity set represents the people who will receive the courier sent by a customer. The attributes associated with this entity are following –

1. ReceiverNID: Data type - varchar (Primary Key)
2. Name: Data type - varchar
3. Phone: Data type - varchar
4. Address: Data type - varchar

4.1.3 Entity-03: Order

This entity set represents the courier service orders requested by a customer. The attributes associated with this entity are following –

1. OrderID: Data type – int (Primary Key)
2. CustomerNID: Data type – varchar (Foreign Key)
3. ReceiverNID: Data type – varchar (Foreign Key)
4. DeliveryManID: Data type – int (Foreign Key)
5. PackageID: Data type – int (Foreign Key)
6. PaymentID: Data type – int (Foreign Key)
7. VehicleID: Data type – int (Foreign Key)
8. Status: Data type – varchar
9. Date: Data type - date

4.1.4 Entity-04: Deliveryman

This entity set represents the deliverymen of the company who will deliver the couriers to the receivers. The attributes associated with this entity are following –

1. DeliveryManID: Data type - int (Primary Key)
2. Name: Data type - varchar
3. Phone: Data type - varchar
4. Email: Data type - varchar
5. Address: Data type - varchar

4.1.5 Entity-05: Payment

This entity set represents the payments made by a customer for their orders. The attributes associated with this entity are following –

1. PaymentID: Data type – int (Primary Key)
2. NID: Data type – varchar (Foreign Key)
3. Type: Data type - varchar
4. Amount: Data type - decimal

4.1.6 Entity-06: Package

This entity set represents the package under an order. The attributes associated with this entity are following –

1. PackageID: Data type – int (Primary Key)
2. Type: Data type - varchar
3. Weight: Data type – decimal

4.1.7 Entity-07: Vehicle

This entity set represents the vehicles that will be used to send the couriers from the office to the destination addresses. The attributes associated with this entity are following –

1. VehicleID: Data type – int (Primary Key)
2. Type: Data type - varchar
3. LicenseNo: Data type - varchar

4.2 Relationship

4.2.1 Relationship-01: Gives

This relationship links the two entities: Customer and Order. It connects each order to a customer.

4.2.2 Relationship-02: Receives

This relationship links the two entities: Receiver and Order. It connects each order to a receiver.

4.2.3 Relationship-03: Delivers

This relationship links the two entities: Deliveryman and Order. It connects each order to a deliveryman.

4.2.4 Relationship-04: Transports

This relationship links the two entities: Vehicle and Order. It connects each order to a vehicle.

4.2.5 Relationship-05: Contains

This relationship links the two entities: Package and Order. It connects each package to an order.

4.2.6 Relationship-05: Confirms

This relationship links the two entities: Customer and Payment. It connects each payment to a customer.

4.2.7 Relationship-05: Has

This relationship links the two entities: Payment and Order. It connects each payment to an order.

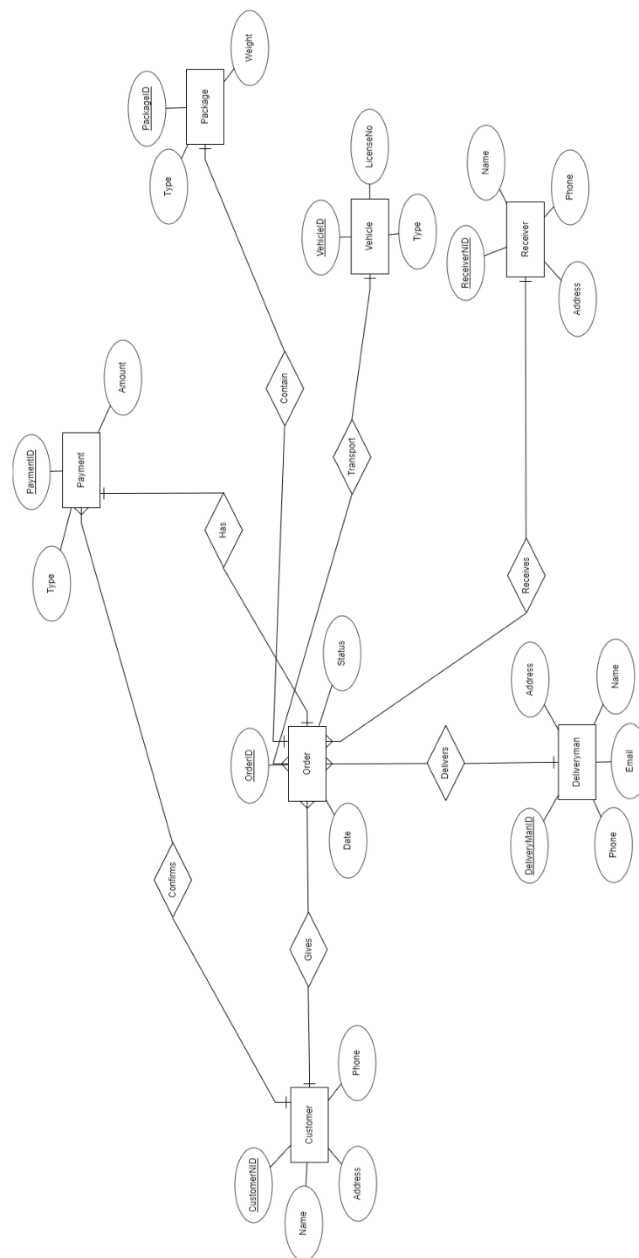


Figure 1: E-R diagram of Courier Management System

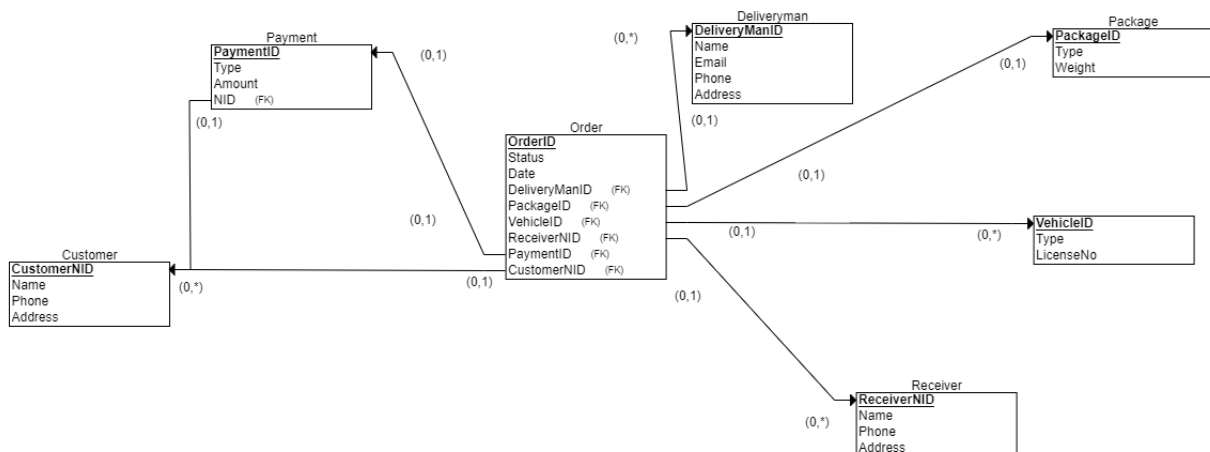


Figure 2: Schema of Courier Management System

5 Project Snapshots of Different Interfaces

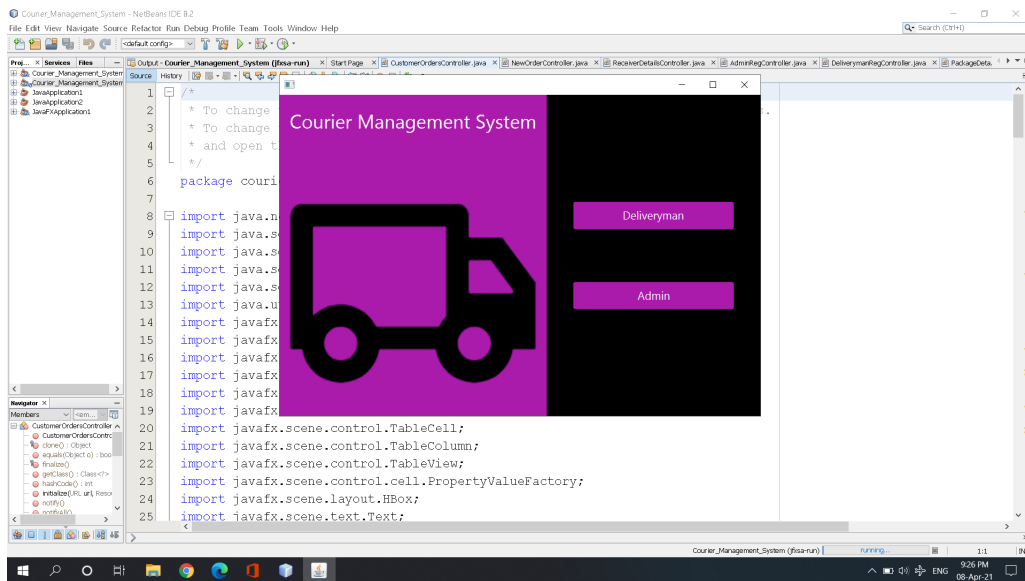


Figure 3: Home Page

This is the home page of the project where the users can choose to login as a deliveryman or as an admin.

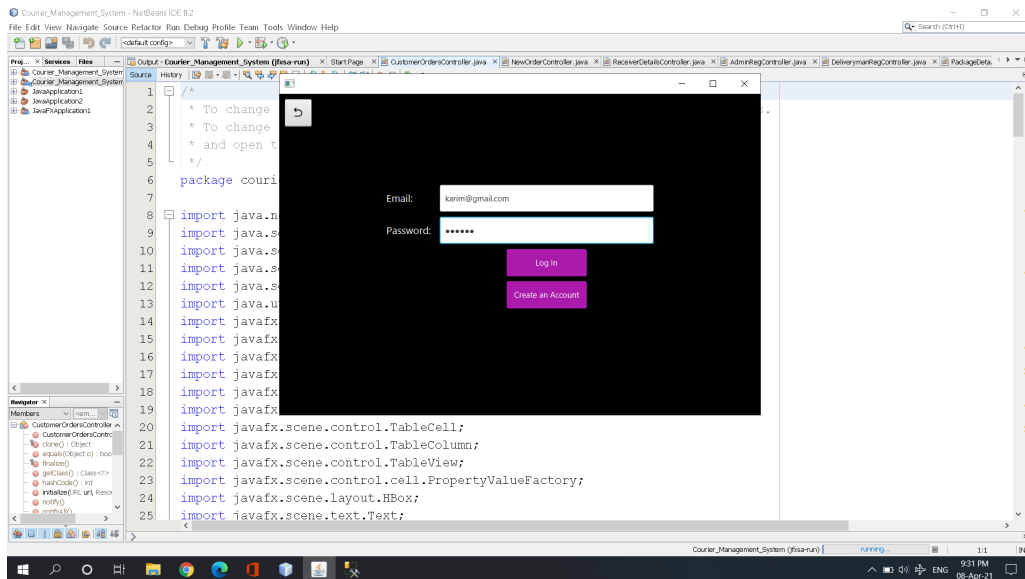


Figure 4: Deliveryman Login Page

The deliverymen can login to their account using their email and password from this page.

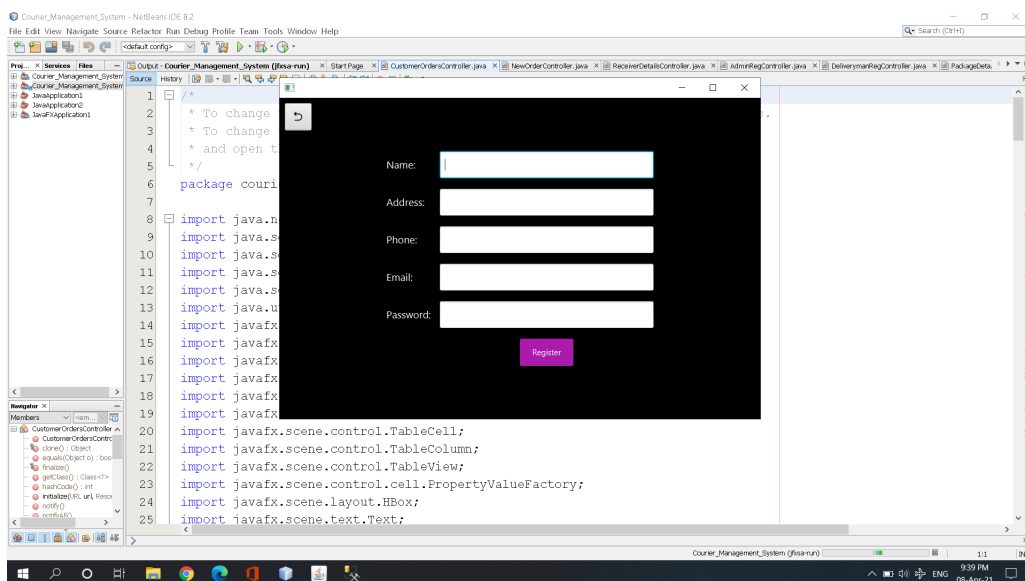


Figure 5: Deliveryman Registration Page

A new deliveryman can register from this page using his information.

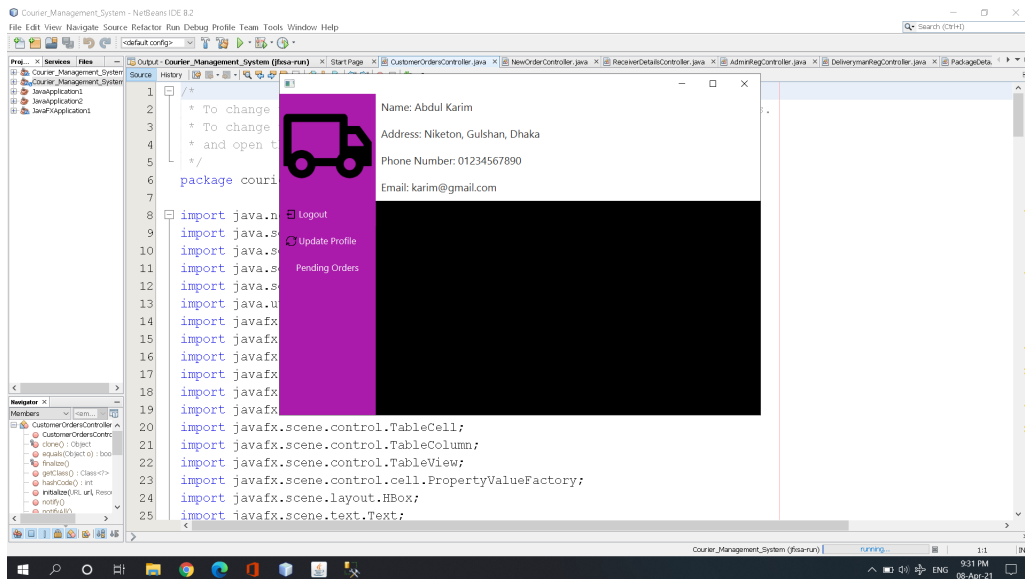


Figure 6: Deliveryman Profile Page

The deliverymen can see their own profile information from this page.

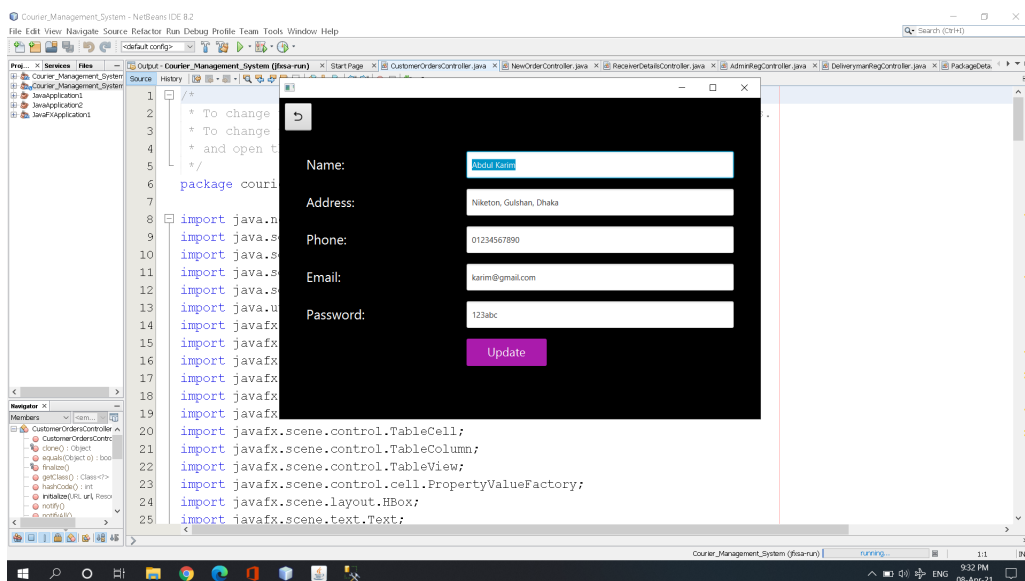


Figure 7: Deliveryman Profile Update Page

The deliverymen can update their own profile information from this page.

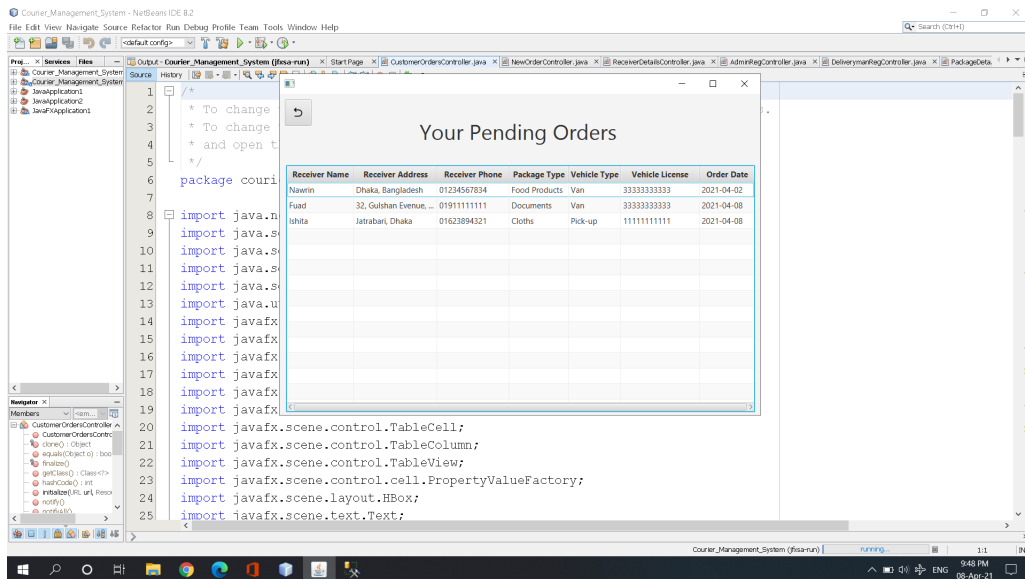


Figure 8: Deliveryman Pending Orders Page

The deliverymen can see their pending orders information from this page.

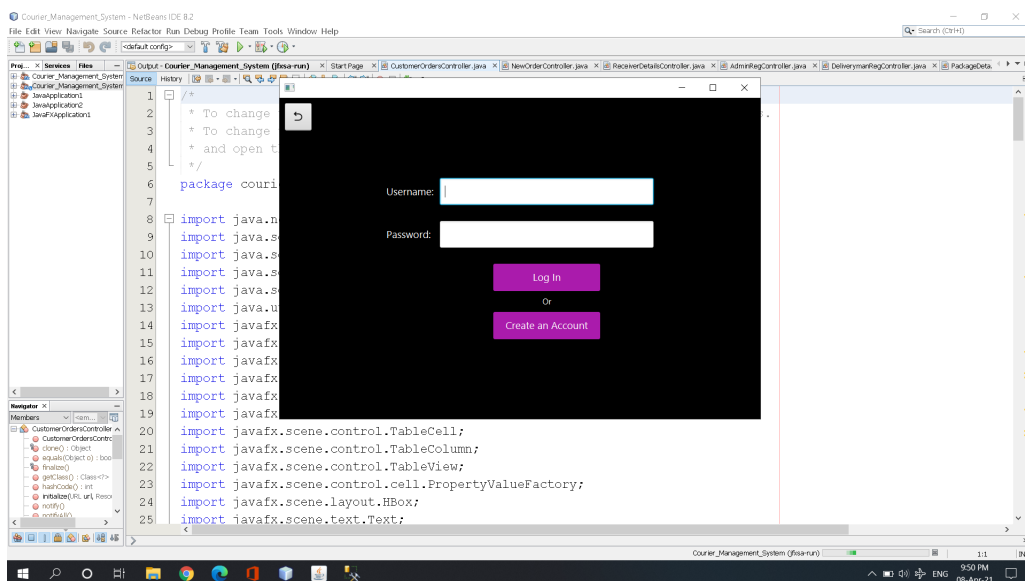


Figure 9: Admin Login Page

The admins can login to their account using their username and password from this page.

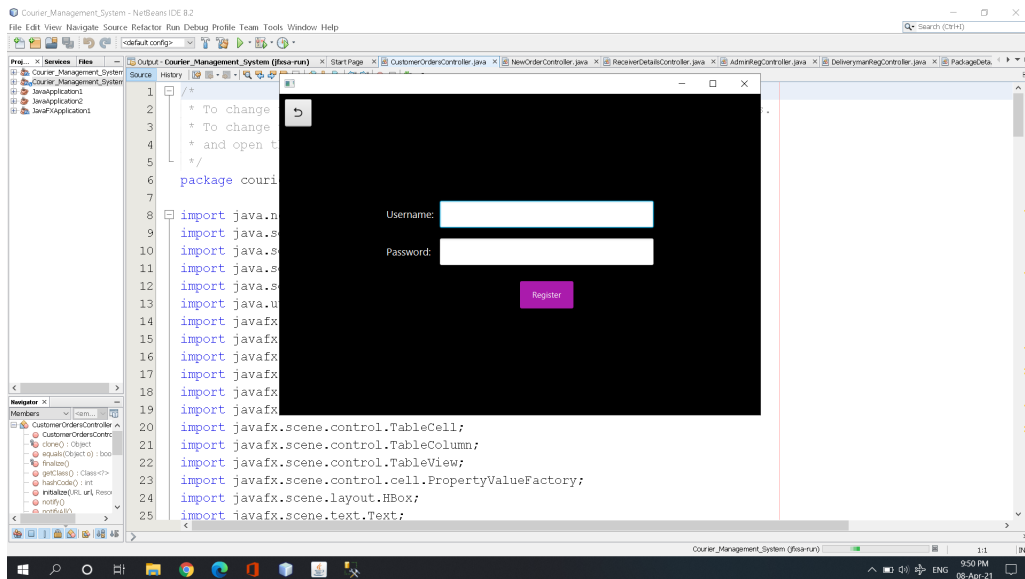


Figure 10: Admin Registration Page

A new admin can register from this page using his information.

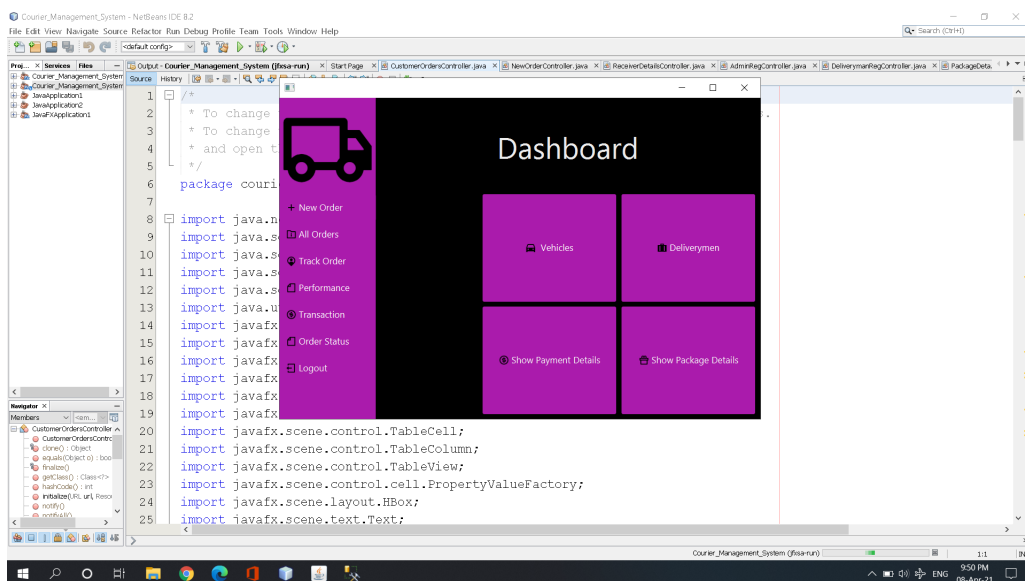


Figure 11: Admin Dashboard

This is the admin dashboard from where an admin can perform multiple tasks.

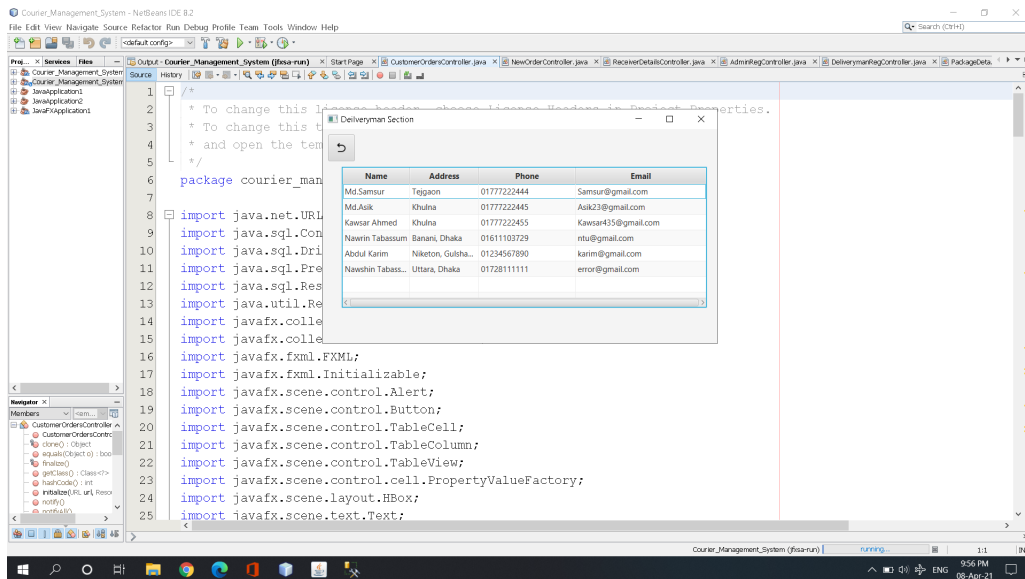


Figure 12: All Deliveryman Page

All the deliverymen information are available in this page.

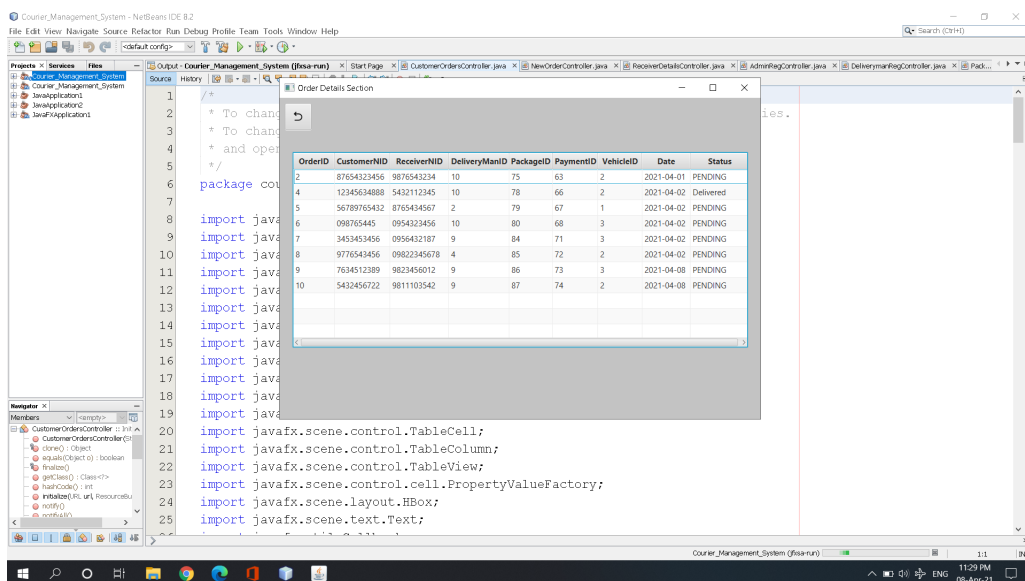


Figure 13: All order Page

All the order information are available in this page.

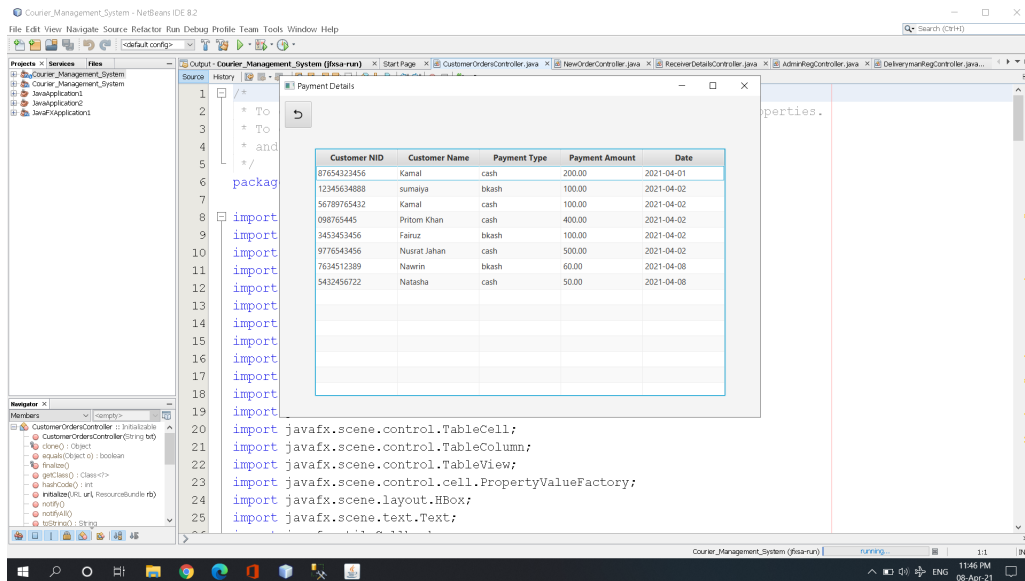


Figure 14: All Payment Page

All the payment information are available in this page.

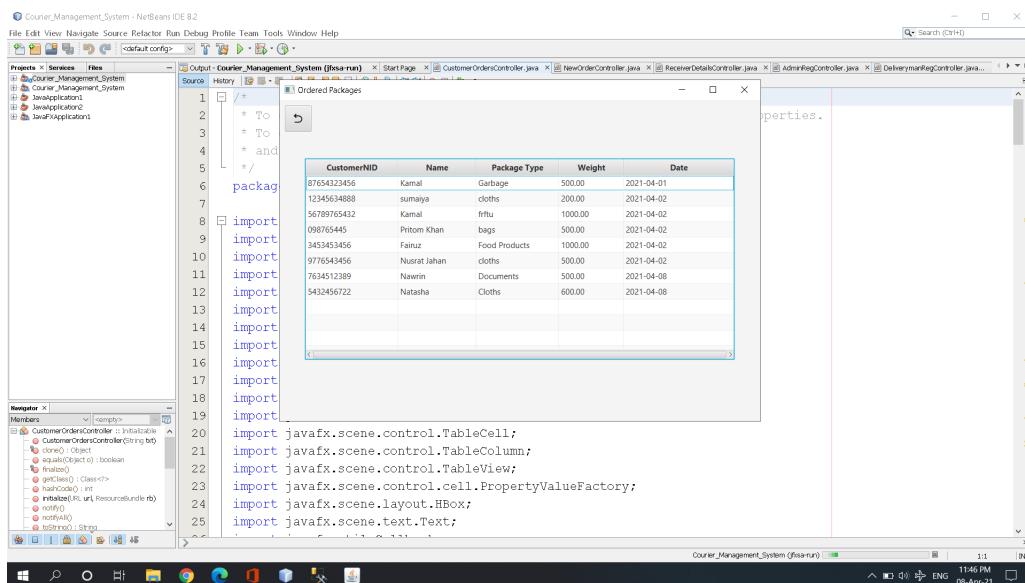


Figure 15: All package Page

All the package information are available in this page.

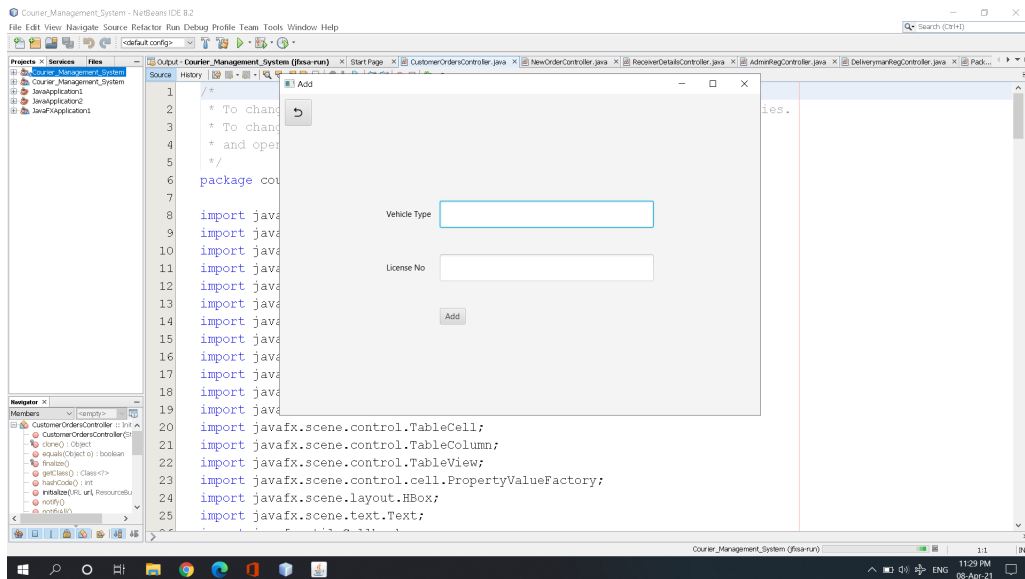


Figure 16: Add Vehicle Page

A new vehicle can be added to the vehicle list from this page.

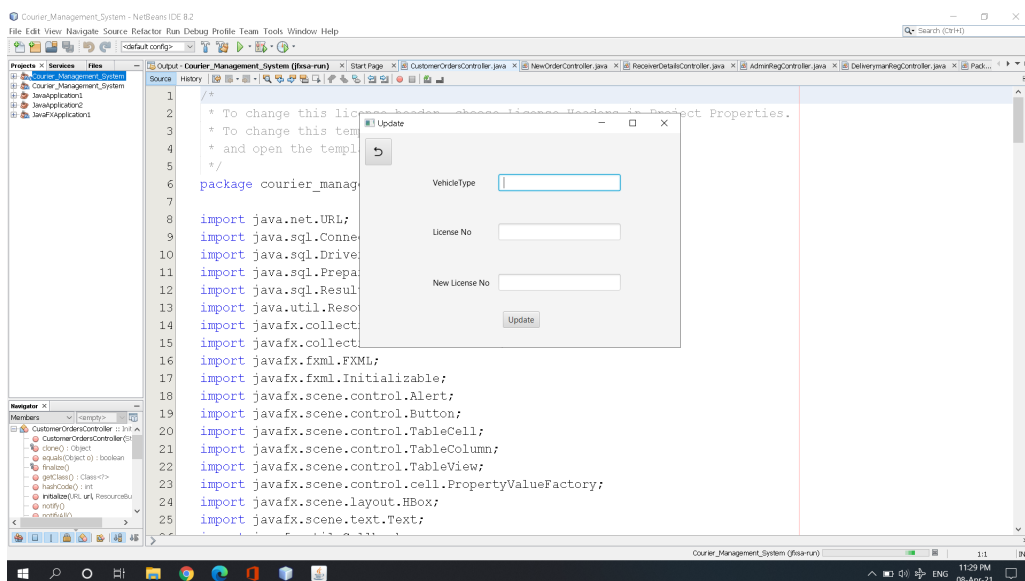


Figure 17: Update Vehicle Page

A vehicle information can be updated from this page.

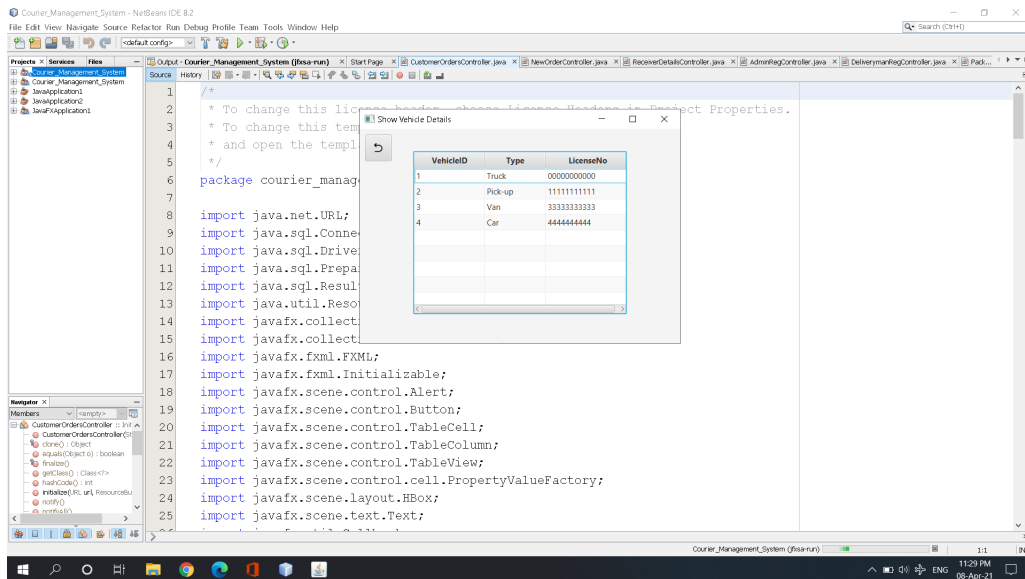


Figure 18: All Vehicle Page

All the vehicle information are available in this page.

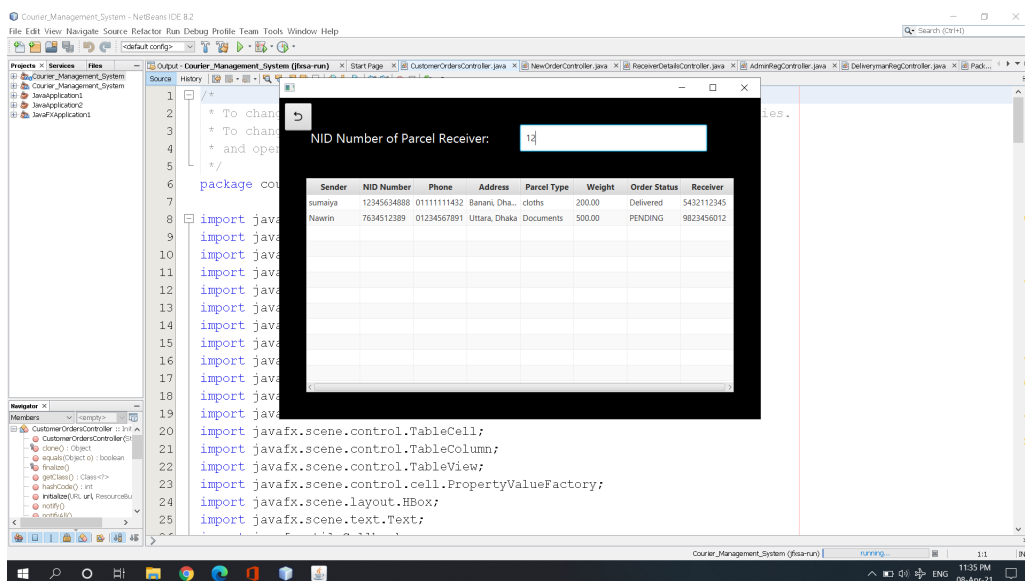


Figure 19: Track Order Page

The status of an order can be checked from this page using the receiver's NID number.

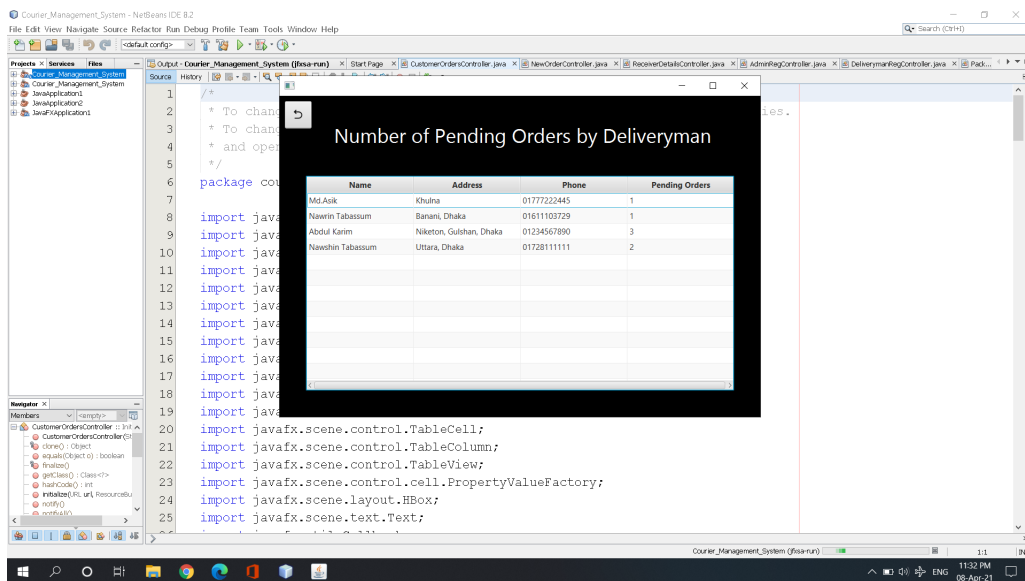


Figure 20: Performance Check Page

The performance of a deliveryman can be checked from this page by the number of his pending orders.

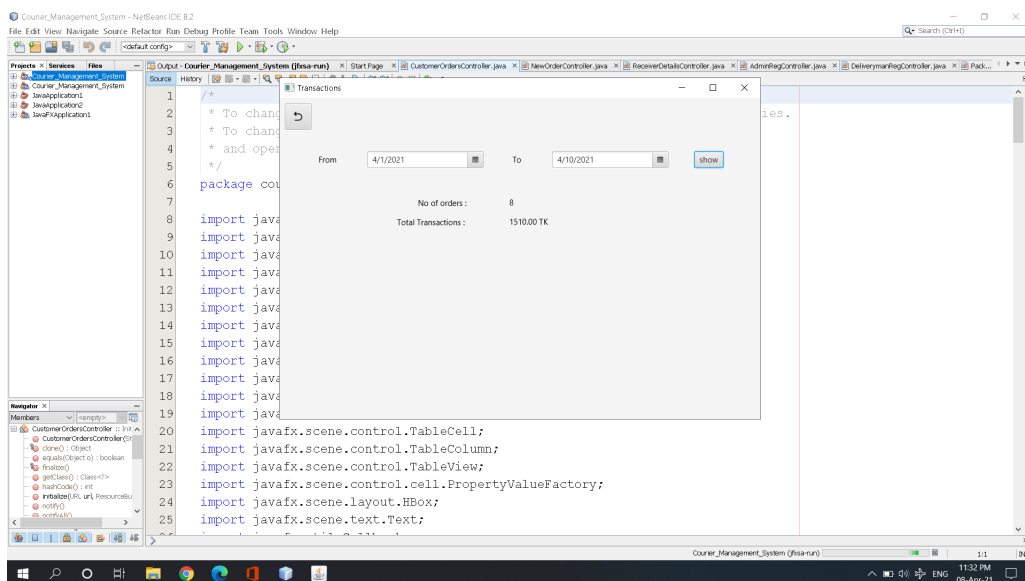


Figure 21: Transaction Page

The total amount of transaction that occurs in a certain time period can be found from this page.

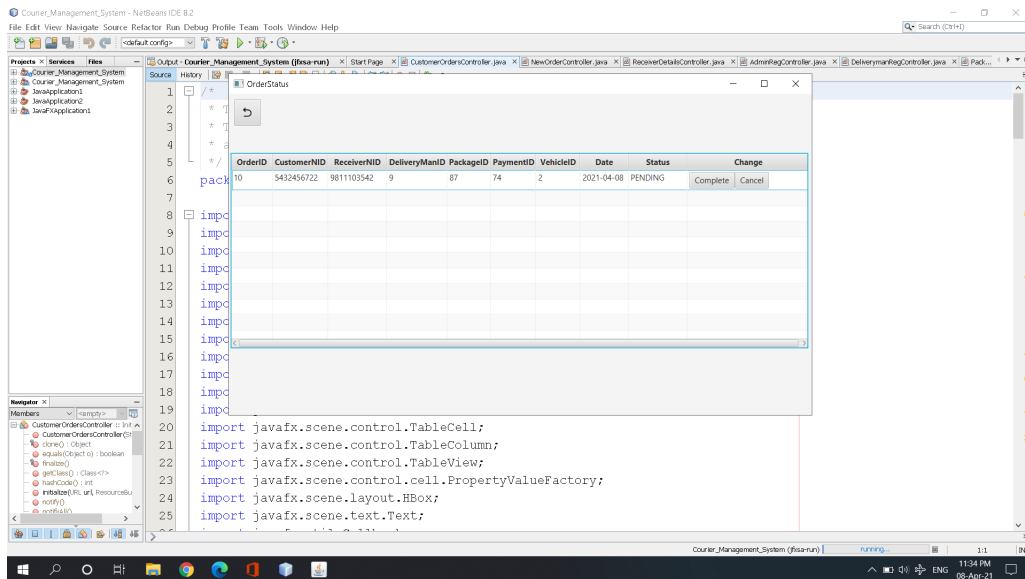


Figure 22: Change Status Page

The admin can check the status of an order and change the status if needed from this page.

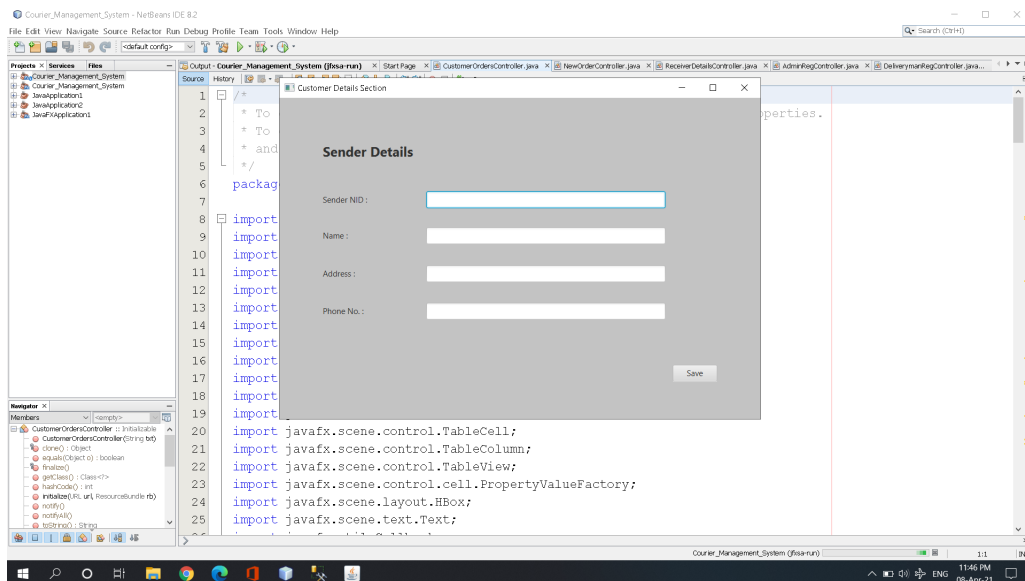


Figure 23: Sender Details Page

The admin can enter the information of the courier sender in this page.

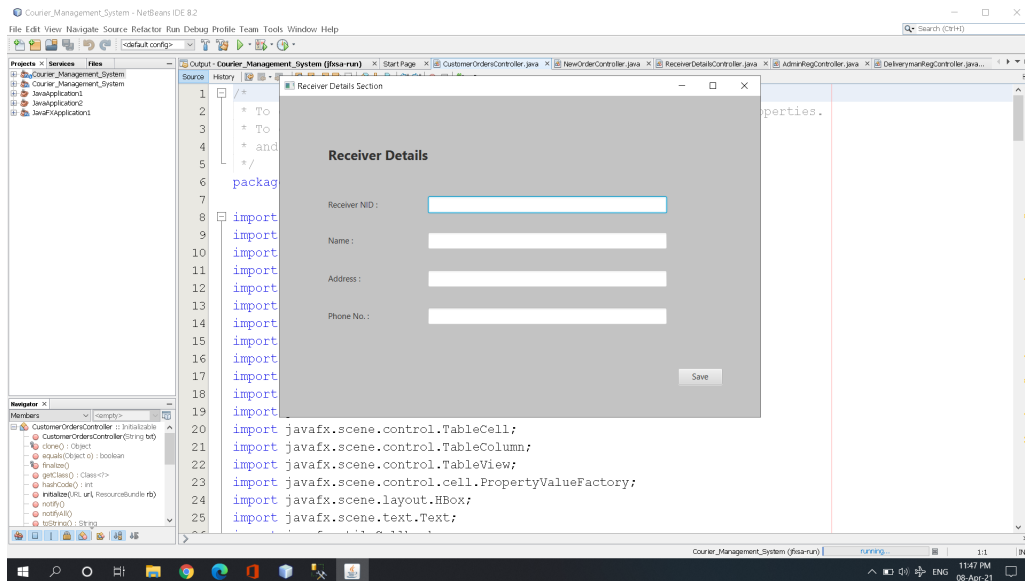


Figure 24: Receiver Details Page

The admin can enter the information of the courier receiver in this page.

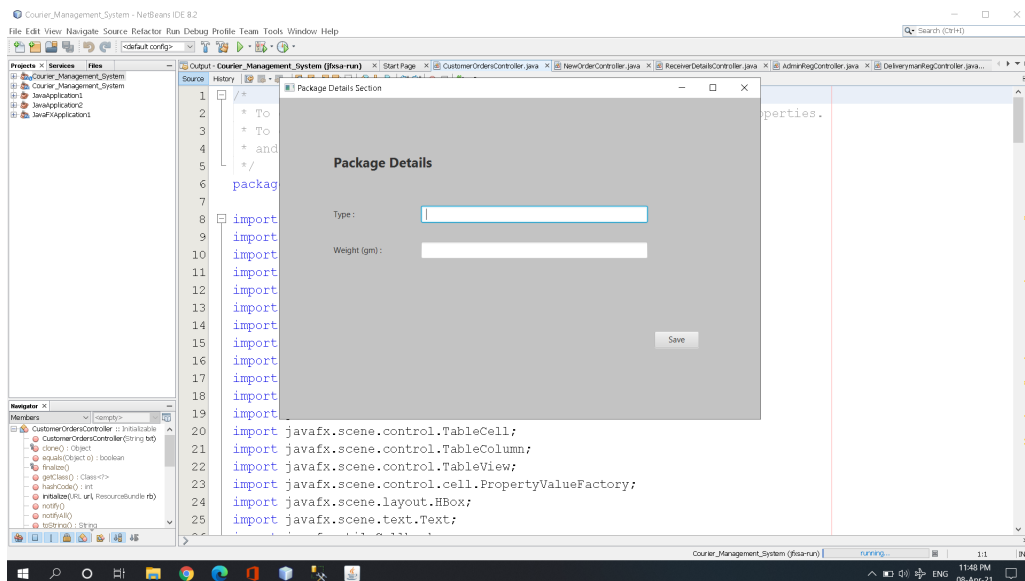


Figure 25: Package Details Page

The admin can enter the information of the package in this page.

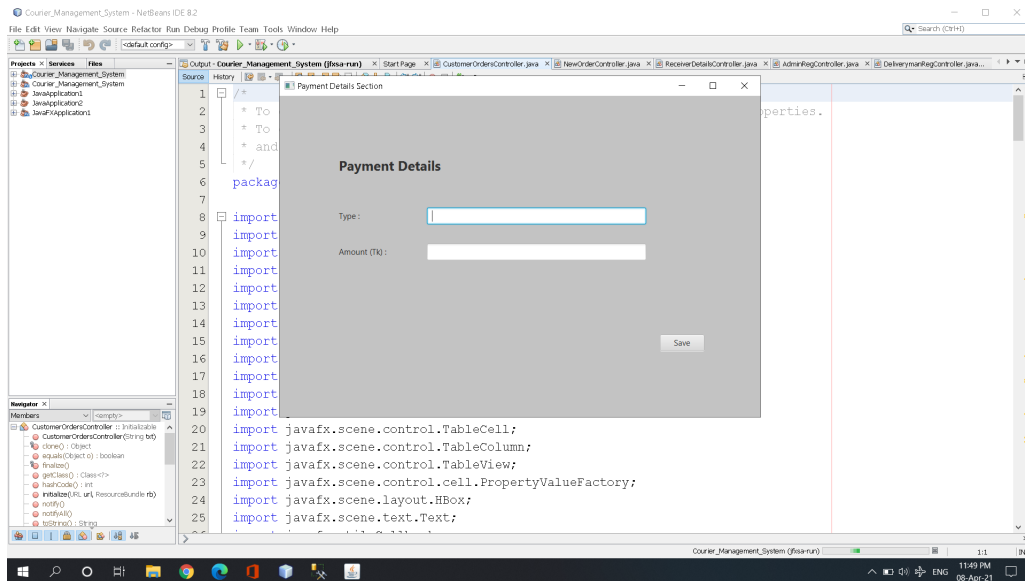


Figure 26: Payment Details Page

The admin can enter the information of the payment in this page.

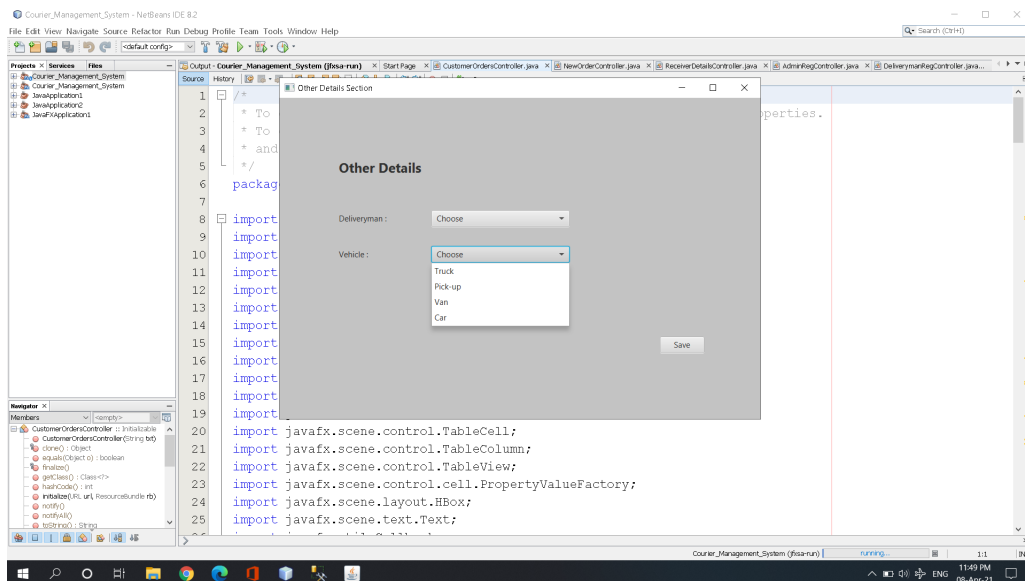


Figure 27: Other Details Page

The admin can assign a deliveryman and a vehicle to an order from this page.

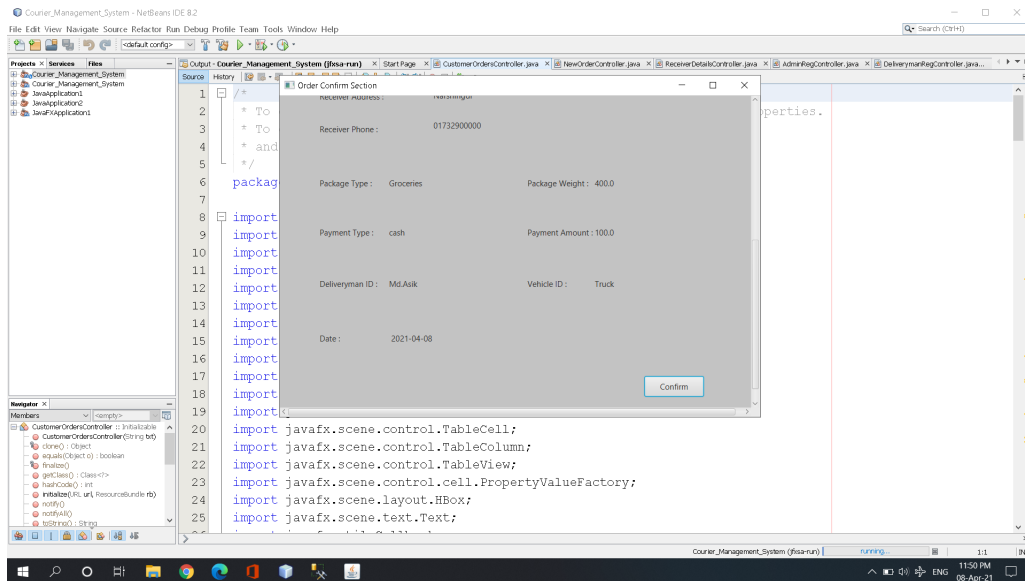


Figure 28: Order Confirmation Page

The admin can check all the information of a new order from this page. Finally the admin confirms the order from this page.

6 Conclusion and Future Works

This project makes the courier service management easy. It keeps a record of all the orders. It can be used to find out the monthly or annual transaction and the individual performance of all the employees. It can also provide information to the customers and the parcel receivers about any order. So, this project can make the information management of a courier service organized and faster. In future, we want to integrate a few additional features in this project. We want to make our project location based and we want to improve the user interface of the project.