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**Geem Logistic**



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## **Dedication**

We want to express our heartfelt thanks and appreciation to our families, who have been an great source of encouragement and motivation for us during every step. Thanks for all the support, even if it was small. Finally, we would want to congratulate ourselves for our efforts and celebrate our successes.

## Acknowledgement

We want to thank our families for their amazing assistance, which has been essential to our success, and to let them know how much we appreciate them. Our parents have been a source of inspiration and patience for us as they have proudly seen us grow and succeed.

Furthermore, we want to thank our supervisor, Dr.Haya Samaaneh, for his constant encouragement during the whole process. We appreciate the contributions made by all of the instructors in the department of computer engineering.

Additionally, we would like to thank our friends who have helped us and are grateful for their continuous presence.

# Table of contents

Dedication . . . . .	2
Acknowledgement . . . . .	3
Abstract . . . . .	7
0.1 Introduction . . . . .	8
0.1.1 Problem . . . . .	8
0.1.2 Objectives . . . . .	8
0.1.3 Importance of the work . . . . .	8
0.1.4 Organization of the report . . . . .	8
0.2 Constraints and earlier work . . . . .	9
0.2.1 Constraints . . . . .	9
0.2.2 Earlier Work . . . . .	9
0.3 Literature review . . . . .	9
0.4 Methodology . . . . .	9
0.4.1 Technical choices . . . . .	9
0.4.2 Components . . . . .	10
0.5 Future Work . . . . .	62
0.6 Conclusion . . . . .	63

# Table of Figures

1	Home Page For Mobile . . . . .	11
2	Home Page For Desktop . . . . .	11
3	Arabic Sign Up Process For Mobile . . . . .	12
4	English Sign Up Process For Mobile . . . . .	13
5	Sign Up Process For Desktop . . . . .	14
6	Sign In Page . . . . .	15
7	Arabic Forgot Password Process For Mobile . . . . .	16
8	English Forgot Password Process For Mobile . . . . .	17
9	English Forgot Password Process For Desktop . . . . .	18
10	Customer Pages . . . . .	19
11	Store's Products . . . . .	20
12	customer Pages . . . . .	21
13	Order Process . . . . .	23
14	Order Process . . . . .	24
15	Notifications For Customer . . . . .	25
16	Customer Pages In Desktop . . . . .	26
17	Merchant Pages . . . . .	27
18	Merchant Dashboard . . . . .	28
19	Warehouses Overview in Merchant Dashboard . . . . .	29
20	Orders Overview in Merchant Dashboard . . . . .	30
21	Add Warehouse Process . . . . .	31
22	Warehouse Process . . . . .	32
23	Edit Warehouse Pages . . . . .	33
24	Inventory Process . . . . .	34
25	Edit Products Page . . . . .	35
26	Merchant Profile Page . . . . .	36
27	Merchant's Orders Page . . . . .	37
28	Notifications For Merchant . . . . .	38
29	Chatting System . . . . .	39
30	Tasks Process . . . . .	40
31	Managing Employees . . . . .	41
32	Merchant Pages In Desktop Part 1 . . . . .	42
33	Merchant Pages In Desktop Part 2 . . . . .	43
34	Merchant Pages In Desktop Part 3 . . . . .	44
35	Sales Employee Home Pages . . . . .	45
36	Chatting System . . . . .	46
37	Employee Pages . . . . .	47
38	Sales Employee's Task Page . . . . .	48
39	Inventory Employee Home Pages . . . . .	49
40	Chatting System . . . . .	50
41	Inventory Pages . . . . .	51
42	Tasks Pages . . . . .	52
43	Notifications For Employee . . . . .	53
44	Admin Pages . . . . .	54

45	Users Overview . . . . .	55
46	Users Card In Admin Dashboard . . . . .	56
47	Orders Overviews . . . . .	57
48	Warehouses Card In Admin Dashboard . . . . .	58
49	Chatting For Admin With Merchants . . . . .	59
50	Admin Pages In Desktop Part 1 . . . . .	60
51	Admin Pages In Desktop Part 2 . . . . .	61
52	Promotional Web Page . . . . .	62

## Abstract

The goal of this project is to create a comprehensive logistics application that will make it easier for four main user roles (customers, employees, merchants, and administrators) to interact and transact with one another. Different functionalities catered to the needs of each user position ensure an effective and user-friendly experience.

Customers can create an account, log in, and explore all stores of all the merchants signed in our application, they have the ability to browse products , add the wanted items to the shopping cart, and submit their orders which can consist of multiple products.the customers will have the ability to interact with multiple merchants on a single platform, thanks to this easy shopping experience.

Merchants have a complete management and control on their stores and products, they have the ability to create new stores and delete the unwanted stores from the app , add products , delete them , and other management tools. they also can have two types of employees: sales employees and inventory employees. the first one to deal with customer interactions and sales processes, and the second one for managing the stock level and the inventory logistics. Merchants are guaranteed to be able to maintain high levels of operational efficiency because of this hierarchical framework.

Employees are essential to the app's functionality. Inventory employees make sure that product availability is optimized and maintained, while sales employees help to increase sales and improve customer satisfaction. Due to their unique access to merchant stores, both types of employees are able to handle their duties with efficiency.

Administrators have command and overview over the whole program.they have the ability to see all the number of the warehouses and the orders that are made through our application for all merchants. In addition ,the admin can know all the users that are registered to our app whether the user is a customer, merchant, or employee. knowing that the employees are given their emails from their merchants. The admin has the ability to talk to the merchant through a chatting system.

An essential part of the application is the chat system, which provides easy contact between merchants and their staff members as well as between the admin and merchants. This functionality facilitates improved application process overall, coordination, and effective issue resolution.

The overall goal of this logistics mobile application is to improve the efficacy and efficiency of logistics operations by offering a user-centric platform that facilitates easy interaction, management, and transaction between customers, merchants, employees, and the admin.

## **0.1 Introduction**

### **0.1.1 Problem**

The applications nowadays usually fail in providing a seamless and integrated experience for many roles involved in the logistic chain. Accessing and dealing with numerous merchants on the same platform presents challenges for users, and this will lead to a fragmented experience. The inadequate number of tools available to merchants for managing their stores and inventory has an adverse effect on their operational efficiency. Also there are inefficiencies in sales and inventory management as a result of employees not having the specialized access and functions needed to carry out their jobs well.

### **0.1.2 Objectives**

The aim of our application is to offer a comprehensive, user-friendly platform to customers, merchants, employees, and administrators in order to expedite and improve the entire logistics process. With the help of this application, all user roles should be able to engage and transact with one other in a smooth and integrated manner. Consumers will be able to easily manage their orders, explore and buy products from multiple merchants, and create accounts. Strong management tools with features for adding, editing, and removing things as well as managing teams of sales and inventory staff will be beneficial to merchants in managing their businesses and merchandise. Workers will have access to specialist information and resources to help them operate at the highest level in inventory control and sales.

Administrators will have access to a chat system for direct communication with merchants, as well as a single dashboard to monitor all aspects of the business, including orders, warehouse statuses, and user registrations. This program attempts to enable seamless collaboration and problem solving throughout the logistics chain, boost customer happiness, and improve operational efficiency by catering to the unique needs of each user role.

### **0.1.3 Importance of the work**

our project is very important in the sector of commerce, as it shows multiple stores for different merchants in one platform, which makes it easy on the customers to see all the stores with all their products without the need to go to visit these stores and checking their products , this will save them time on searching and money of using transportation. so this will lead to ease in the shopping and purchasing process.

For the merchants it will be easy for them to show all their stores for a large number of customers,leading to a rise of the purchasing from their stores and profit, also the management of their stores in our application is really easy and simple, with good tools and simple UI , which is supported with two languages , Arabic and English. Additionally, the merchant can hire employees to help them manage sales operations and track orders.Furthermore, they can employ workers for inventory auditing in a comfortable and easy manner.

### **0.1.4 Organization of the report**

In the following chapters, we will clarify the constraints we faced during the implementation of the application. After that we will show in the literature review chapter, the apps that inspired us in the idea of our project, showing the differences and varieties between theirs and ours. After that, we will clarify the methodology which shows details of the implementation, the tools used in our project and the technologies we relied on to finish the application. furthermore we will talk about the conclusion and the results we have managed to reach in our work, finally we will talk about the future work ideas that we thought about to develop our application , but did not manage to make it.

## 0.2 Constraints and earlier work

### 0.2.1 Constraints

We ran across a number of obstacles during the project that prevented us from moving further with the application. With only four months to finish the entire program, time restrictions were the main problem. Furthermore, we had to learn Flutter from online classes since the university had not offered any previous courses in the subject, which required a lot of time. We also needed to become acquainted with new software, such as Android Studio. Our progress was further slowed down by the frequent disruptions to our online learning and cooperation attempts caused by an inconsistent internet connection.

### 0.2.2 Earlier Work

In the university we took multiple courses in the computer engineering department about algorithms, complexity and how to write a clean code, we also had a web and oop programming courses which are considered to be the base stones for learning any other programming language. Many projects were done in these courses so we had the chance to develop our programming skills as an introduction for this project. In addition we have learned online courses about Flutter, Firebase and MongoDB.

## 0.3 Literature review

We have seen some ideas similar to our application, but none of them were in Palestine, so what we wanted to do is to make this work inside our country as developing for the e-commerce field, and we wanted to make it easy on the users at the shopping and purchasing process.

Examples of the applications we have seen:

- 1- Fulfillment.com .
- 2- Makhazen .

## 0.4 Methodology

### 0.4.1 Technical choices

#### **Flutter:**

It's an open-source UI software development kit, made by Google. Flutter uses Dart programming language and it is used to create apps for multiple applications were developed by this software like Android, iOS, Linux, macOS, Windows, and the web from one codebase, Because it is cross-platform. developers are allowed in Flutter to build natively compiled applications with responsive and visually appealing interfaces. it makes the development process more efficient and intuitive, because it uses the dart programming language, gives rich set of pre-designed widgets. one of the best features of the Flutter is that it gives the "hot reload" functionality which allow the users to see the real-time changes without the need to restart the whole application. The reason Flutter is becoming more and more popular is because it can create high-performing applications that have a unified look and feel across several platforms [1].

#### **Firebase:**

It's a platform developed by Google, that offers a range of cloud-based services and tools to assist developers in creating and growing high-quality apps. It started off as a real-time database, It also provides a lot of services like cloud storage, hosting, authentication, machine learning, analytics and more other services. Developers are able to store and sync data across all clients in real-time with Firebase's real-time database and Firestore, which provide scalable NoSQL cloud databases. Moreover, Firebase Cloud Messaging and Firebase Authentication are integrated into the platform to handle user authentication and send notifications, respectively. Furthermore, Firebase offers strong analytics tools for monitoring app performance and user behavior. By

providing these services, Firebase hopes to make development easier, lessen the need for backend infrastructure, and free up developers' time to concentrate on producing interesting and superior user experiences. [2]

### **MongoDB:**

Popular document-oriented NoSQL database MongoDB is open-source and well-known for its performance, scalability, and flexibility. In contrast to conventional relational databases, MongoDB uses flexible documents that resemble JSON to store data, enabling hierarchical and dynamic data structures. Because of this, it is perfect for managing complicated data and changing application needs. Strong tools for data replication and high availability, extensive indexing choices, strong query capabilities, and horizontal scalability through sharding are some of the key characteristics. Because of its simplicity and adaptability, MongoDB is a popular option for contemporary applications such as real-time analytics, content management systems, and Internet of Things applications [3].

### **Node.js:**

An open-source, cross-platform runtime environment called Node.js allows JavaScript to be executed outside of a web browser. It is intended for scalable network applications that need real-time interactions, such as chat apps and online gaming, and is based on Google's V8 engine.

Because of its event-driven, non-blocking I/O approach, Node.js is effective at managing numerous connections at once and enhancing performance. By enabling code reuse and JavaScript usage on both the client and server sides, it streamlines development.

One component of its ecosystem is npm (Node Package Manager), which gives users access to a wide range of open-source modules and packages. Node.js is a popular choice for backend systems and modern web development because of its efficiency, speed, and scalability [4].

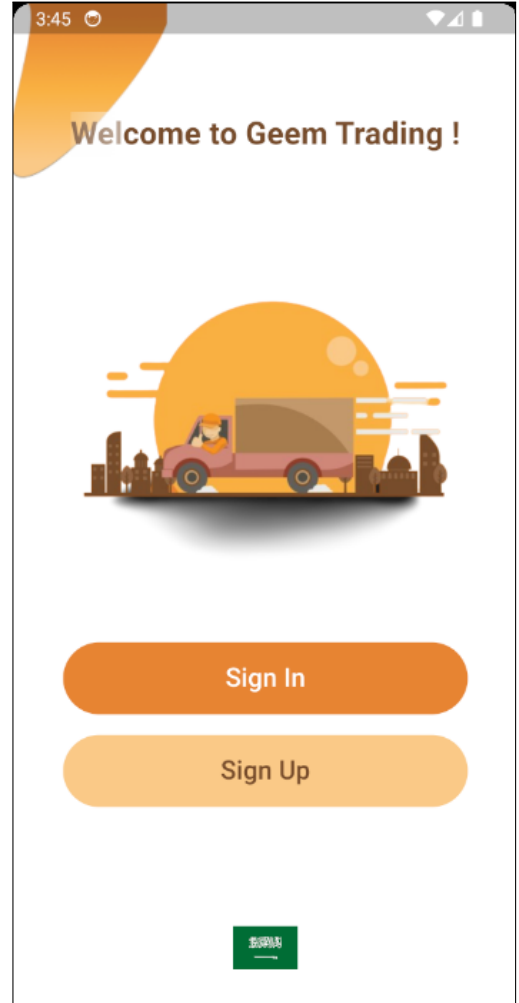
## **0.4.2 Components**

Every page in our project was done to be responsive, works on both mobile and desktop devices. We will talk about each page done with the details.

**Home Page:** This is the first page that is shown to everyone using our application, there is an icon of the green flag which will turn the whole application to be in Arabic, when the page is converted to Arabic this icon will turn into the American flag which represents English languages. From this page the users can go to the sign in or sign up pages and change the language of the application.

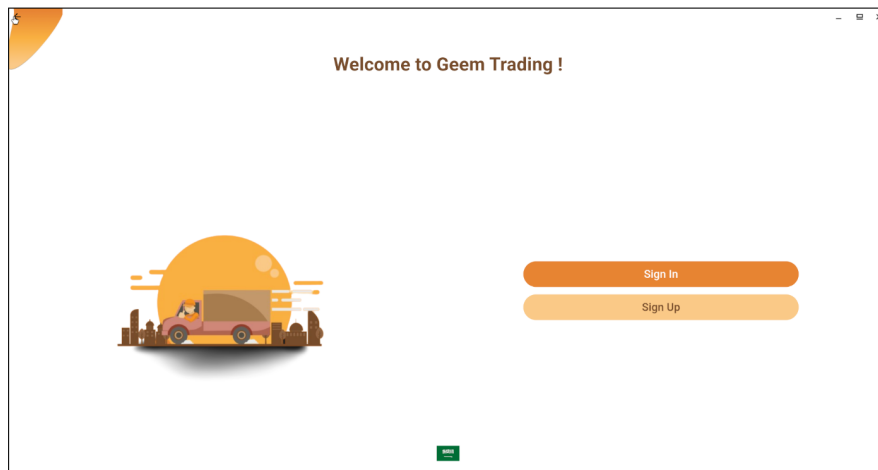


(a) Arabic Screen



(b) English Screen

Figure 1: Home Page For Mobile



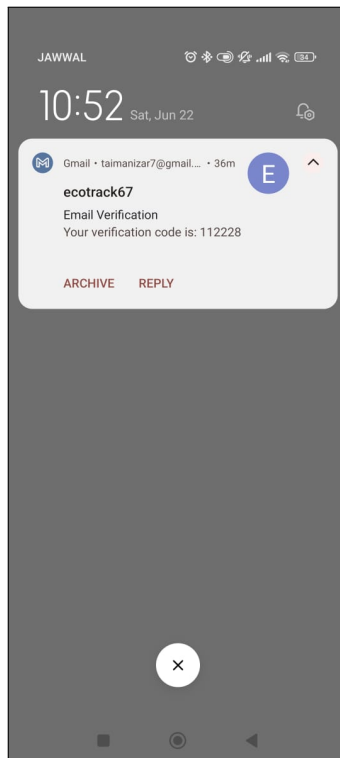
(a) Desktop Screen

Figure 2: Home Page For Desktop

**Sign Up Process:** The registration is needed if the users don't have accounts to sign in to start using our application. Users can be regular consumers or merchants, they can register by choosing names, valid emails, passwords and they have to choose the user type which represents their identity in the application, The user will have the ability to switch between the merchant and consumer interfaces, making this their primary option. but in the employee case, they take their emails and passwords ready from their merchants. After signing up a verification code is sent to their emails, which the registration is not completed without it. if the verification code was right, the user will be taken to the sign in page to continue to the application with the new account.



(a) Sign Up Page

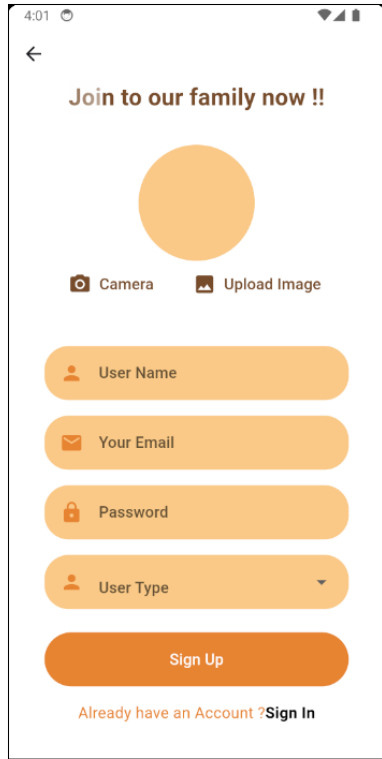


(b) Verification Code

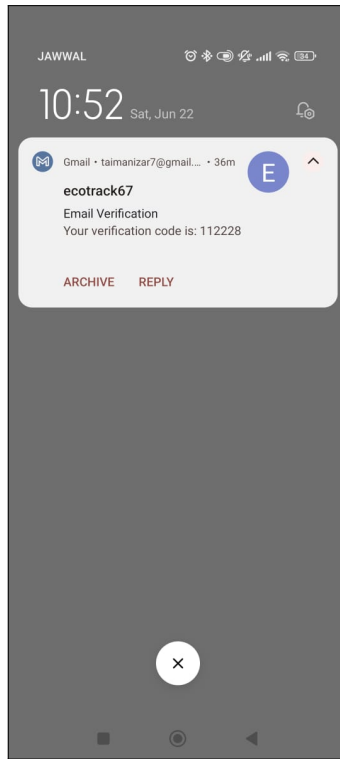


(c) Verification Code Page

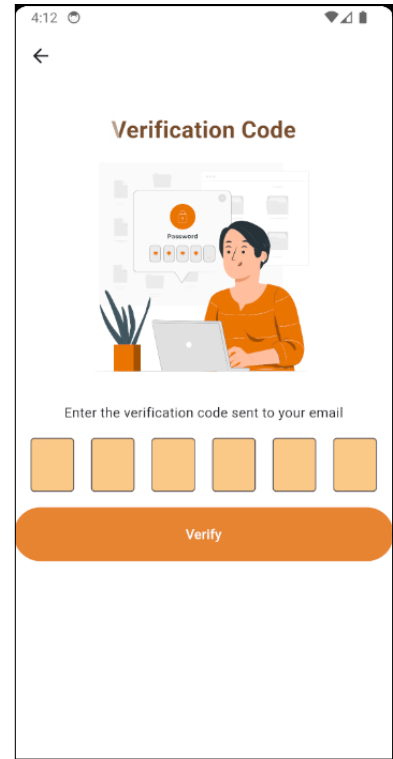
Figure 3: Arabic Sign Up Process For Mobile



(a) Sign Up Page

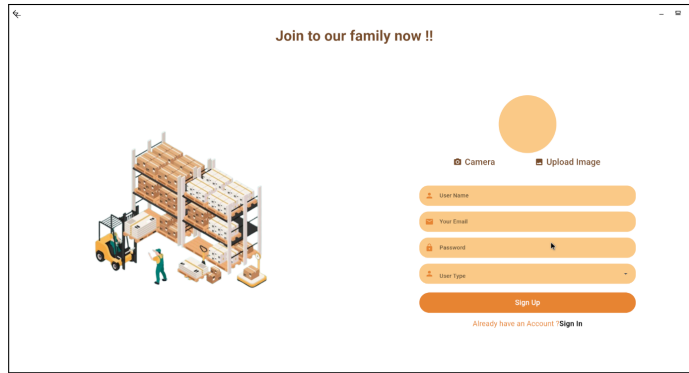


(b) Verification Code

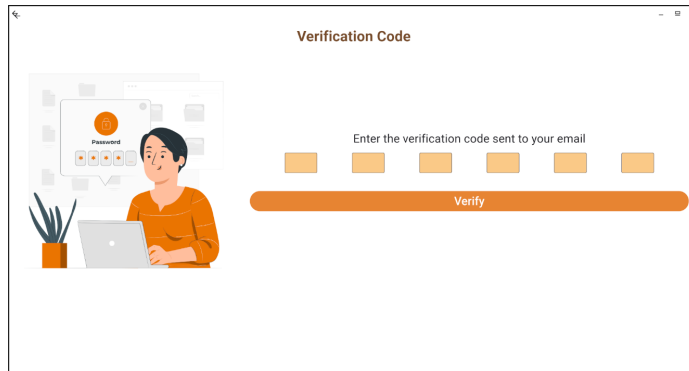


(c) Verification Code Page

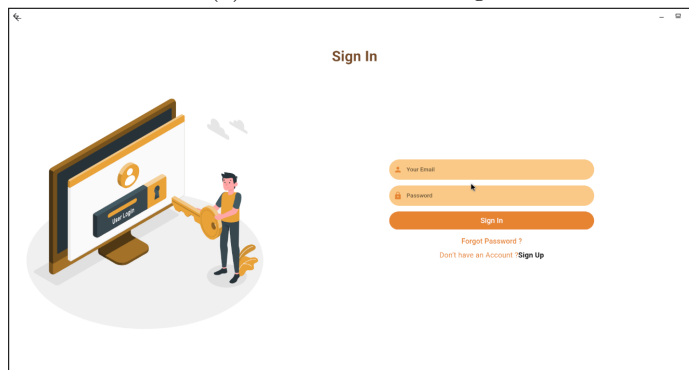
Figure 4: English Sign Up Process For Mobile



(a) Sign Up Page



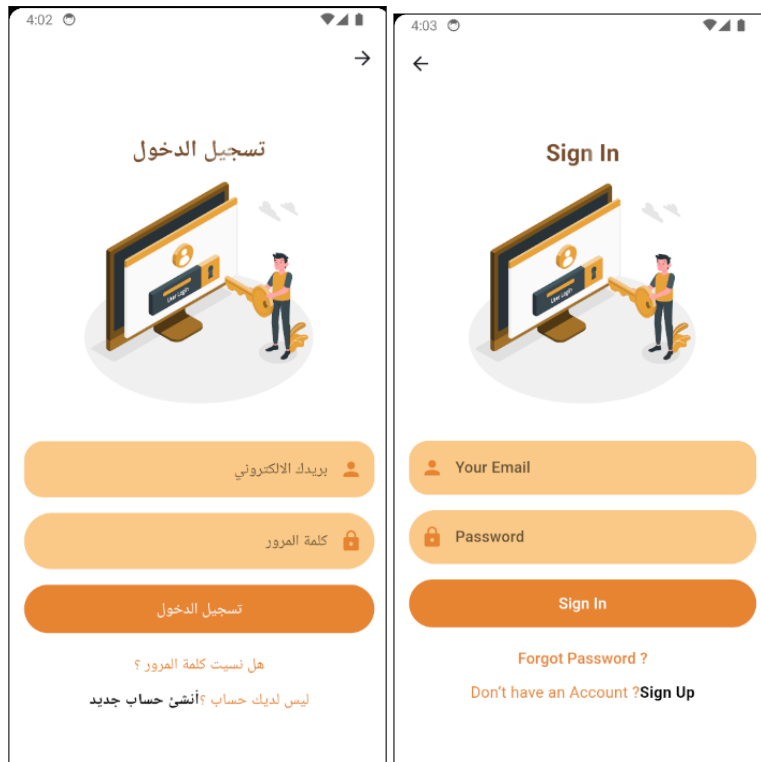
(b) Verification Code Page



(c) Sign In Screen

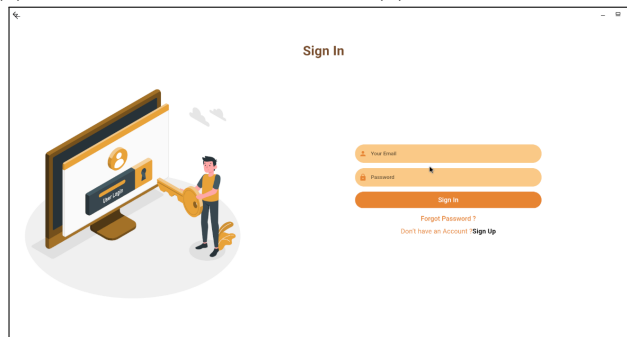
Figure 5: Sign Up Process For Desktop

**Sign In Pages:** After creating the account, this page will be shown to the users and they can sign in using their emails and passwords only. and the page that will appear after the sign in depends on the user type stored in the system.knowing that the merchant inside the app they can switch between consumers and merchants.



(a) Arabic Mobile Screen

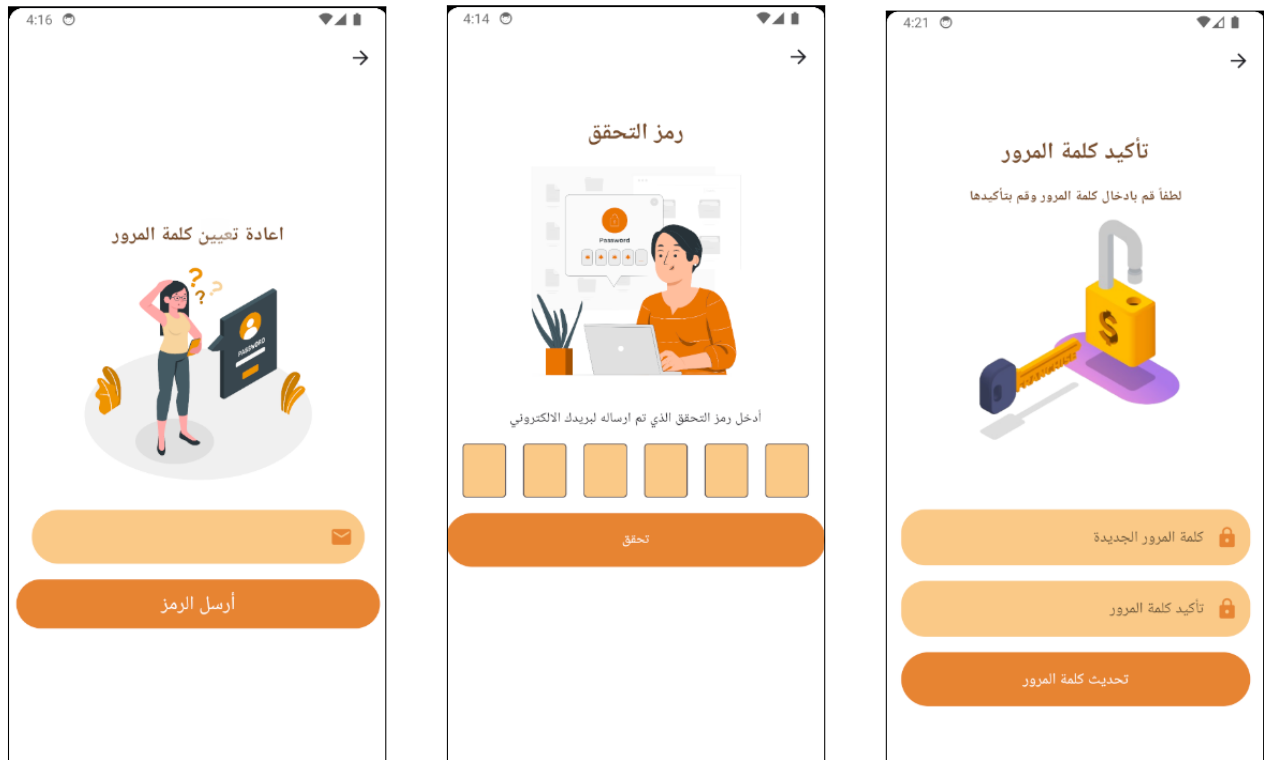
(b) English Mobile Screen



(c) Desktop Screen

Figure 6: Sign In Page

If the users forgot the password they can reset it and put new one, after click on forget password text button, they should enter the email of their accounts, after that a code will be sent to their emails, the reset page will only appear when the code is written right, after that the user can put a new password to start using it instead of the old one.

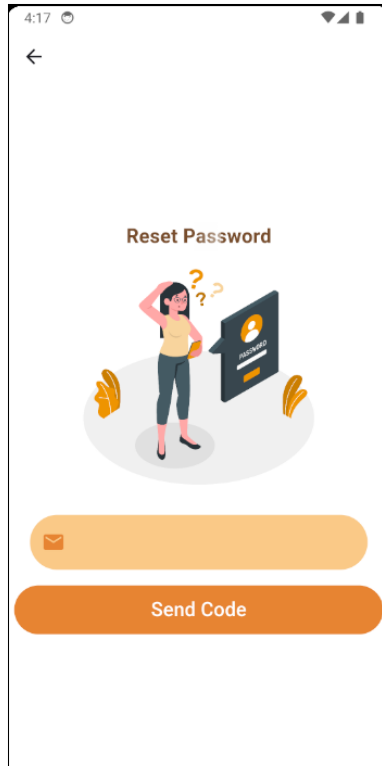


(a) Reset Password Page

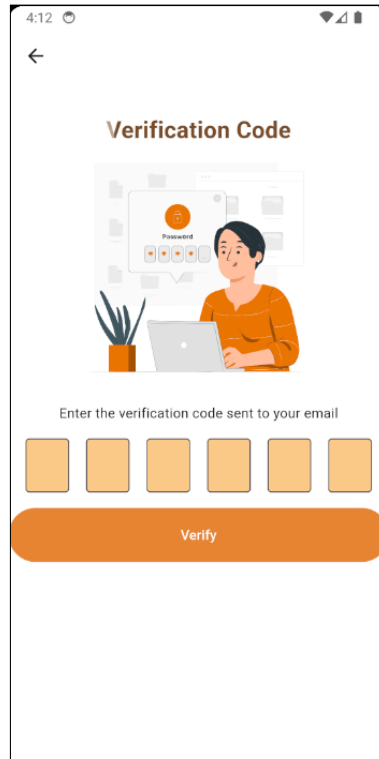
(b) Verification Code Page

(c) Confirm Password Page

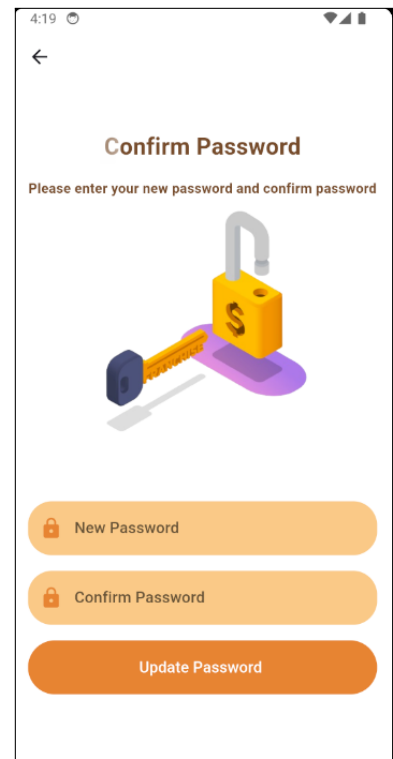
Figure 7: Arabic Forgot Password Process For Mobile



(a) Reset Password Page

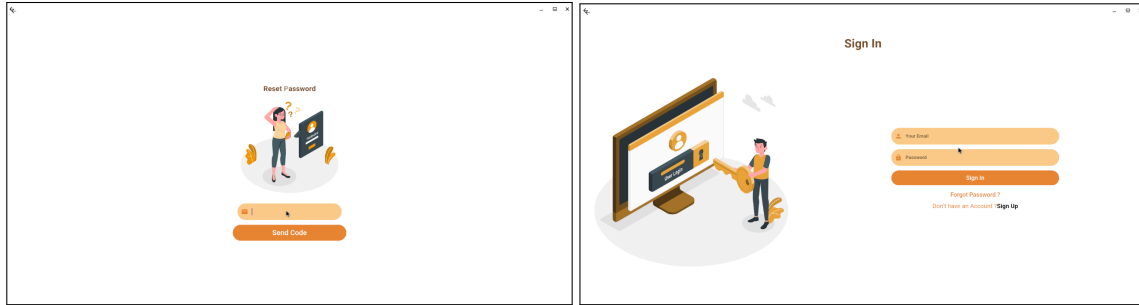


(b) Verification Code Page



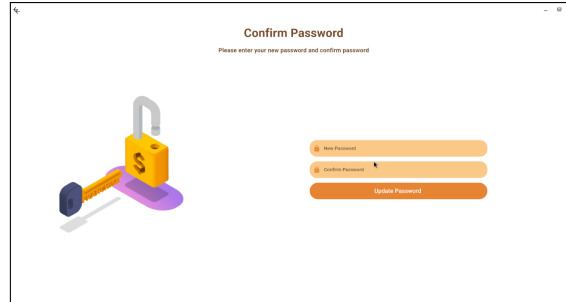
(c) Confirm Password Page

Figure 8: English Forgot Password Process For Mobile



(a) Reset Password Page

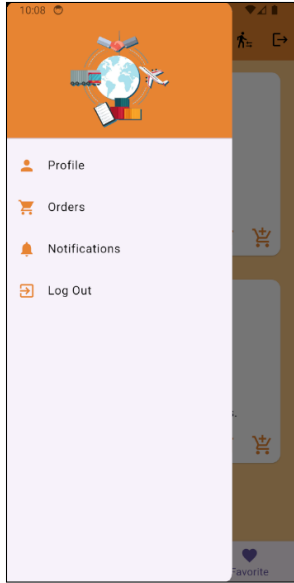
(b) Verification Code Page



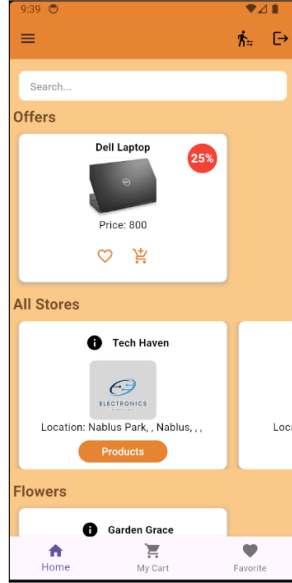
(c) Confirm Password Page

Figure 9: English Forgot Password Process For Desktop

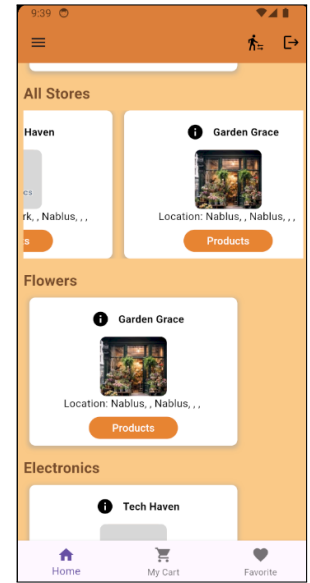
**Customer Pages:** The customer has a sidebar page having multiple pages and a bottom bar having three pages. First let's talk about the bottom bar pages, this consists of three pages, the first one that appears to the customer after signing in is the Home page which has all the warehouses of the merchants using our application. As shown in the figure below, the first thing that appears in the page is the products that have offers from different warehouses, then we can see that the stores are arranged in the page according to their category, Also the customer can search for any store they want using the search bar in the top of the page by typing the name of the store. The customer can see a general view of each warehouse, this will be done by pressing on the info icon above the name of each store. If the customers wanted to see the store's products they can press on the product button and see all the products inside it.



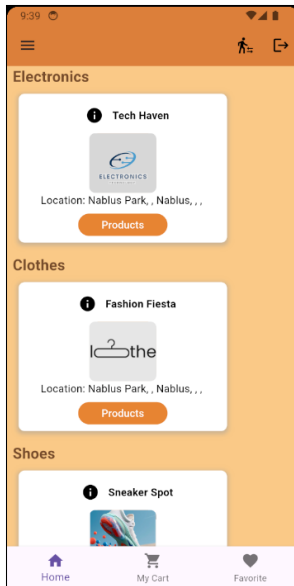
(a) Sidebar Page



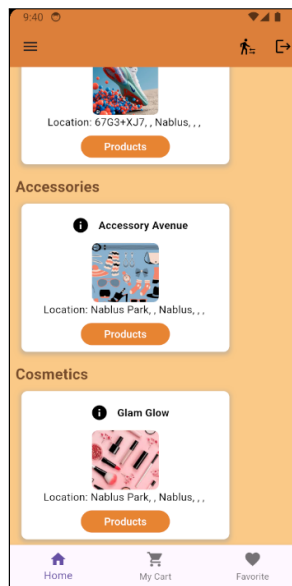
(b) Home Page



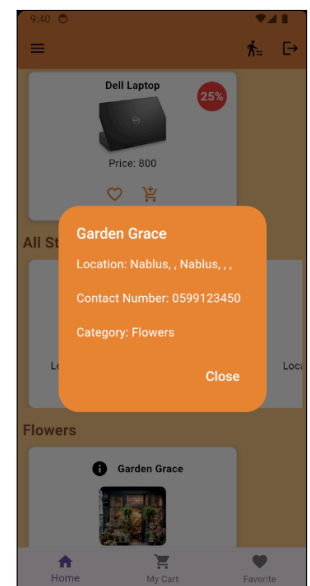
(c) Home Page



(d) Home Page



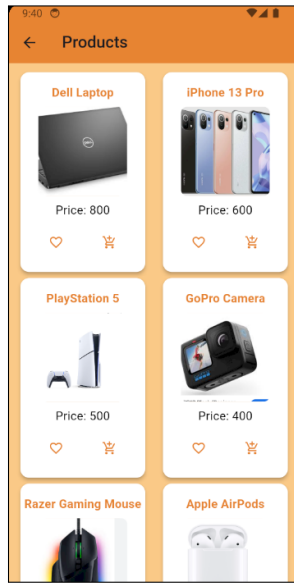
(e) Home Page



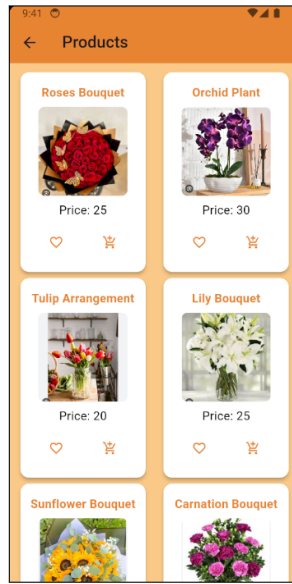
(f) Stores Details

Figure 10: Customer Pages

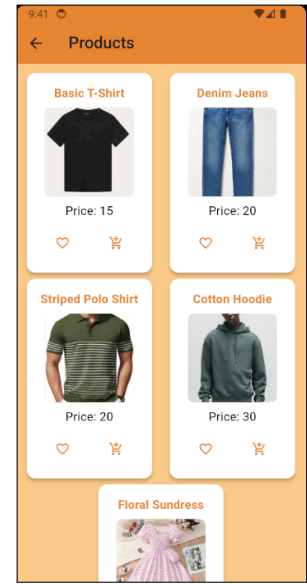
The figure below shows different stores' products.



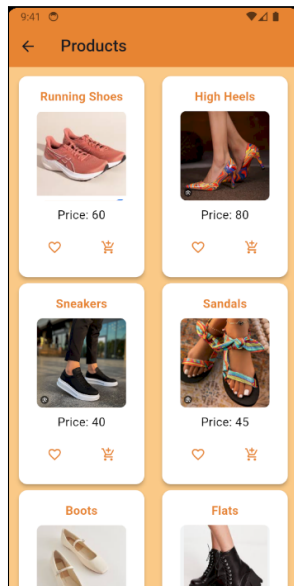
(a) Electronics Store



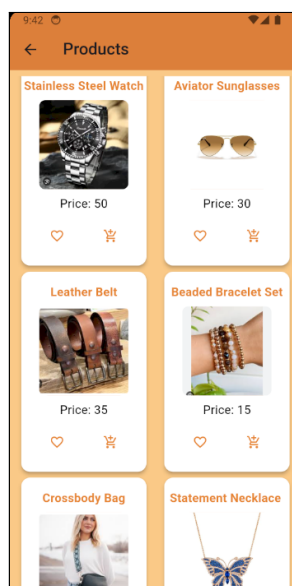
(b) Flower Store



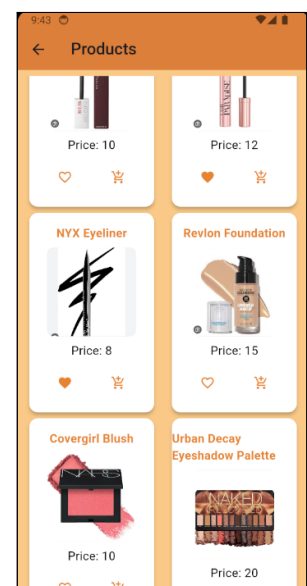
(c) Cloths Store



(d) Shoes Store



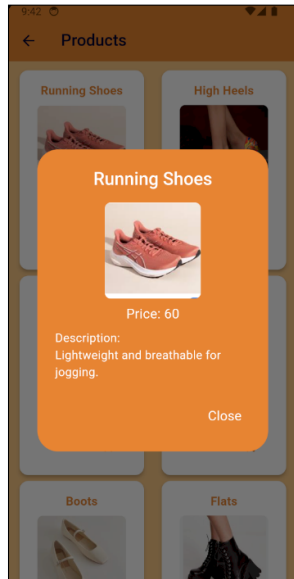
(e) Accessories Store



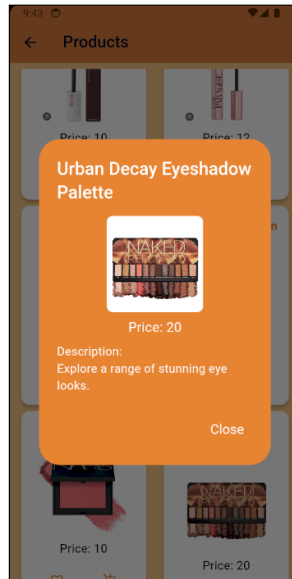
(f) Cosmetics Store

Figure 11: Store's Products

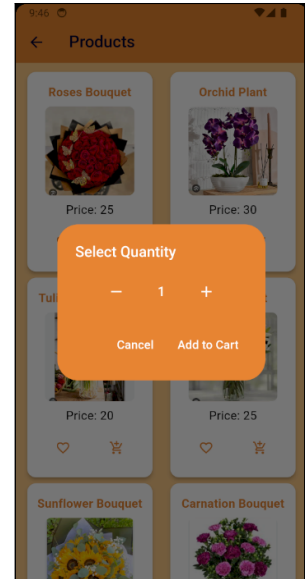
When pressing on the product card, we can see its details so the customers can see an overview of the product. If the customers like it, they can tap on the heart icon to save it as a favourite product so they can buy it frequently or they can tap on the shopping cart icon to save it to their shopping cart to make their order, and before they add it to the cart, a dialog box appears to choose the quantity of the wanted product. On the Favorite page, the customer can add the product to the shopping cart or delete it. There is also a delete option on the cart page and the customer can change the quantity of the product on this page.



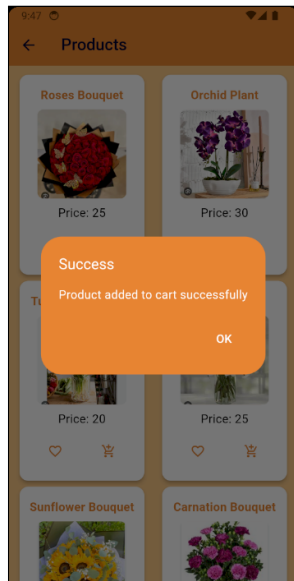
(a) Products Details



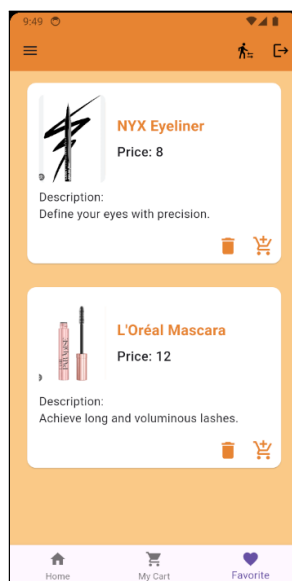
(b) Products Details



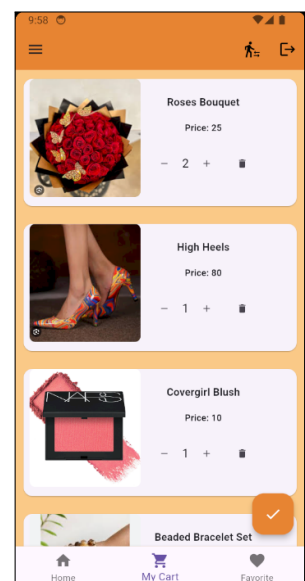
(c) Add to Cart



(d) Add to Cart



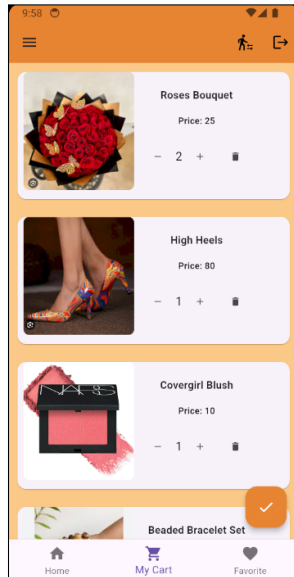
(e) Favourite Products



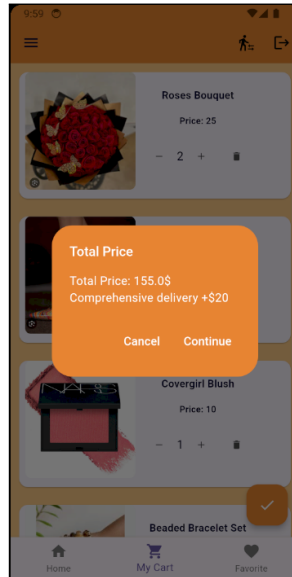
(f) Cart Page

Figure 12: customer Pages

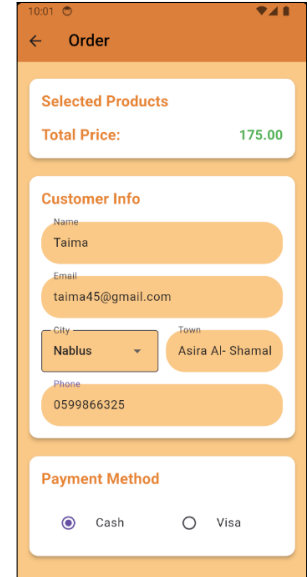
When customers finish the shopping, if they wanted to place an order, they need to go to the cart page in the bottom bar that contains all the products they wish to purchase. At first they have to press on the check button located in the lower corner of the cart page, which shows a dialog box if they want to continue or not, with total price of the order and the delivery price. When pressing on continue option, the order page appears, which contains the total price and customer information that must be added by the customer, so we can provide these information to the delivery company. It also contains the payment method, if the customer chooses to pay cash, the payment will be done after the order arrives their place, and if the payment is visa, they need to add the visa card information so it can be done from the bank. After entering the required information, the customer presses on the order button to complete it. After clicking this button, a dialog box shown to the customers if they want to keep their shopping cart after ordering or delete it after completing the order. When the order is completed, the feedback dialog appears to the customer to give rating and adding notes about our application, and that helps us in developing our application depends on their opinions.



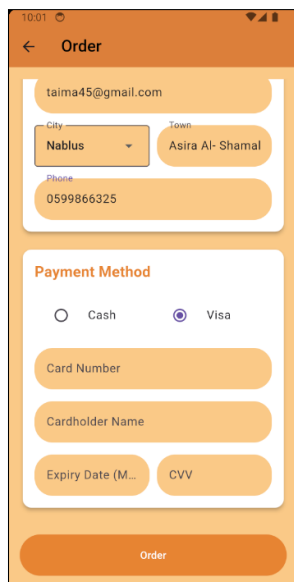
(a) Cart Page



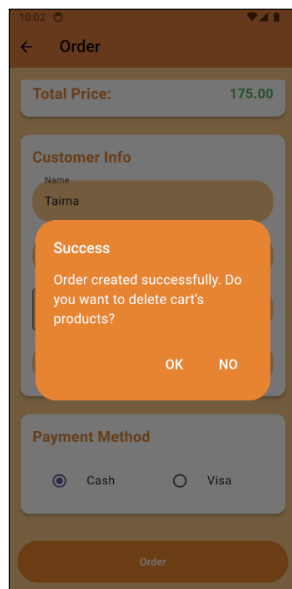
(b) Continue To Order



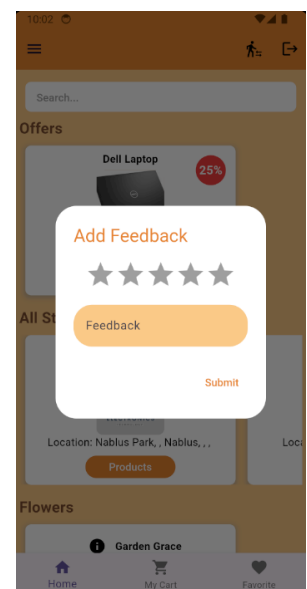
(c) Add Customer Info



(d) Payment Method



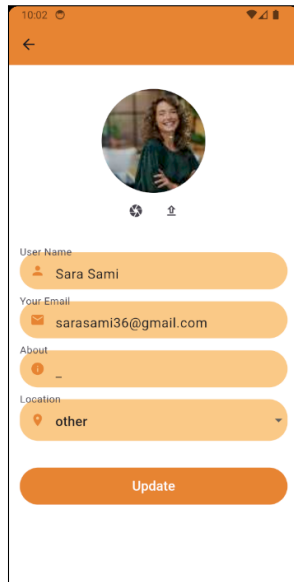
(e) Submit Order



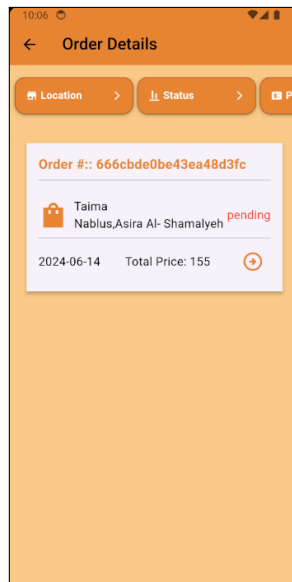
(f) Add Feedback

Figure 13: Order Process

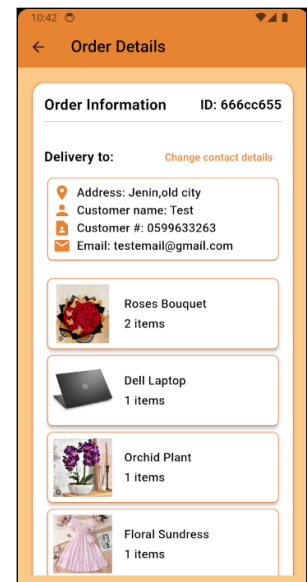
**Customer Sidebar Pages:** From the sidebar, customers can see their profiles, the orders they have made, and the notifications they've received. They can search their orders by using multiple filters, see the details of each order like the contact information, total price, order status, date of order, and the chosen products, Also they can change the customer delivery information if the order is still pending.



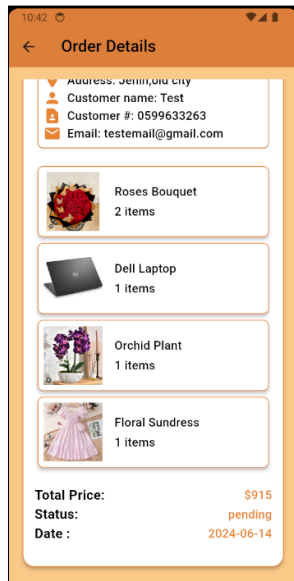
(a) Customer Profile



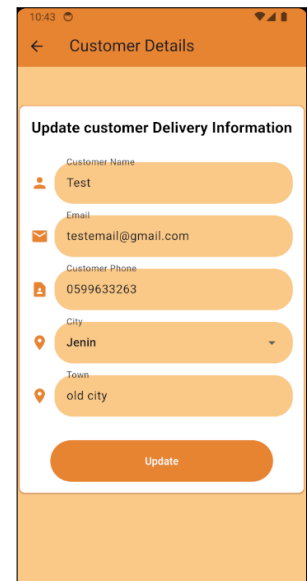
(b) Orders Page



(c) Order Details



(d) Order Details



(e) Modify Delivery Info

Figure 14: Order Process

**Customer Notifications:** Customers will receive notifications every time they submit their order, when their order status changes so they can be updated about it, and when a merchant deletes their order if there are any issues with contact details.

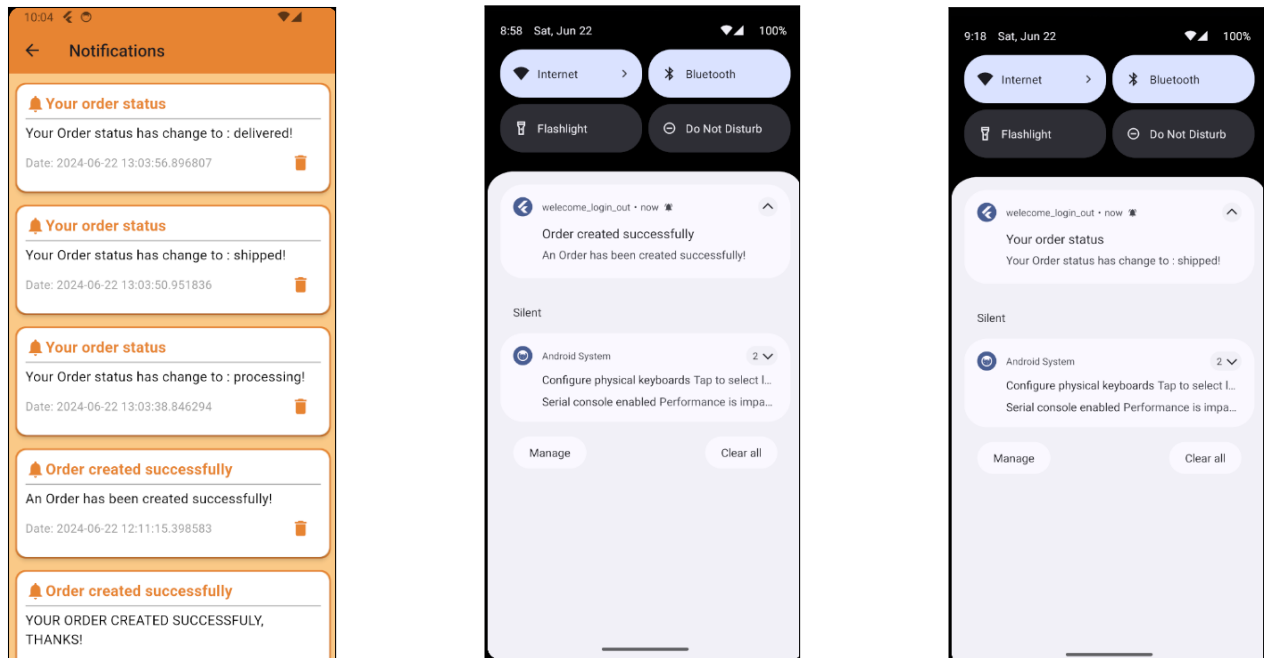
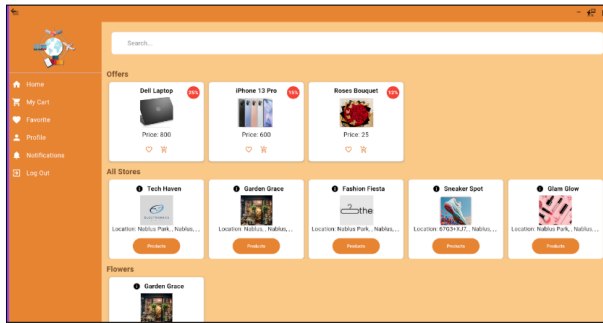
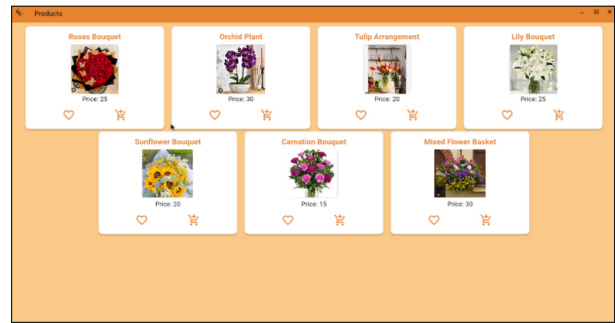


Figure 15: Notifications For Customer

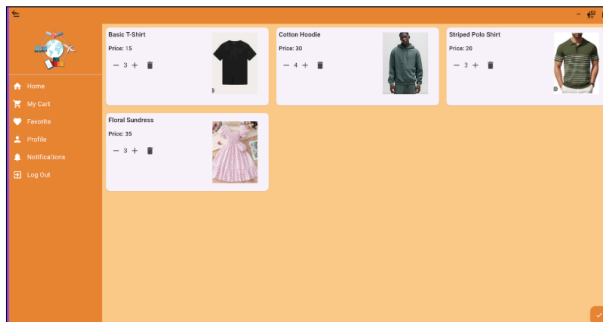
## Customer Pages As Desktop:



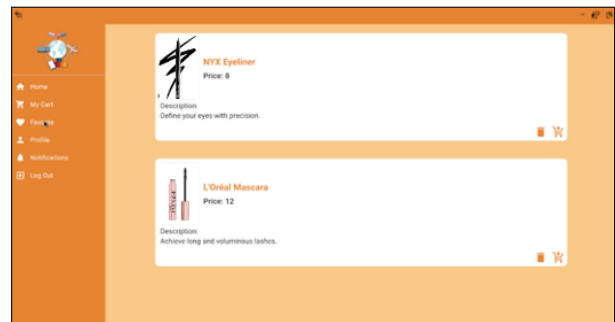
(a) Home Page



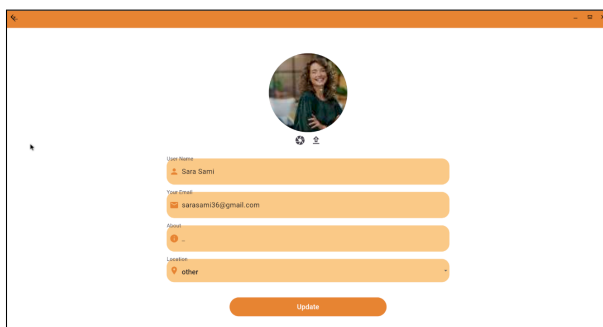
(b) Store's Products



(c) Cart's Products



(d) Favorite Products



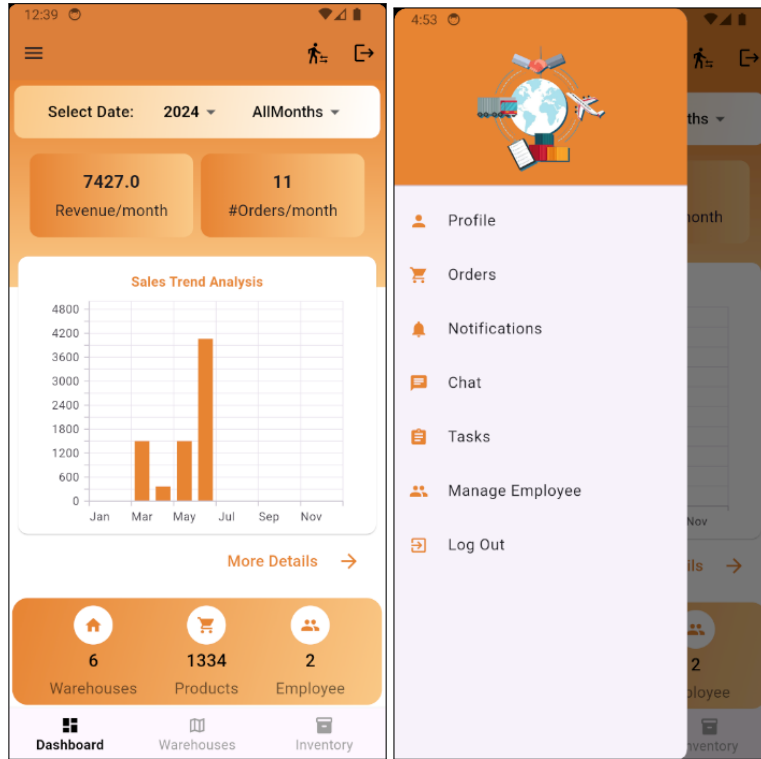
(e) Customer Profile



(f) Customer Notifications

Figure 16: Customer Pages In Desktop

**Merchant Pages:** When the merchants sign in to the application, the home page of the merchant will appear which consists of a sidebar and bottom bar. The bottom bar contains the most important features, which are the Dashboard which is the first page that will appear after signing in, the second is the warehouses, and finally the inventory. the sidebar as shown in the figure below, it has other pages to make it easy for the merchants to manage their warehouses. We will talk about each one in detail later.



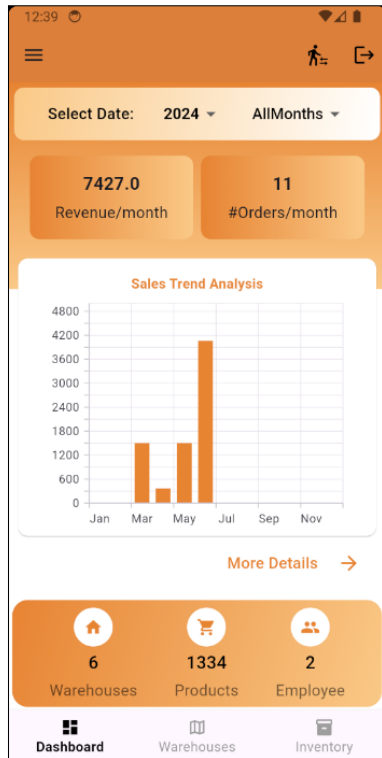
(a) Merchant Dashboard Page

(b) Sidebar For Merchant

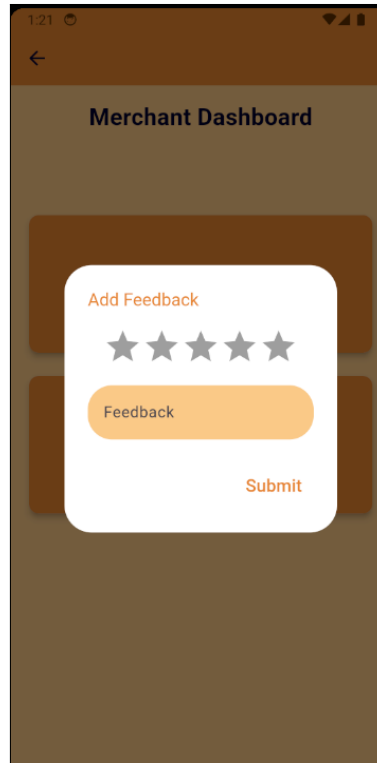
Figure 17: Merchant Pages

**Dashboard Pages:** This page displays the merchant’s revenue and the number of orders during the chosen year and month. It includes a chart that visualizes revenue over the given year, broken down by months. This helps the merchant know the extent to which his business is developing or declining in any given month. There is also a section that displays the number of warehouses the merchant owns, the products held in those warehouses, and the total number of employees.

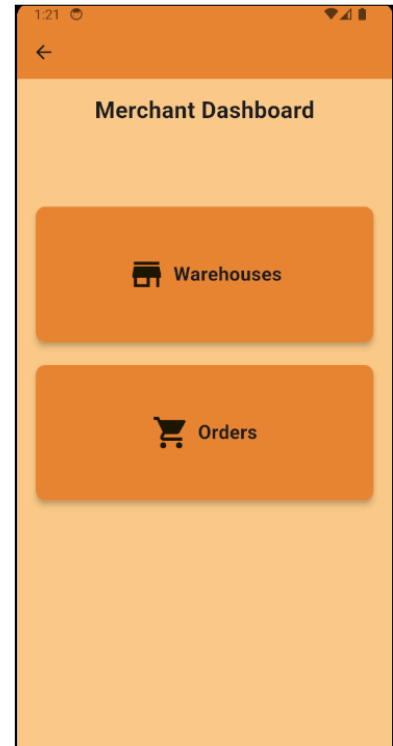
When the merchants click on "more details", a feedback dialog box appears above of the dashboard page with two choices (warehouses, orders), They can provide feedback about the app, which we use to make future improvements. If the merchants ignore the dialog, it will disappear temporarily, but if they exit and tap on "more details" later, it will appear again, until they add one. After they finish providing feedback, the page containing the two choices will appear.



(a) Merchant Dashboard Page



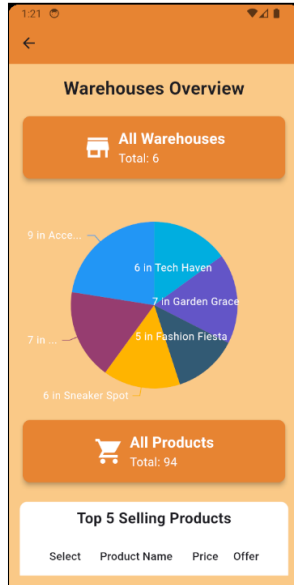
(b) Feedback Page



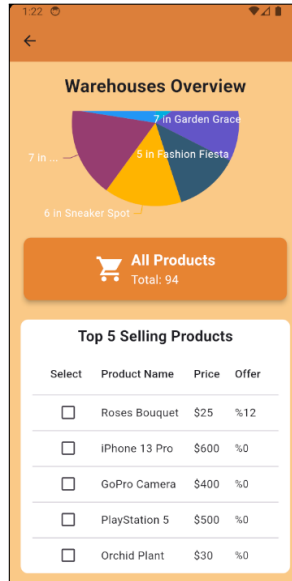
(c) More Details Page

Figure 18: Merchant Dashboard

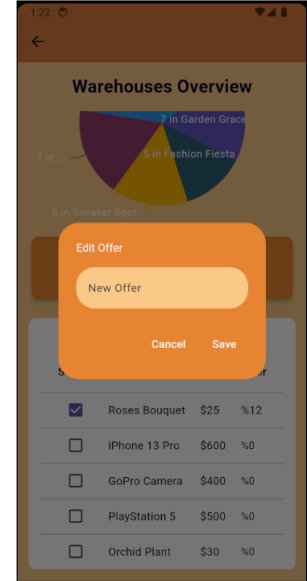
If the merchants press on warehouses, the following pages will appear, in this page the merchants can see an overview of warehouses and products that they own and they can view the 5 best-selling products, through which we help the merchant choose the best products to place offers on, so the merchant can add an offer to any of these products to encourage customers to buy and make more profits from it. This feature reflects the importance of the application in making decisions related to business success. Later, they can see the offers on the inventory page, from the edit icon they can edit or delete the offers.



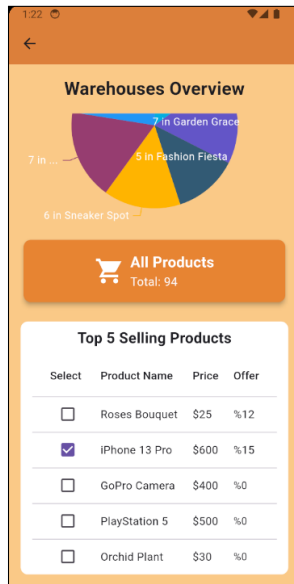
(a) Warehouses Overview



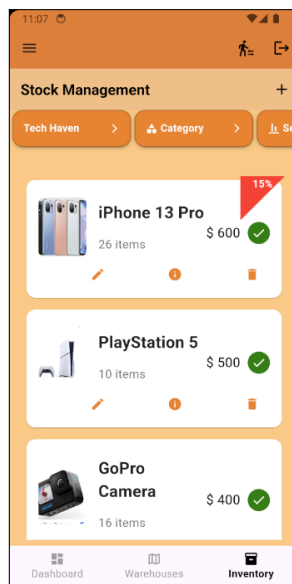
(b) Warehouses Overview



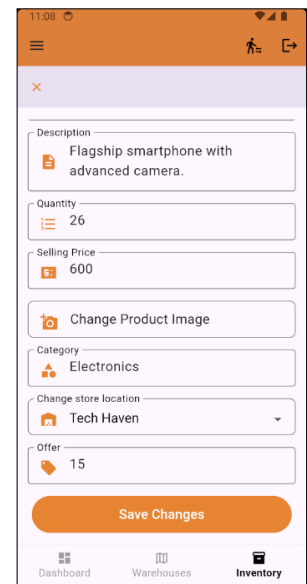
(c) Add New Offer



(d) New Offer Added



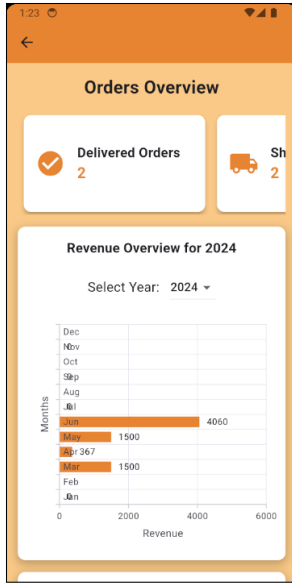
(e) Product After Offer



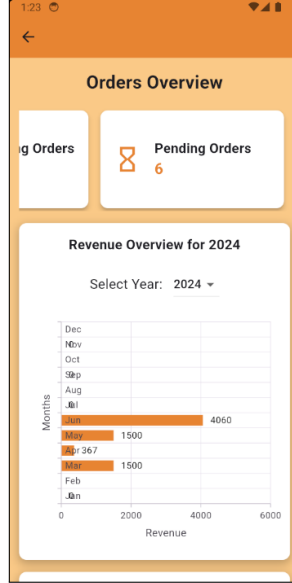
(f) Edit Or Remove Offer

Figure 19: Warehouses Overview in Merchant Dashboard

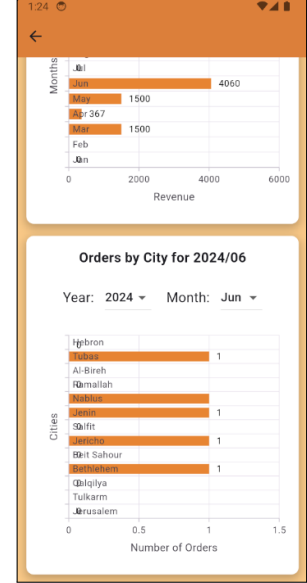
When the merchants press on the orders the following pages will appear, which shows the number of orders in each order status and two charts, the first one shows the revenue in each month, and it has a filter so the merchant can see revenue in certain year. The second chart shows the number of orders in each city and by the filter, the merchants can choose the year and the month, so that they can know the city in which their products are most in demand to decide how to create their marketing campaigns. When clicking on the cards located on the top of the page, the merchants will go to the order details page, which shows the all the orders having the same status of the pressed card with filters and search bar to search for certain order.



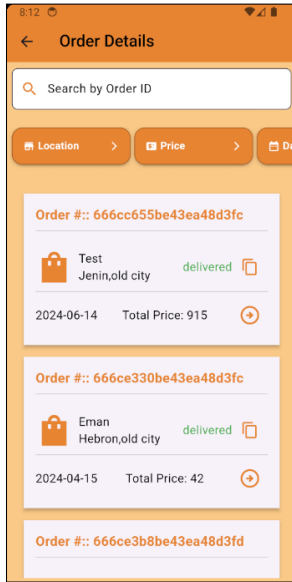
(a) Orders Overview



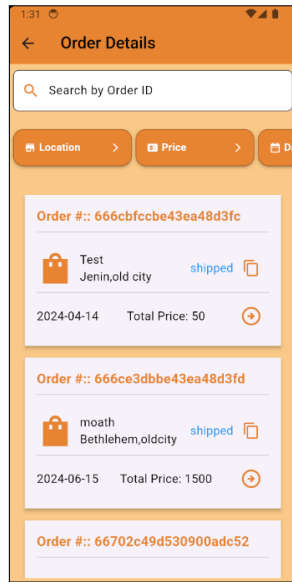
(b) Orders Overview



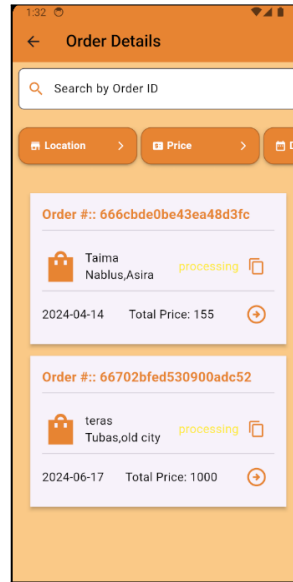
(c) Orders Overview



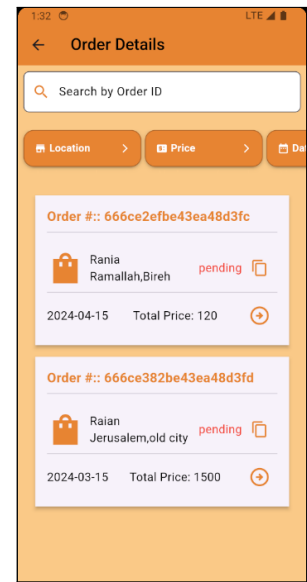
(d) When Click On Delivered Card



(e) When Click On Shipped Card



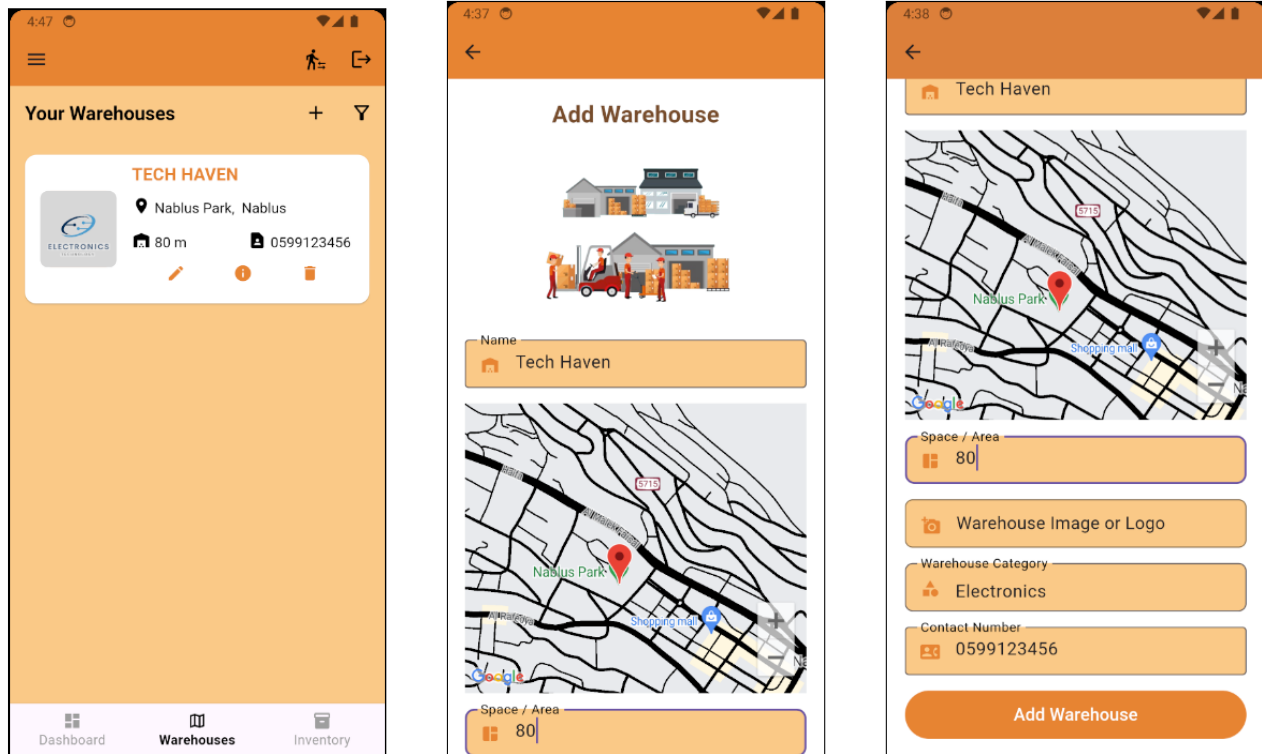
(f) When Click On Processing Card



(g) When Click On Pending Card

Figure 20: Orders Overview in Merchant Dashboard

**Warehouses Process:** When pressing on the warehouses button on the bottom bar, the warehouses page will appear, this page has all the warehouses added to our application by the merchant, the merchant can add, delete, and edit any warehouse they have. as we can see in image a in the figure below, there is a “+” icon on the top of the page, which is add warehouse, this icon will take you to the add warehouse page in the figure 21-b, here you can add one with the details (warehouse name, location, area, contact number, image or logo, warehouse category), and the warehouse will be immediately added to the system by clicking the Add Warehouse button. The second icon next to the adding is the warehouse filter, if the merchants has



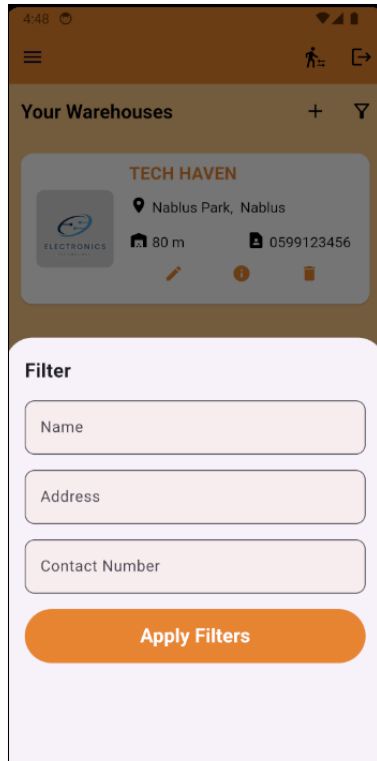
(a) Merchant Warehouses Page

(b) Add Warehouse Page

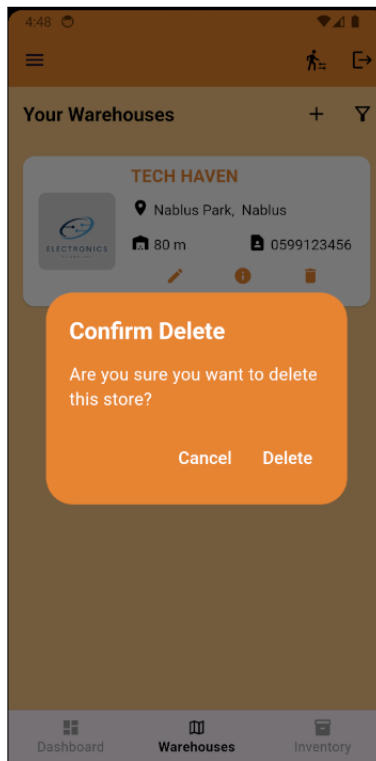
(c) Add Warehouse Page

Figure 21: Add Warehouse Process

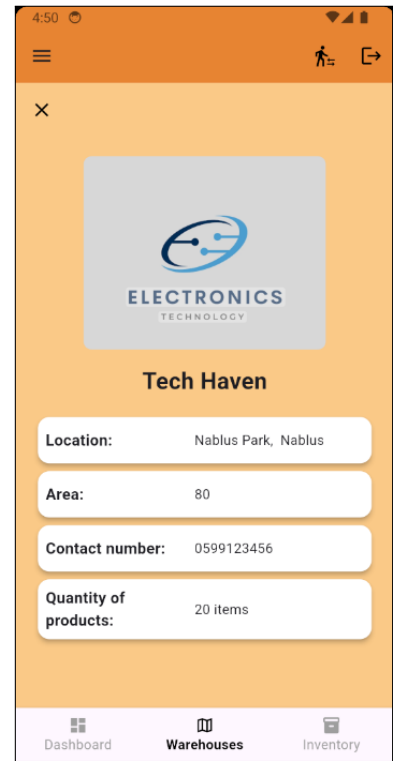
multiple warehouses, they can search on the wanted warehouse, by the name, address and contact number as shown below. If the merchants want to delete any warehouse, they can do it by pressing on the deleting icon on the warehouse card. The merchants can look for the details of any warehouse, they can just press on the information icon next to the deletion icon.



(a) Filter Page



(b) Delete Warehouse



(c) Warehouse Details Page

Figure 22: Warehouse Process

If the merchants want to edit the details for any warehouse, they can press on the edit icon for the desired warehouse, this icon will take the merchants to the page below. by pressing the save changes button the new details will be saved in the system.

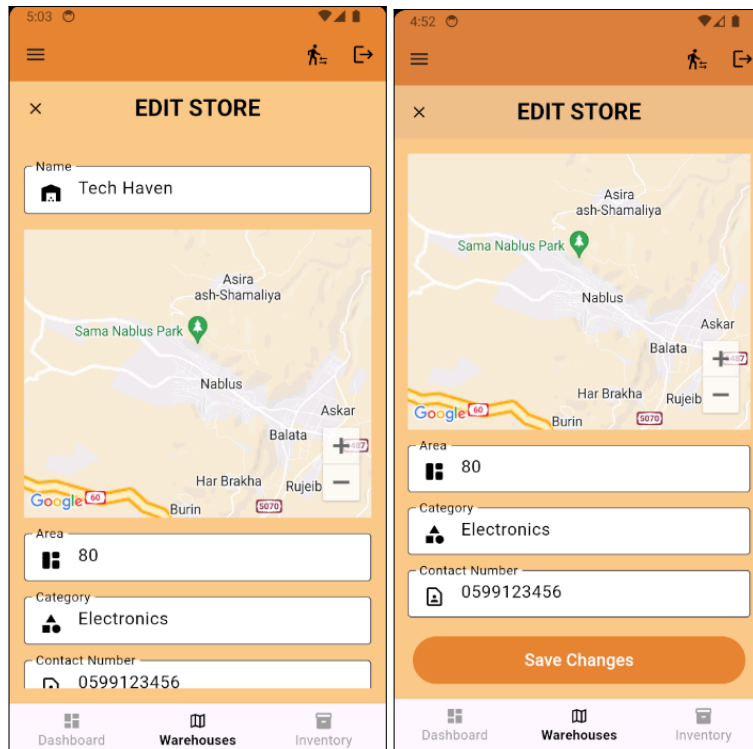
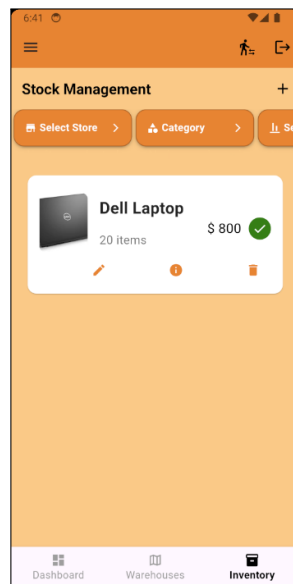


Figure 23: Edit Warehouse Pages

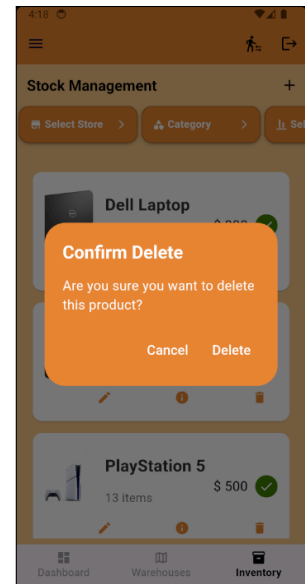
**Inventory Process:** On the inventory page, merchants can see all products, add, delete and update any product they want. They can add products from the "+" icon at the top of the page and enter all the details about the product (product name, description, category, selling price, quantity, image, and warehouse name that contains the product). Merchants can also search for any product using multiple filters such as warehouse name, category, condition, quantity, and selling price as shown in the figure below. They can delete products for any reason from the delete icon, from the information icon they can show the details of each product, and finally they can update any details about the product.



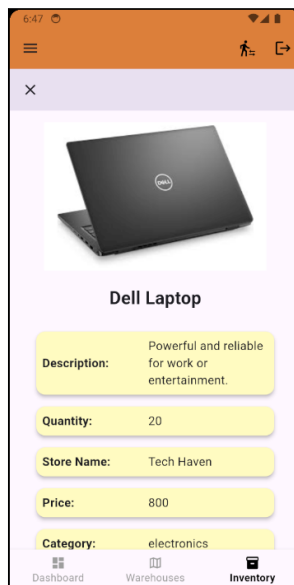
(a) Add Product Page



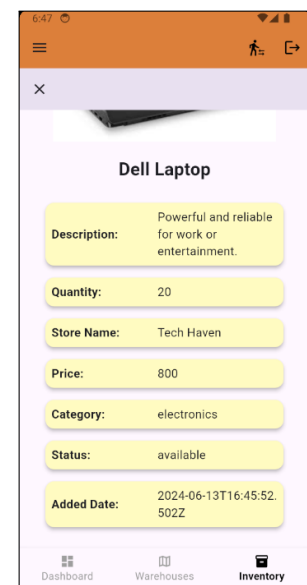
(b) Inventory Page



(c) Delete Product



(d) Product Details



(e) More Product Details

Figure 24: Inventory Process

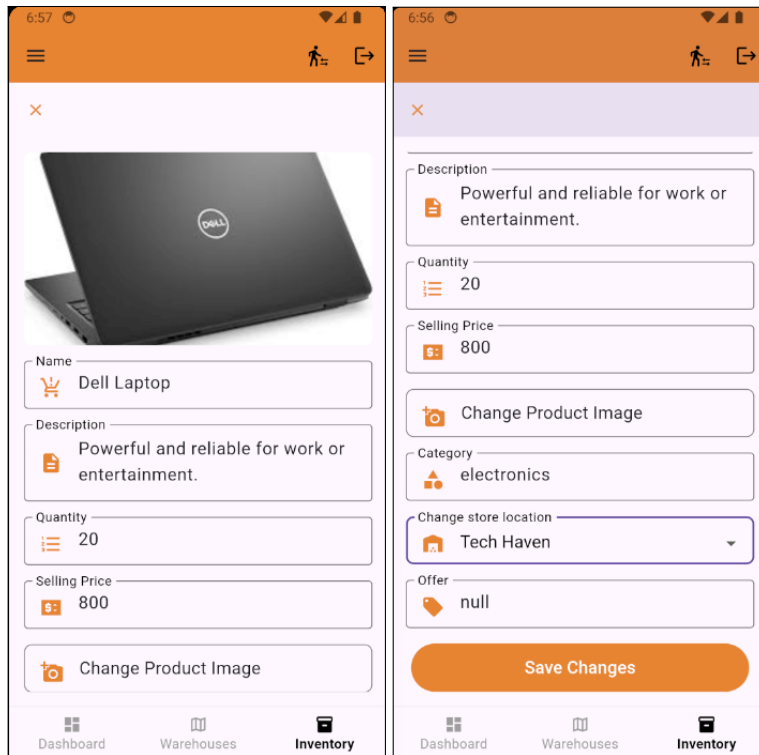


Figure 25: Edit Products Page

Now we will talk about the sidebar pages for the merchant:

**Profile:** The profile page shows the all the personal information for the merchants like the name, email, about and location. They can update any information and save the changes by pressing on the update button.

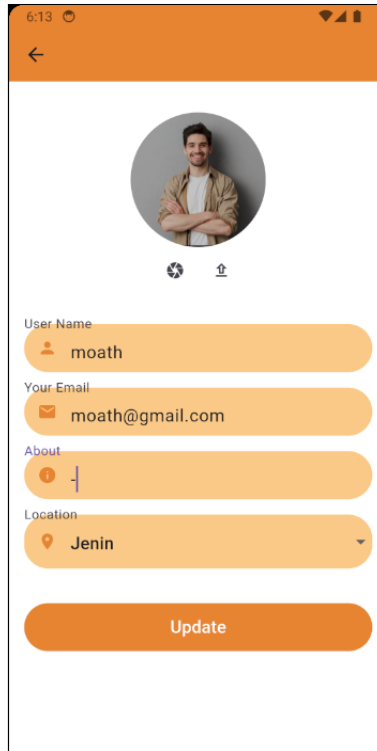
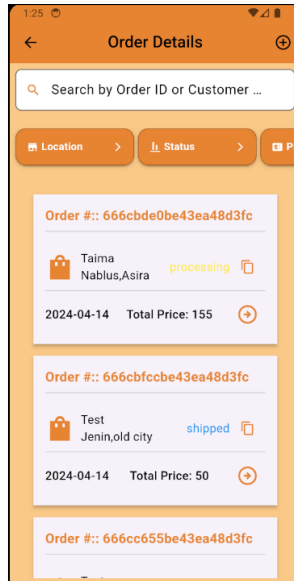
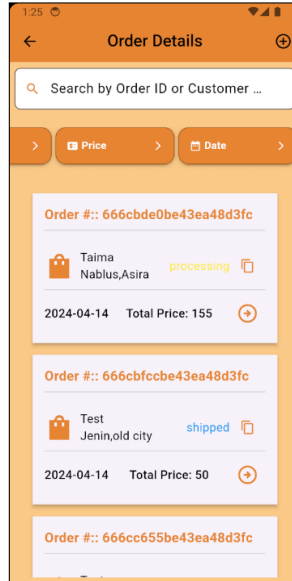


Figure 26: Merchant Profile Page

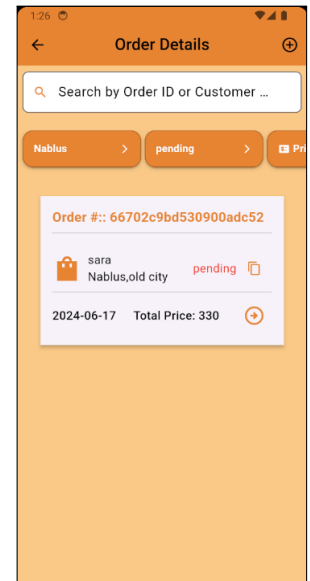
**Orders:** Merchants can see all the orders for all customers that have products in their orders from the merchants warehouses, they can search on any order using order id or customer name and different filters like location, status, total price and the date, Also they can change order's status and delete the order if there is any issue in the contact details and the order is still pending because of this issue as. From here, the customers will be notified of the status of their orders.



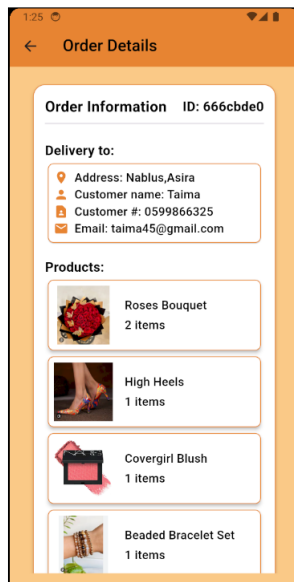
(a) Orders Page



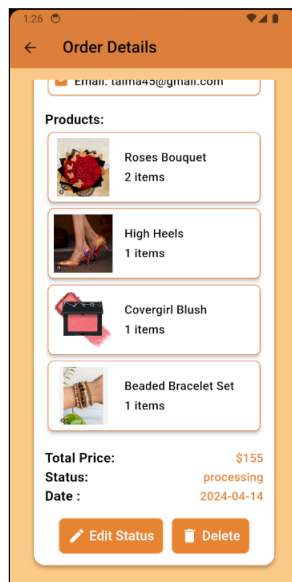
(b) Orders Page



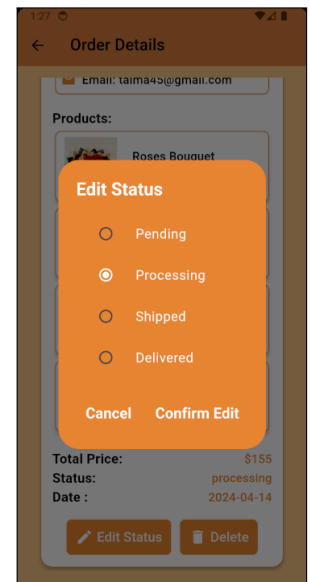
(c) Apply filter



(d) Order Details



(e) Order Details



(f) Modify status

Figure 27: Merchant's Orders Page

**Notifications:** Merchants will get notifications when they add, delete and update a product or warehouse as shown below:

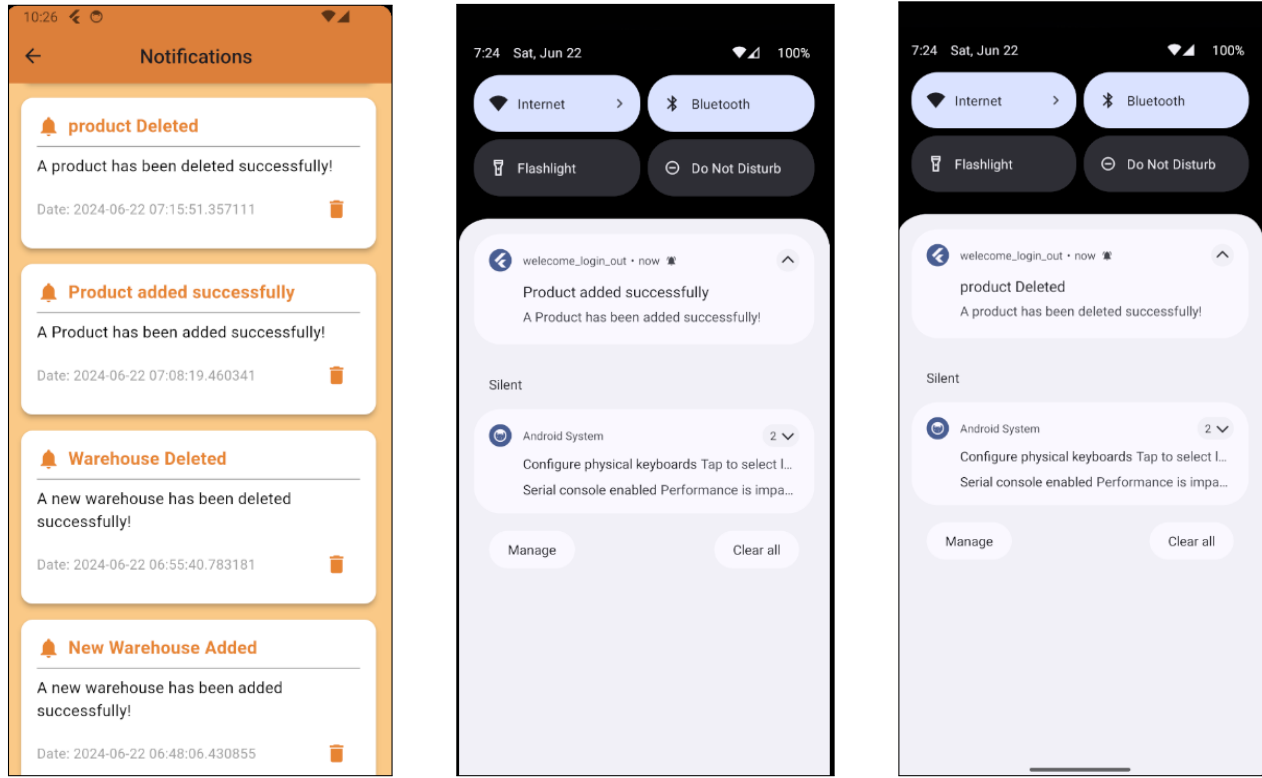


Figure 28: Notifications For Merchant

**Chat:** The chat system is between merchants with admins and their employees. Only the users that the merchant spoken to, will appear in the home chat. If merchant would like to talk to someone else, they can start a new chat using the button located in the lower corner. All users that merchants can contact with, will appear on the page, and the merchant can search for the desired user name.

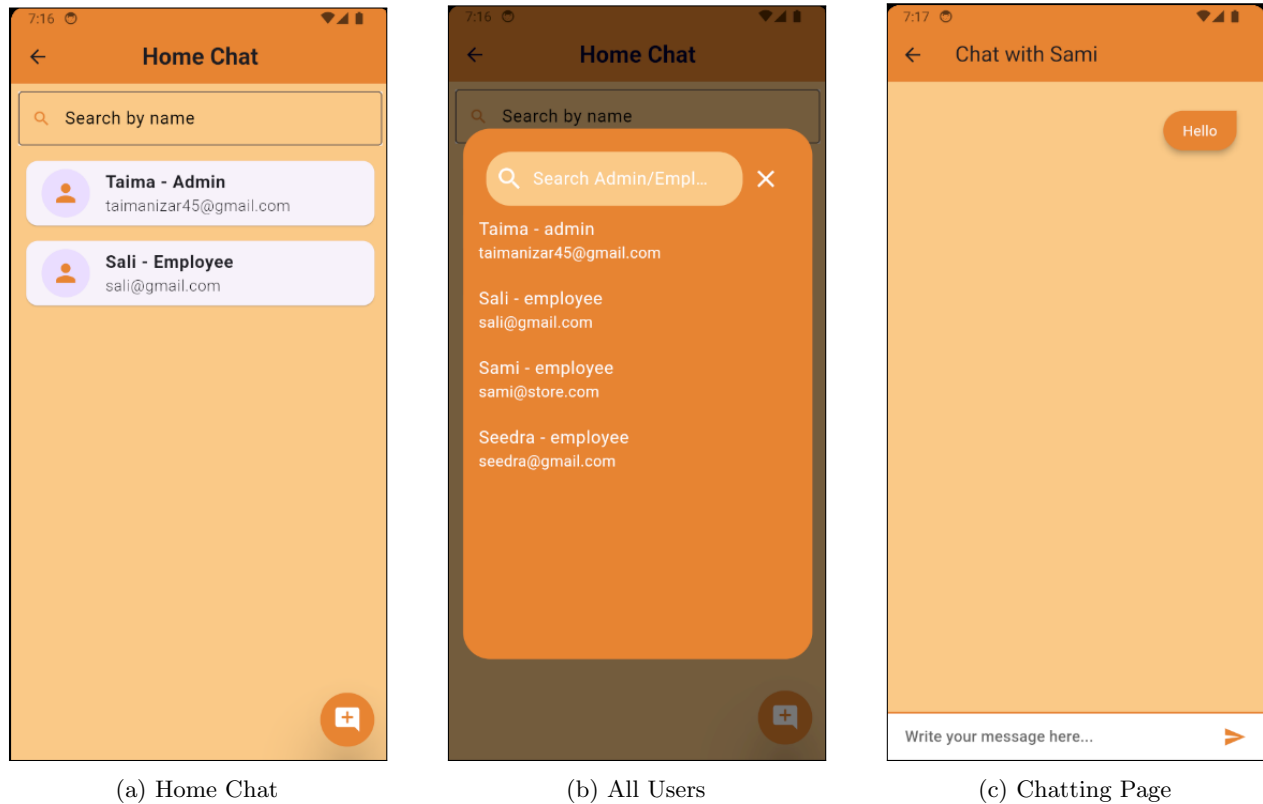
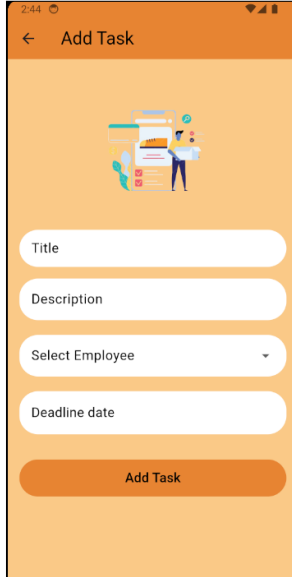
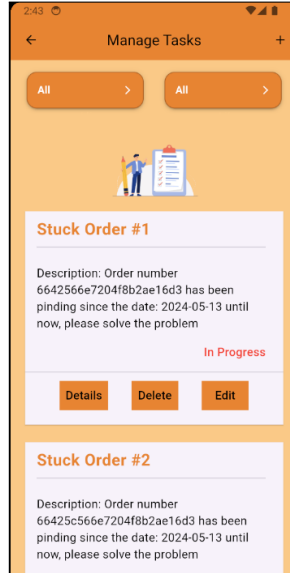


Figure 29: Chatting System

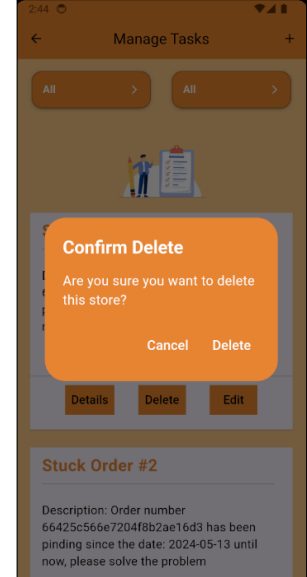
**Tasks:** This page has all the tasks of the employees in cards having the name, description and the status of the task, whether if it's in progress or completed and three actions can be done by three buttons, details, delete the task and edit it. Tasks are sorted by status and time, with priority given to those that are "In Progress" and nearest in time, so they are listed first and the merchant can search for any task using two filters, the first one is for the status and the second one is for the deadline, if its finished or not. The task details page shows the task details and if there is any response from the employee or not and what is the content of the response. the merchant can add a new task by pressing on the "+" icon in the manage task page. The information that need to be added for the task are the title, description, employee name based on the position and the deadline of the task.



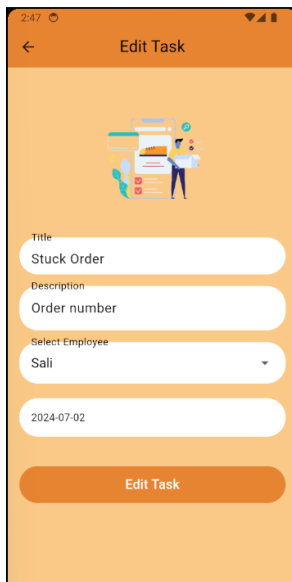
(a) Add Task



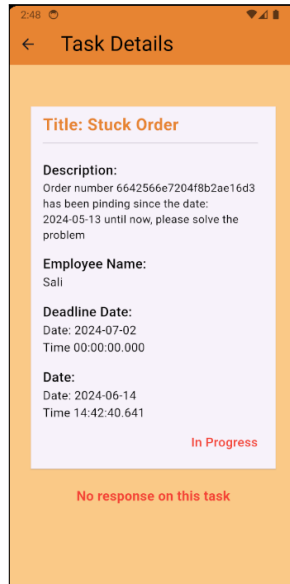
(b) All Tasks



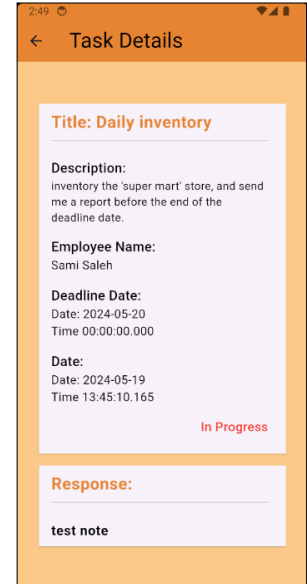
(c) Delete Task



(d) Edit Task



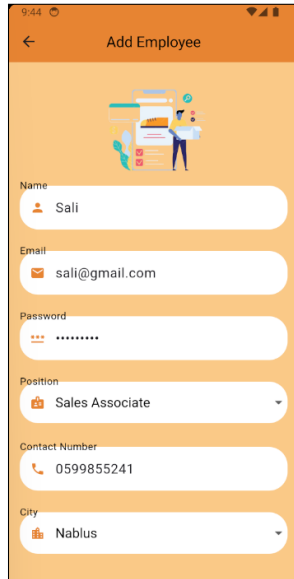
(e) Task Details



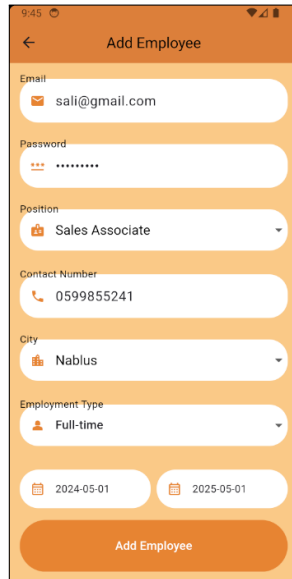
(f) Task Details

Figure 30: Tasks Process

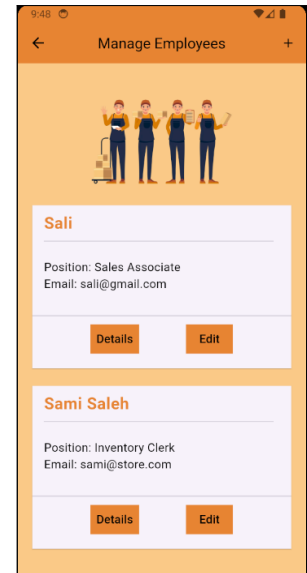
**Manage Employees:** There are two types of employees for each merchant, the first one is the sales employee and the second one is the inventory employee. As shown in the figure below, the merchant can add employees to the system by giving them emails and passwords and other details like position, contact number, location, employment type and contract start and end dates. After adding them, they appear in the manage employee page. The merchant can see their details after adding them and edit the contact information, email and password by pressing on the update button. Hiring employees is done through a contract between the merchant and the employee, and the merchant can't remove the employee until the contract term expires. Employees can edit their details except email and password.



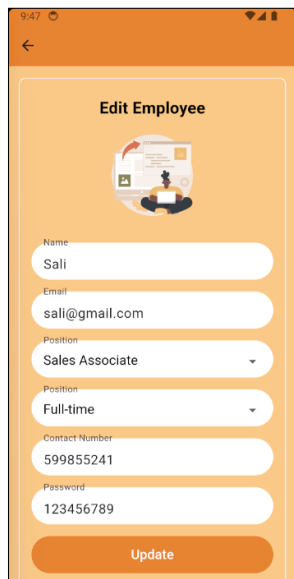
(a) Add Employee



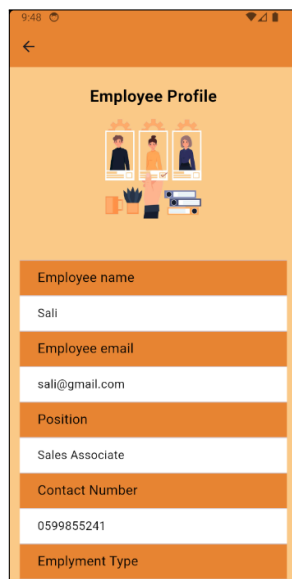
(b) Add Employee



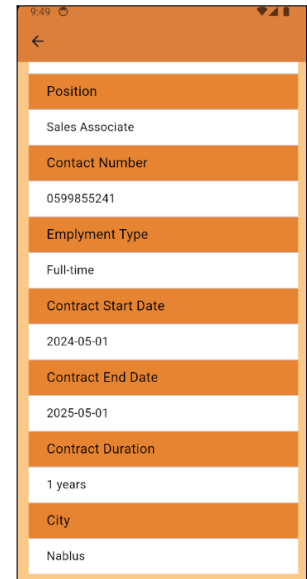
(c) All Employees



(d) Edit Employee



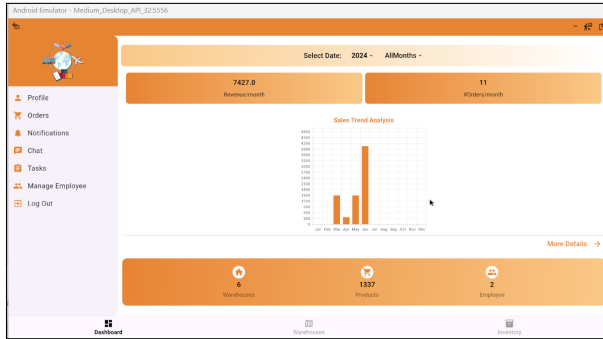
(e) Employee Details



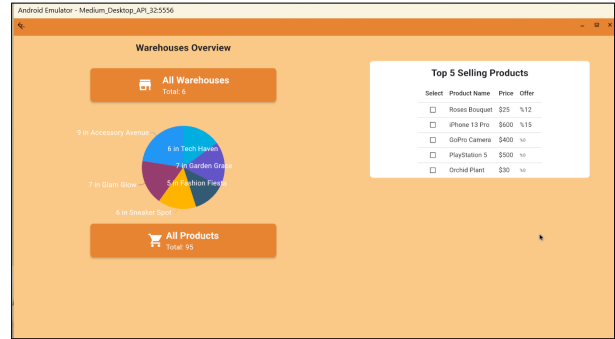
(f) Employee Details

Figure 31: Managing Employees

## Merchant Pages As Desktop:



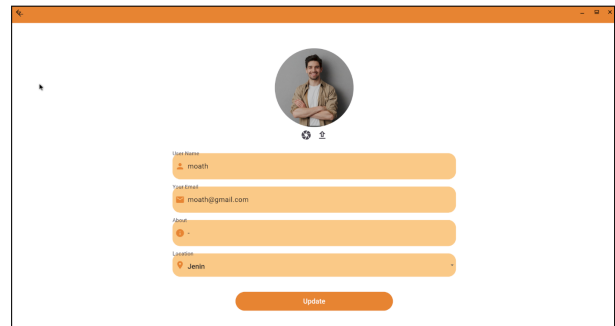
(a) Merchant Dashboard



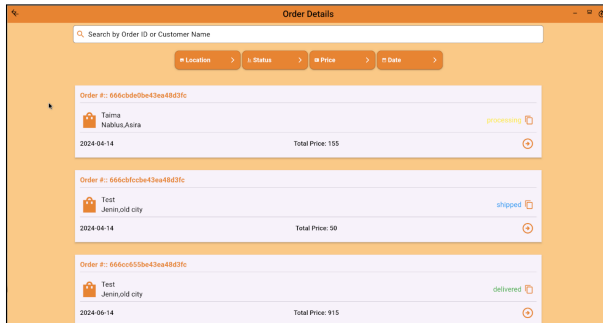
(b) Warehouses Overview



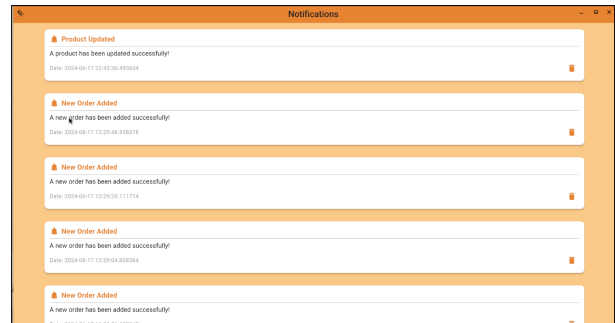
(c) Orders Overview



(d) Profile



(e) Orders Details

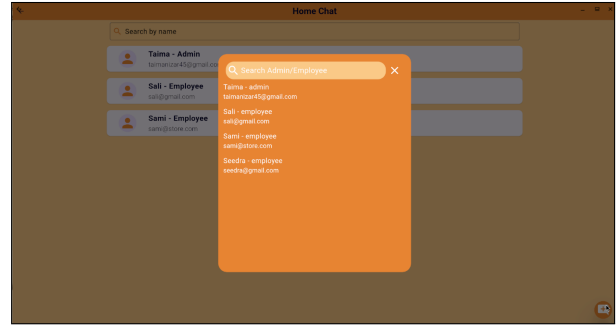


(f) Merchant Notifications

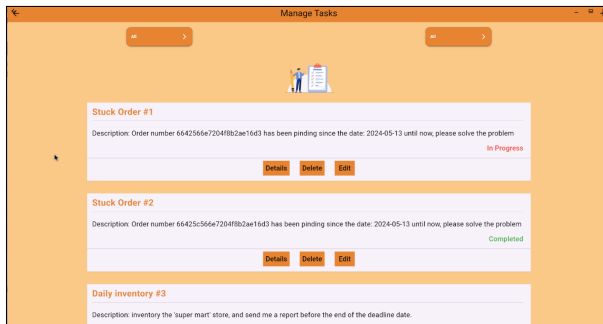
Figure 32: Merchant Pages In Desktop Part 1



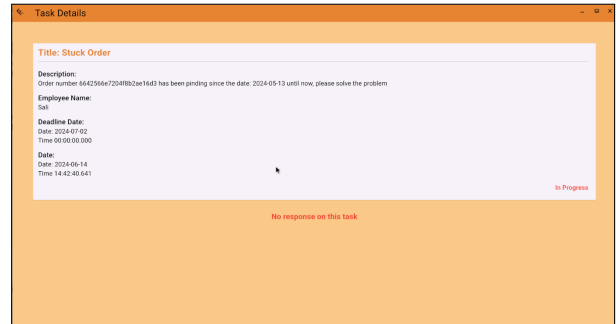
(a) Home Chat



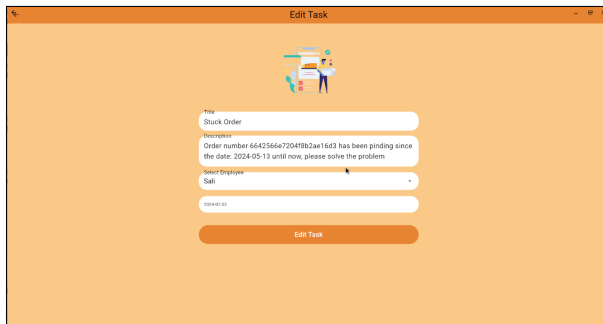
(b) All Merchants



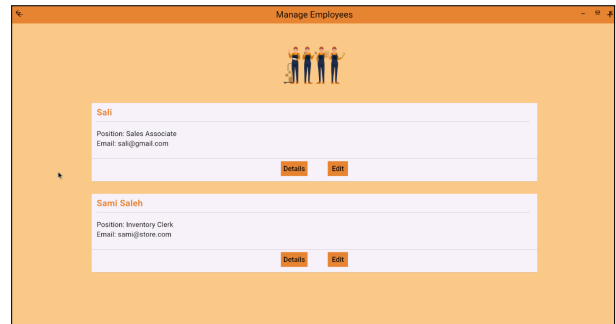
(c) Manage Tasks



(d) Task Details



(e) Edit Tasks

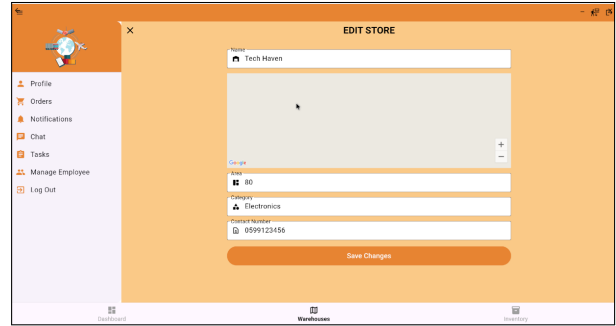


(f) All Employees

Figure 33: Merchant Pages In Desktop Part 2



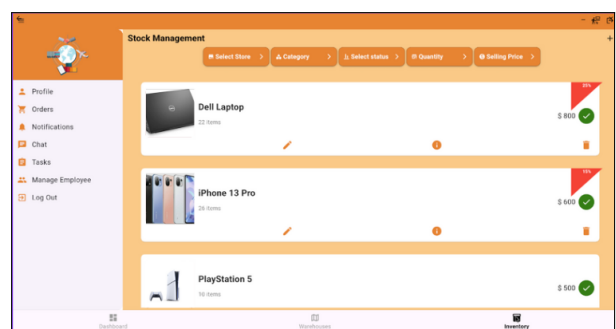
(a) Merchant's Warehouses



(b) Edit Store



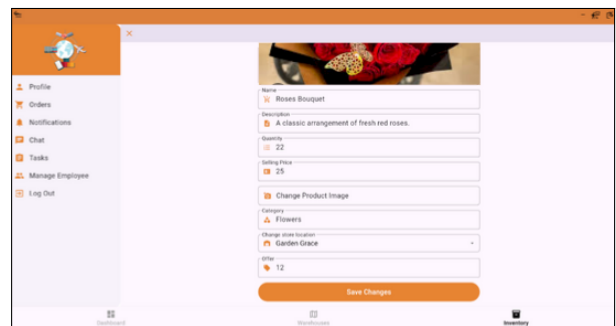
(c) Warehouse Details



(d) Warehouses Products



(e) Add Products



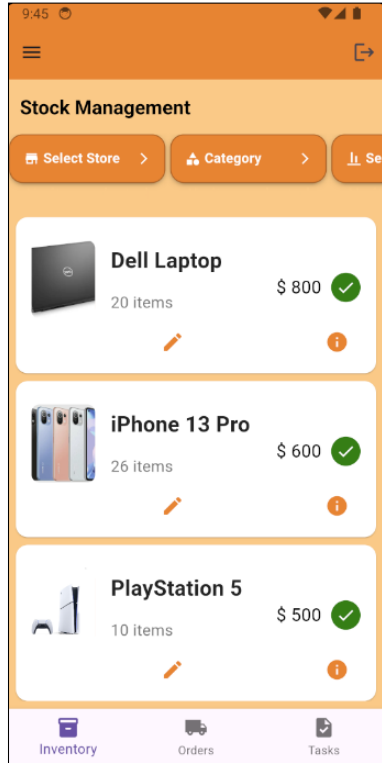
(f) Edit Product

Figure 34: Merchant Pages In Desktop Part 3

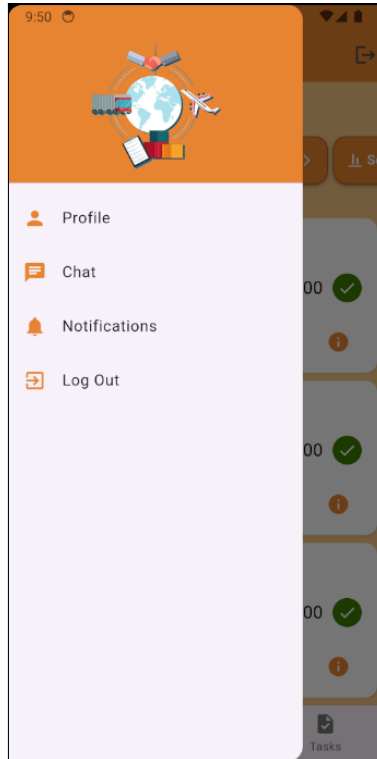
**Employee Pages:** There are two types of employees, the first one is the sales employee and the other is the inventory employee.

Let's talk first about the sales employee:

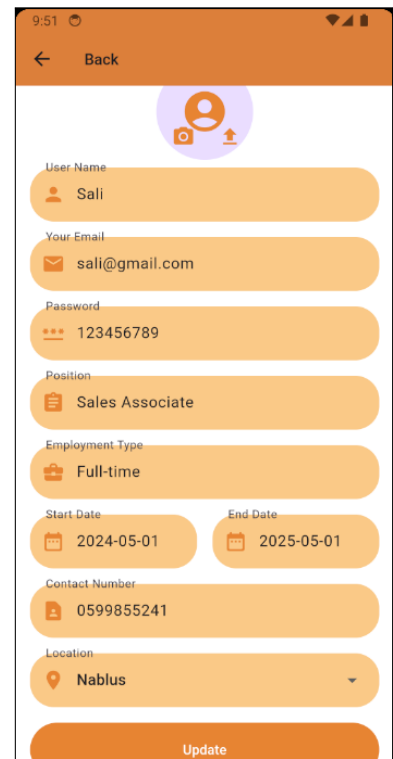
When the sales employees sign in, the home page that will be shown is the products of the store they work in. The page has a sidebar and bottom bar, in the sidebar, there is the profile, chat and notification pages, the bottom bar has the inventory which is the home page, orders and tasks pages. The profile page of the employees have the personal information and the contract details.



(a) Inventory Page



(b) Sidebar Page



(c) Profile Page

Figure 35: Sales Employee Home Pages

**Chat System:** Employees can only communicate with the merchant they work for. **Orders Pages:**

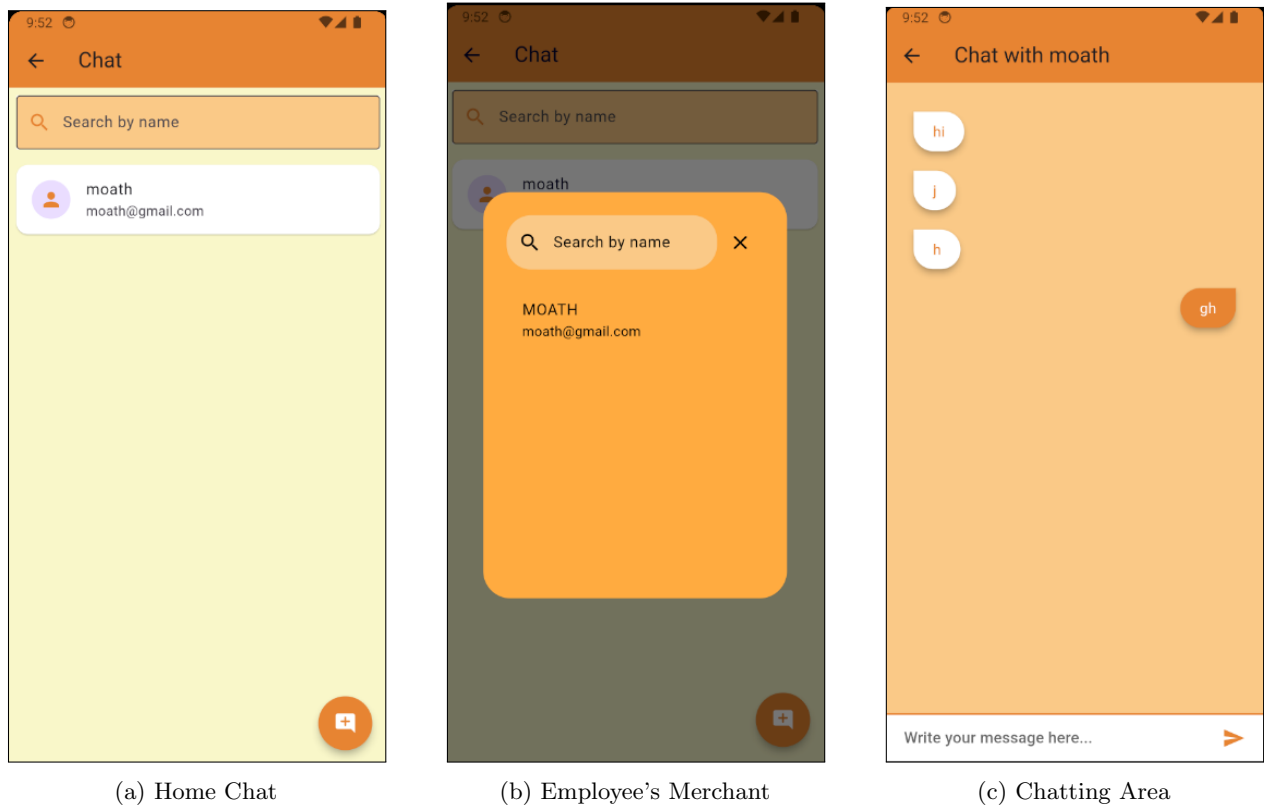
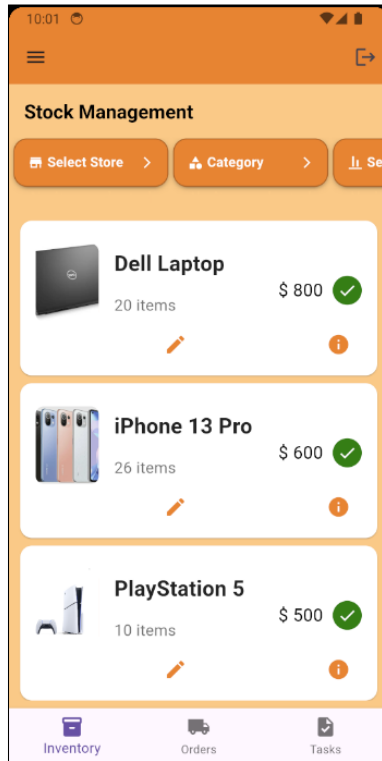
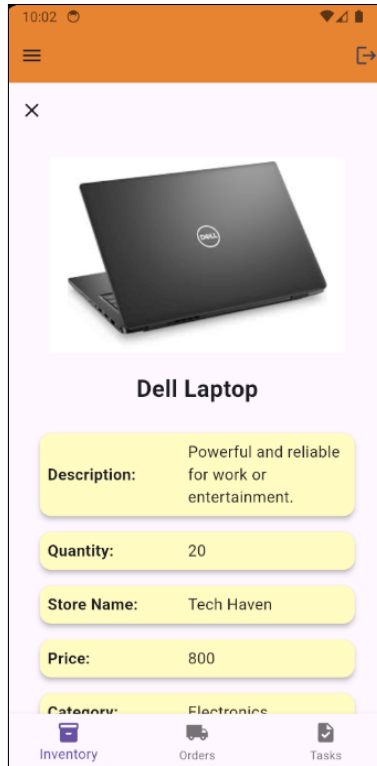


Figure 36: Chatting System

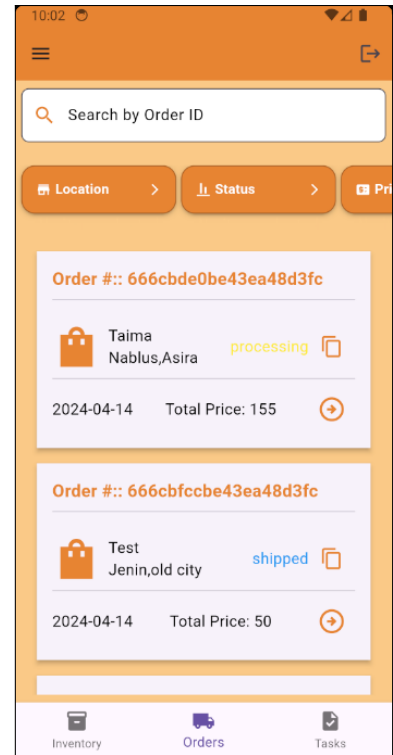
The order page has all the orders submitted from the app having products from the store, the sales employee prepares all orders and then gives them to the delivery company and track all the orders until they reach the customers. Also the employee can see the details of each order and copy these details using the copy icon on the order, also the sale employee can search for a certain order by writing the order id on the search bar or using multiple filters shown in the top of the page in the figure below.



(a) Home Page



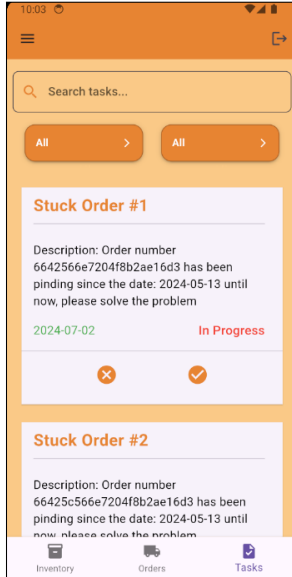
(b) Products Details



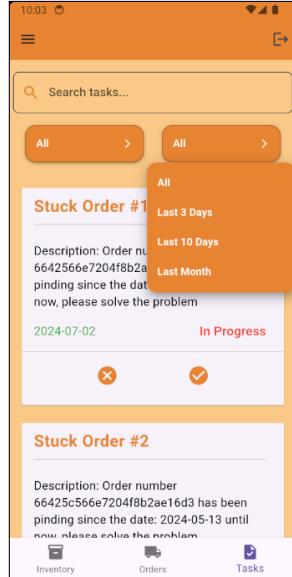
(c) Orders Page

Figure 37: Employee Pages

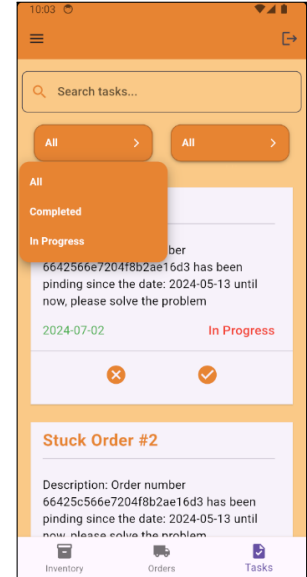
**Tasks Pages:** In the tasks page, there are all the tasks that are sent to the employee and the employees have two options the first option is the "x" icon, the employee can press it when there is an issue in the task whether if can be resolved by this employee or it requires the merchant's intervention and in both reasons the employee needs to send a note for the merchant to explain the problem. The second option is the check icon which converts the task status to completed and its optional to send a note for the merchant. The employee can search for tasks using two filters, the first one is the status filter whether the task is completed to in progress and the second filter is the time filter.



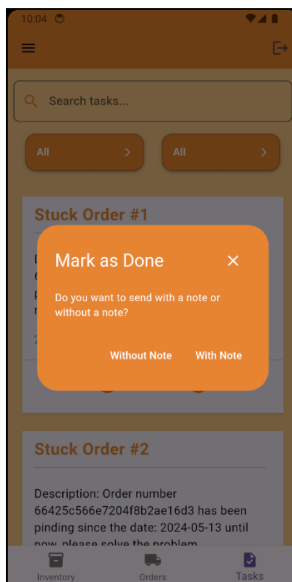
(a) All Tasks Page



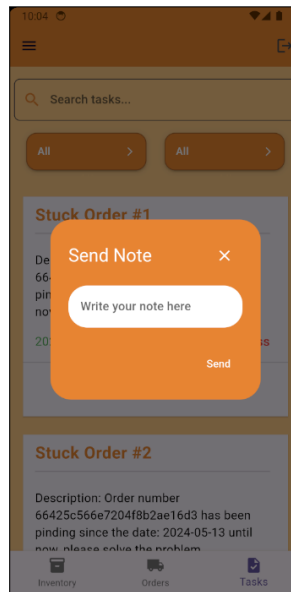
(b) Filter 1



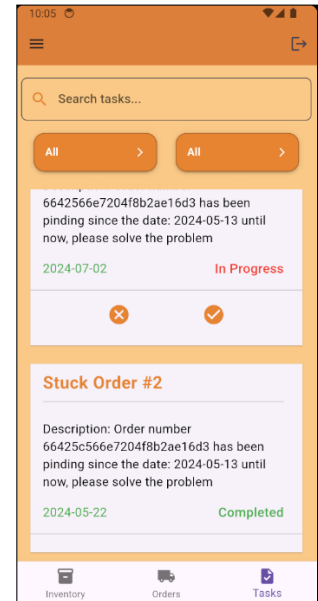
(c) Filter 2



(d) Finish Task



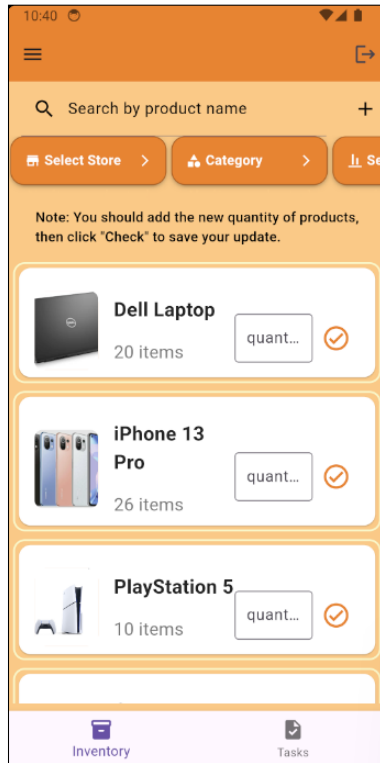
(e) Add Note To Merchant



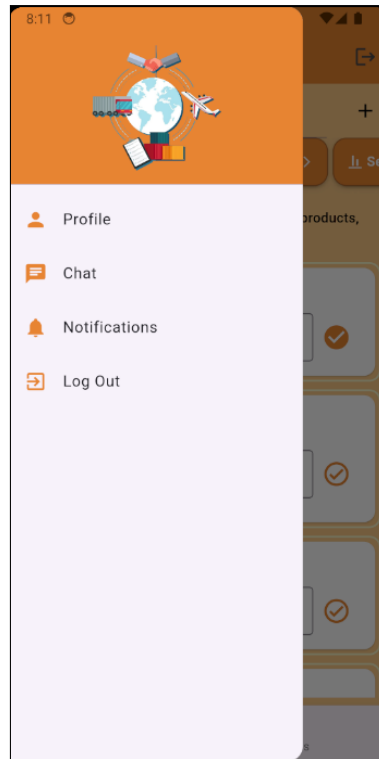
(f) Task Is Completed

Figure 38: Sales Employee's Task Page

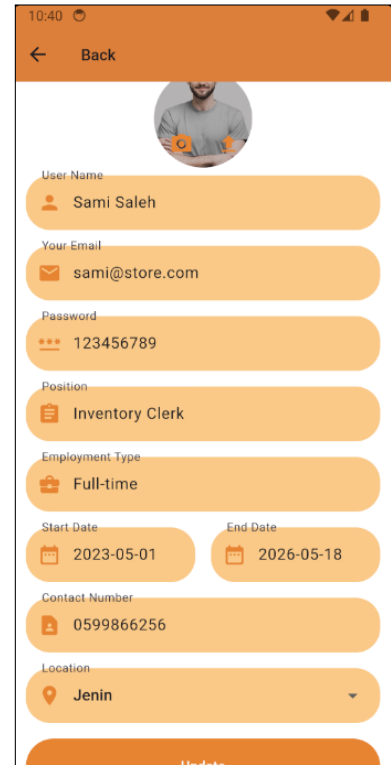
The second employee is the inventory employee, this employee also has a sidebar consisting of profile, chat and notifications pages and a bottom bar having two important pages: inventory and tasks pages.



(a) Home Page



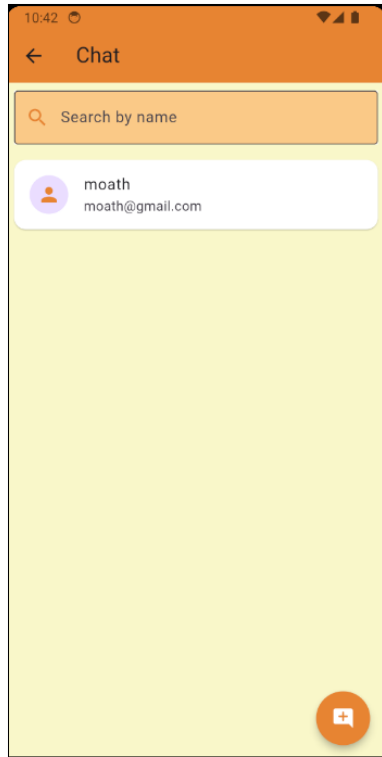
(b) Sidebar Page



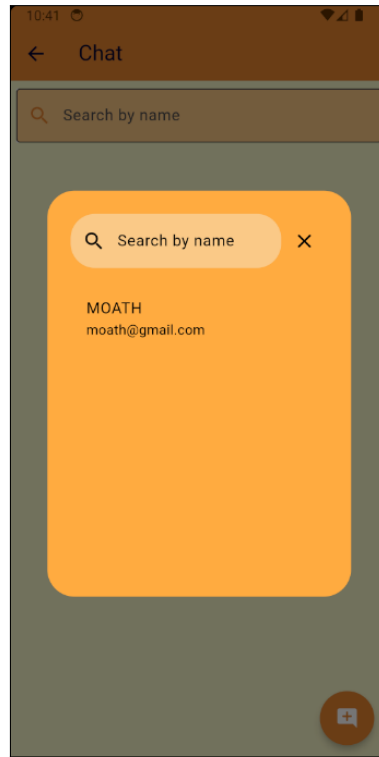
(c) Profile

Figure 39: Inventory Employee Home Pages

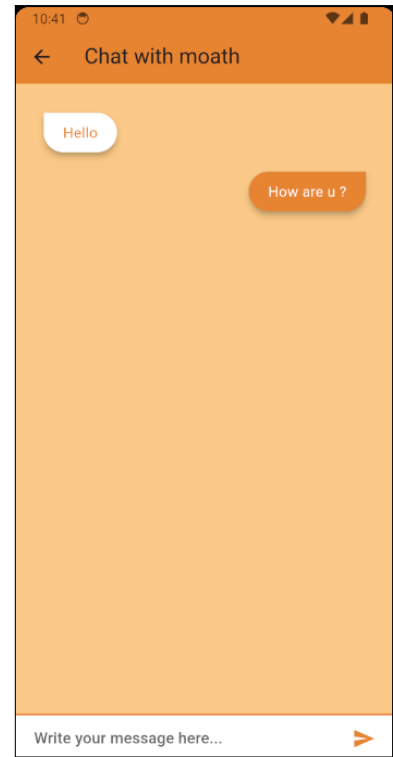
The following figure represents the chat system for the employees with their merchant.



(a) Home Chat



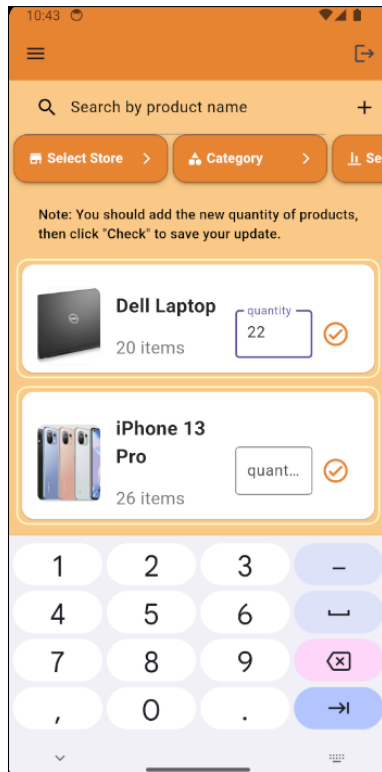
(b) Employee's Merchant



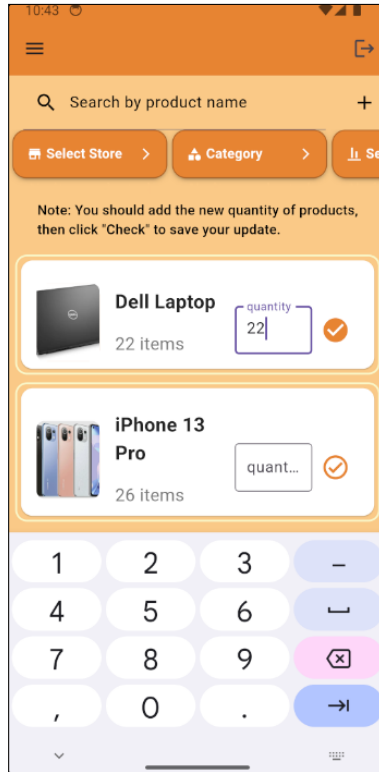
(c) Chatting Area

Figure 40: Chatting System

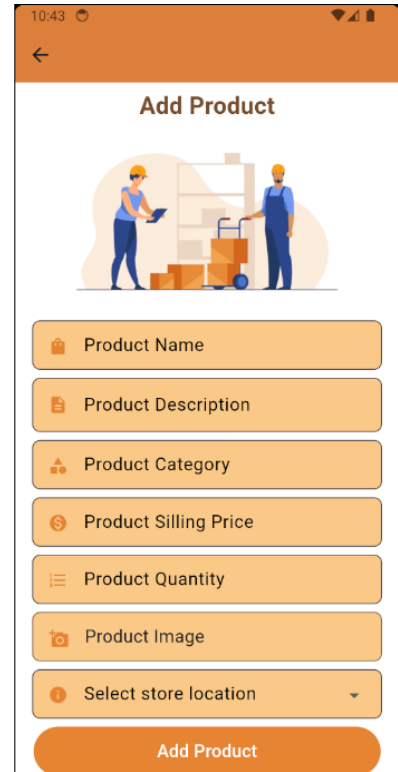
The inventory employee can change the quantity of any product and save the new one by pressing on the check icon, knowing that the check icon keeps highlighted for 24 hours because the inventory employee do a daily inventory process, also they have the ability to add new product using the "+" icon in the top of the inventory page. The inventory page for the inventory employees has all the products for all warehouses, but they can search for any product name using the search bar on the top of the page and there is multiple filters they can use like select warehouse to show the products of a certain warehouse, category , selling price, quantity, and status.



(a) New Product Quantity



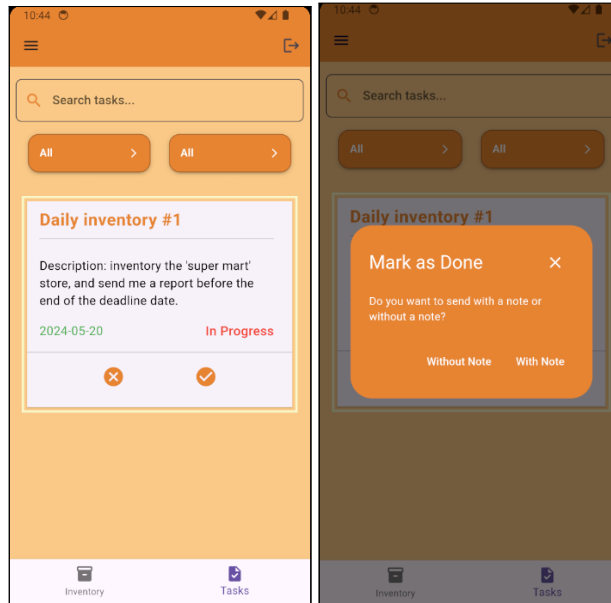
(b) Save Product Quantity



(c) Add Product

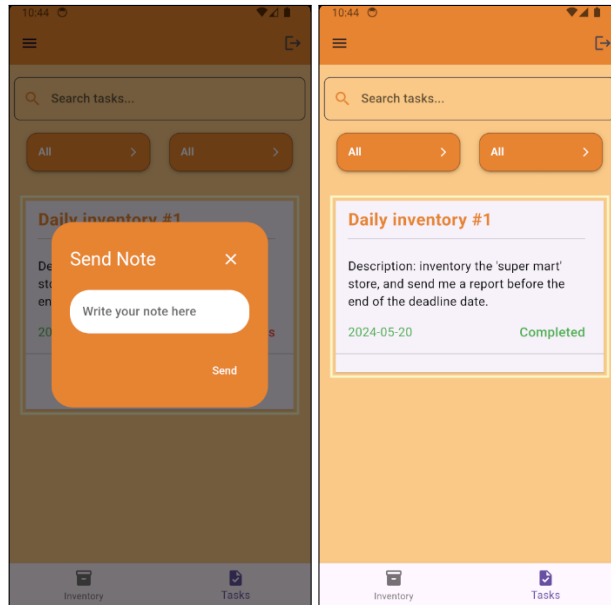
Figure 41: Inventory Pages

The following figure describes the task page, which has all the tasks assigned to the inventory employee.



(a) All Tasks Page

(b) Finish Task Page



(c) Add Note To Merchant

(d) Task Is Completed

Figure 42: Tasks Pages

**Employee Notifications:** Employees get notifications only when new task is assigned to them.

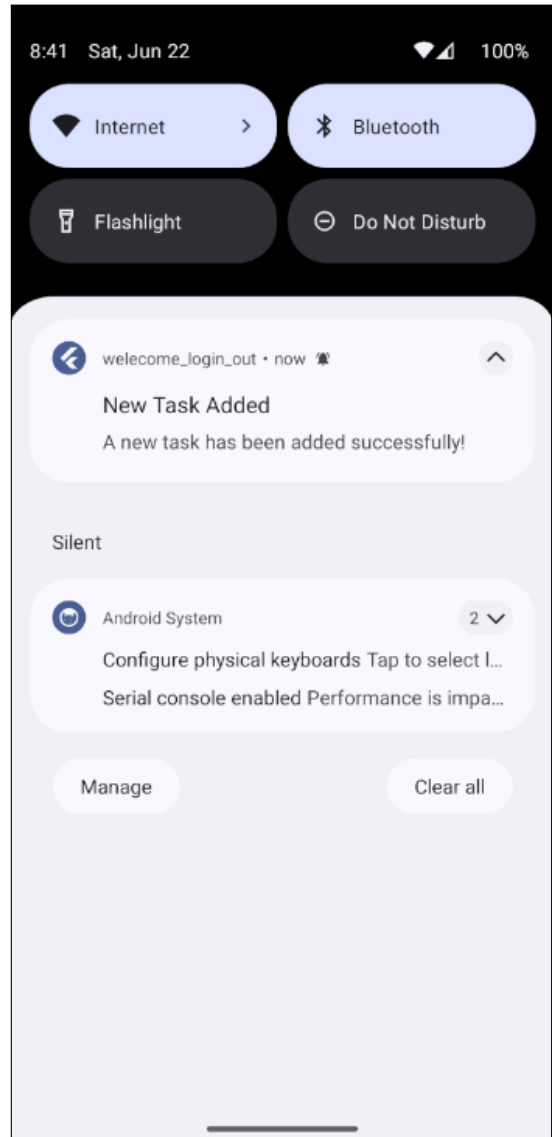
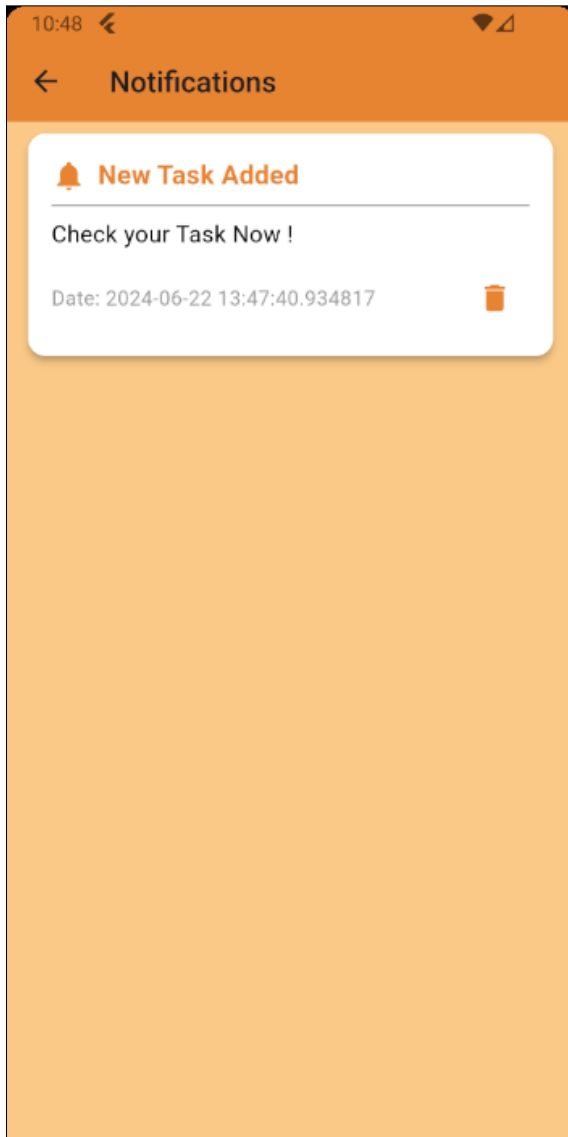
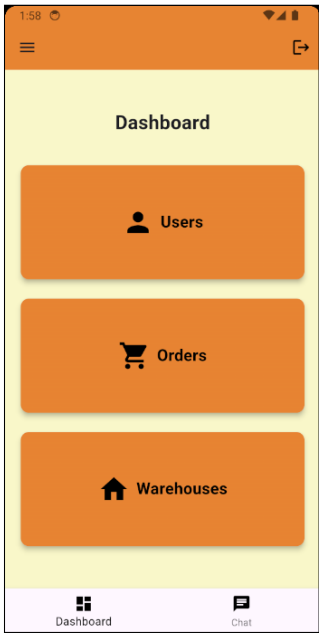
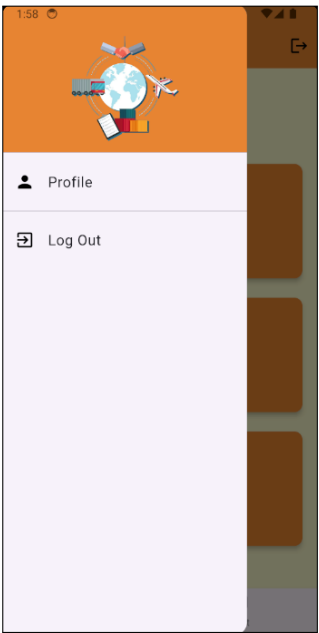


Figure 43: Notifications For Employee

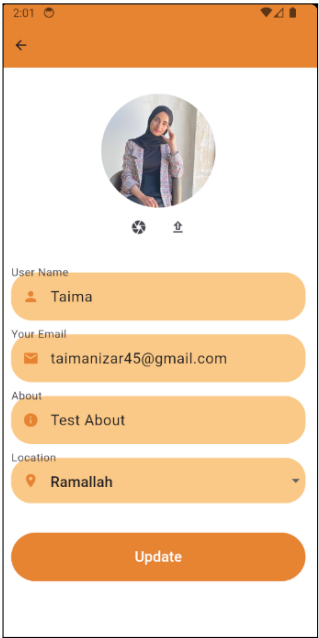
**Admin Pages:** The admin needs to see an overview of the application so, the pages that only needed for that, are the dashboard, chat to communicate with merchants if needed and of course a profile in the sidebar page.



(a) Home Page For Admin



(b) Sidebar Page



(c) Profile Page

Figure 44: Admin Pages

As we saw in the previous figure the dashboard has three cards: users, orders and warehouses. Let's talk first about the users card, when clicking on the users card the following page in the figure below will be shown, which has three cards on the top of the page: all users signed in to our application since the creation of the application, all merchants, and all employees. It also has a chart to show the number of users signing in to our application per months with a year filter.

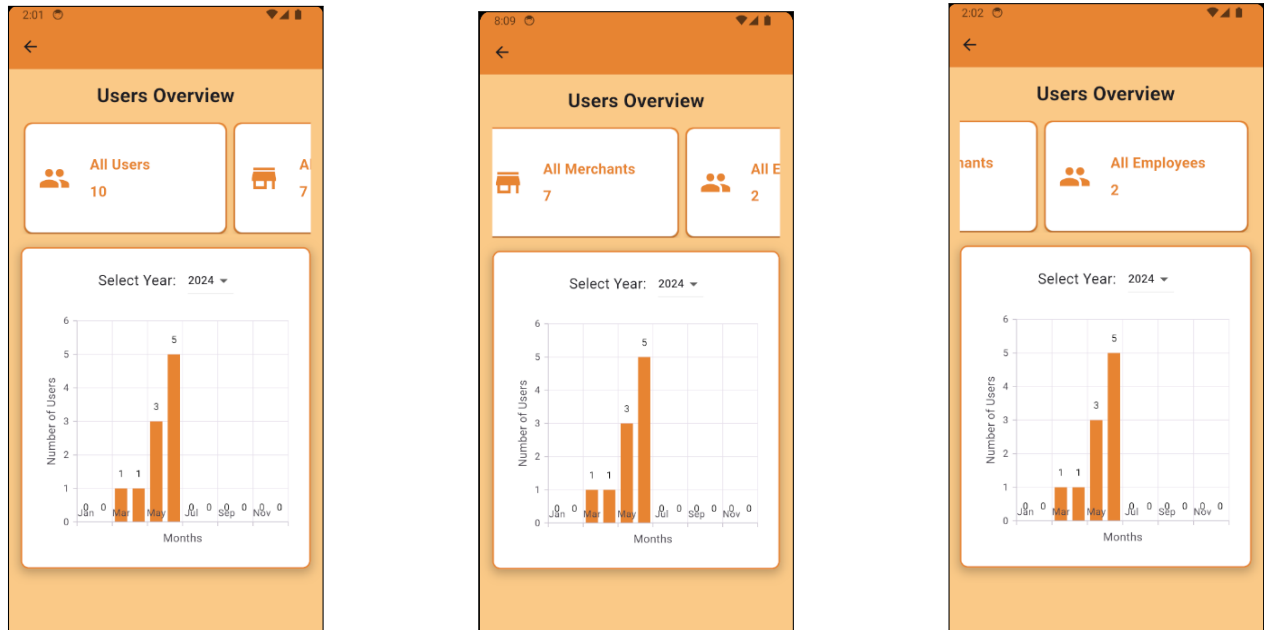


Figure 45: Users Overview

When clicking on cards, each one will take you to a different page showing a table and search bar with location filter to make it easy for you to search for a certain user.

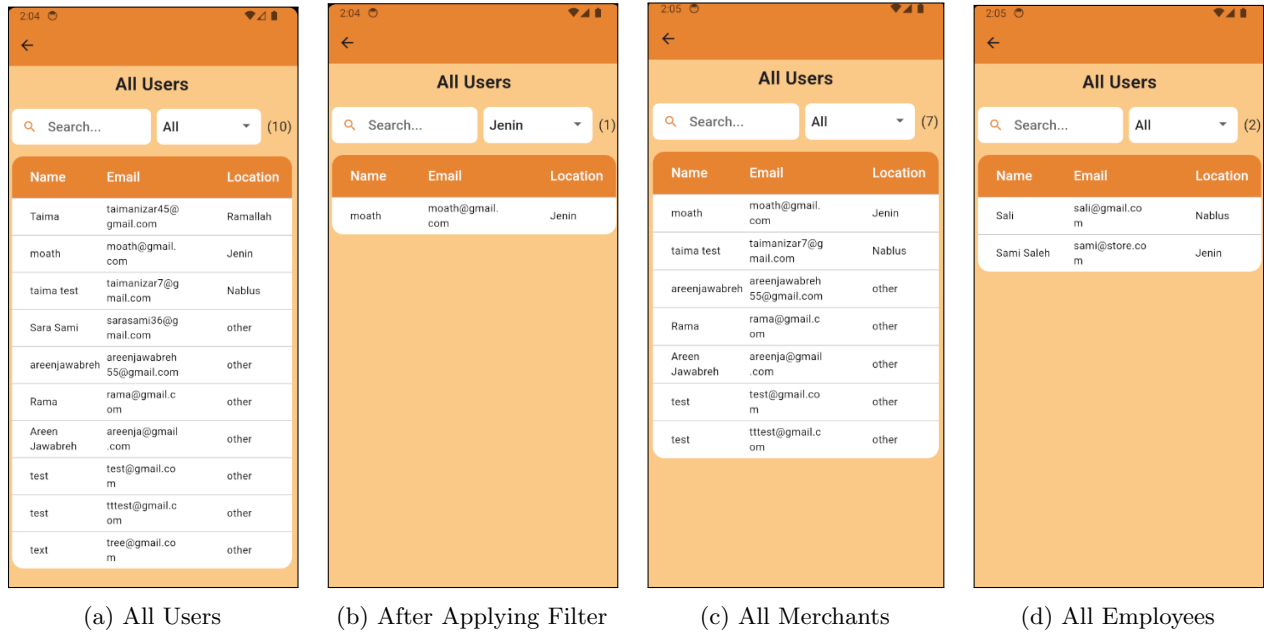


Figure 46: Users Card In Admin Dashboard

Secondly we have the orders card in the dashboard which has four cards on the top of the page which are the orders four status, delivered, shipped, pending and processing. Also it has two charts. The first one represents the revenue per month with year filter, and the second is number of orders in each city in certain year and month, the admin can choose the year and month using the filter.

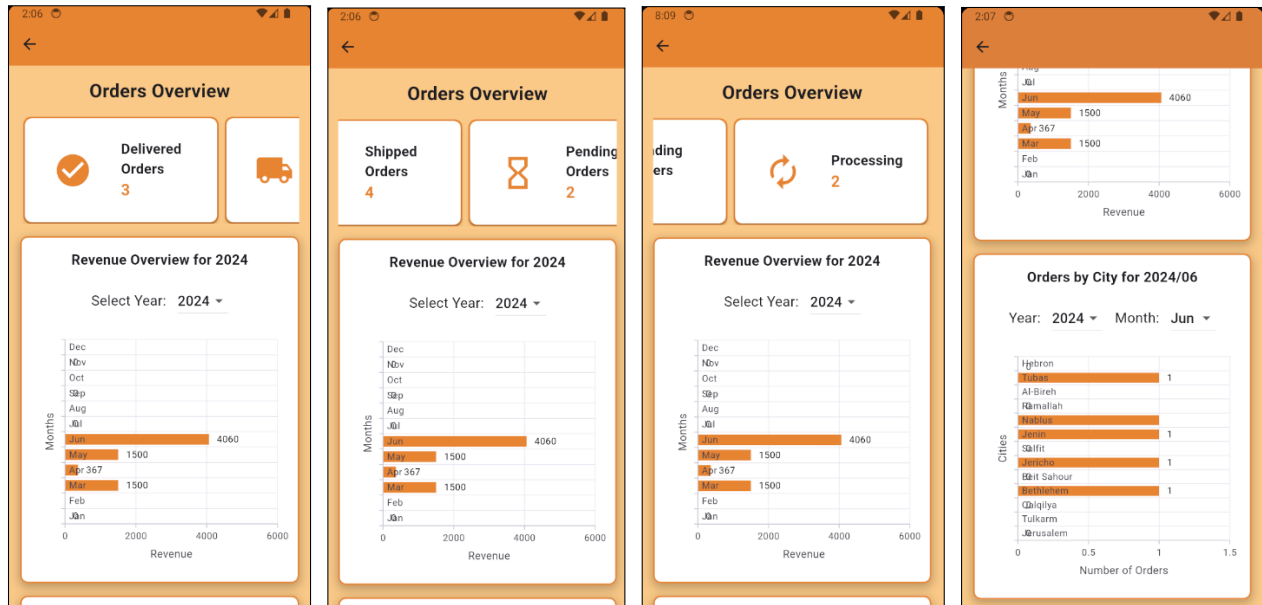
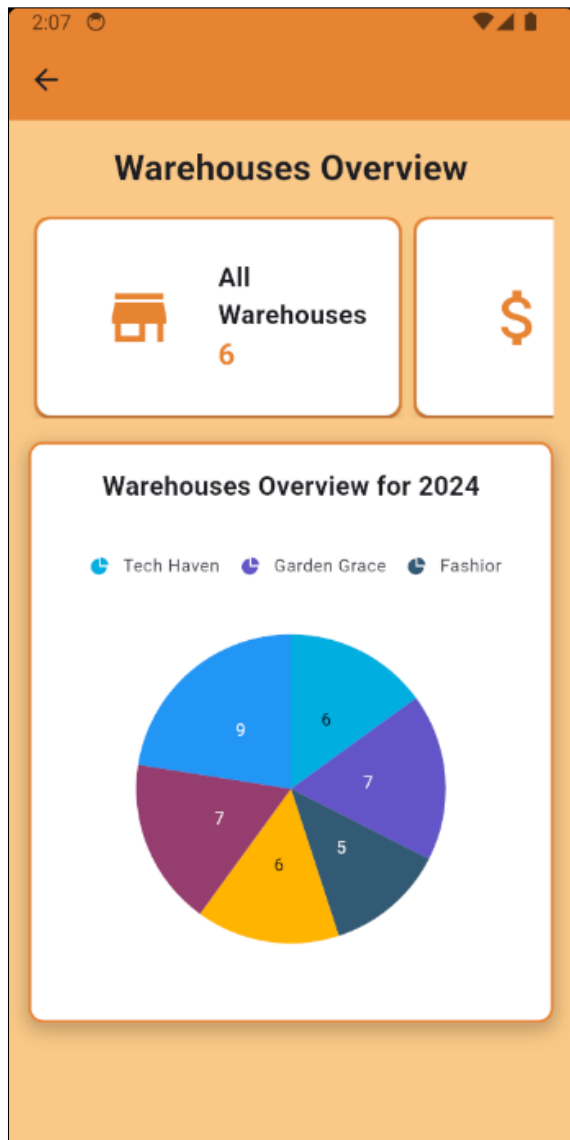
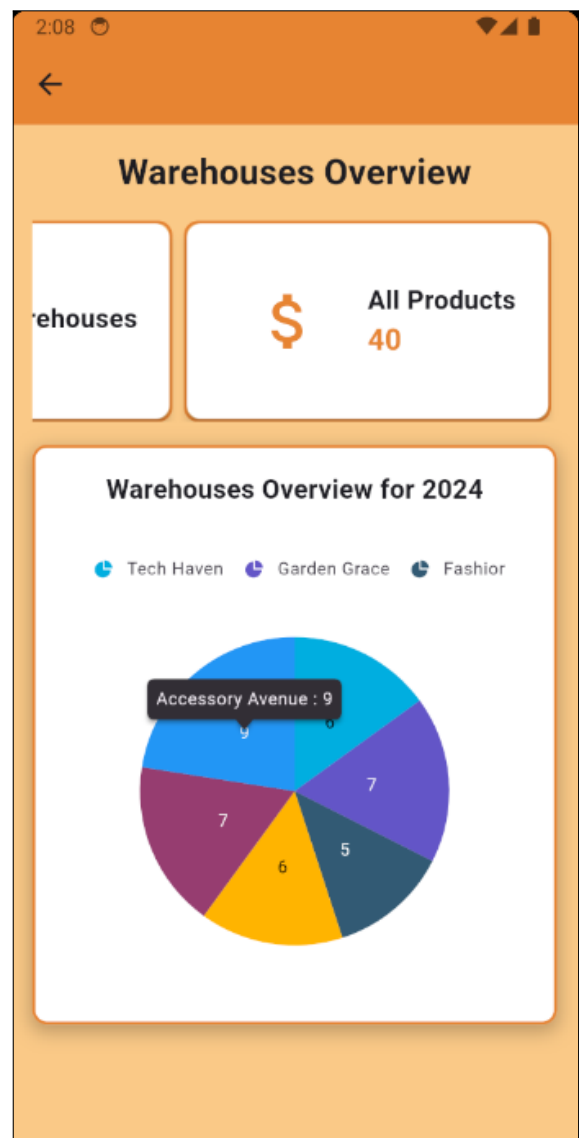


Figure 47: Orders Overviews

Finally we have the third card which is the warehouses, when clicking on it, the following pages will appear, which has two cards on the top of the page, represents all warehouses and all products saved in the system. And also is has a chart describe number of stores with type of products inside them.



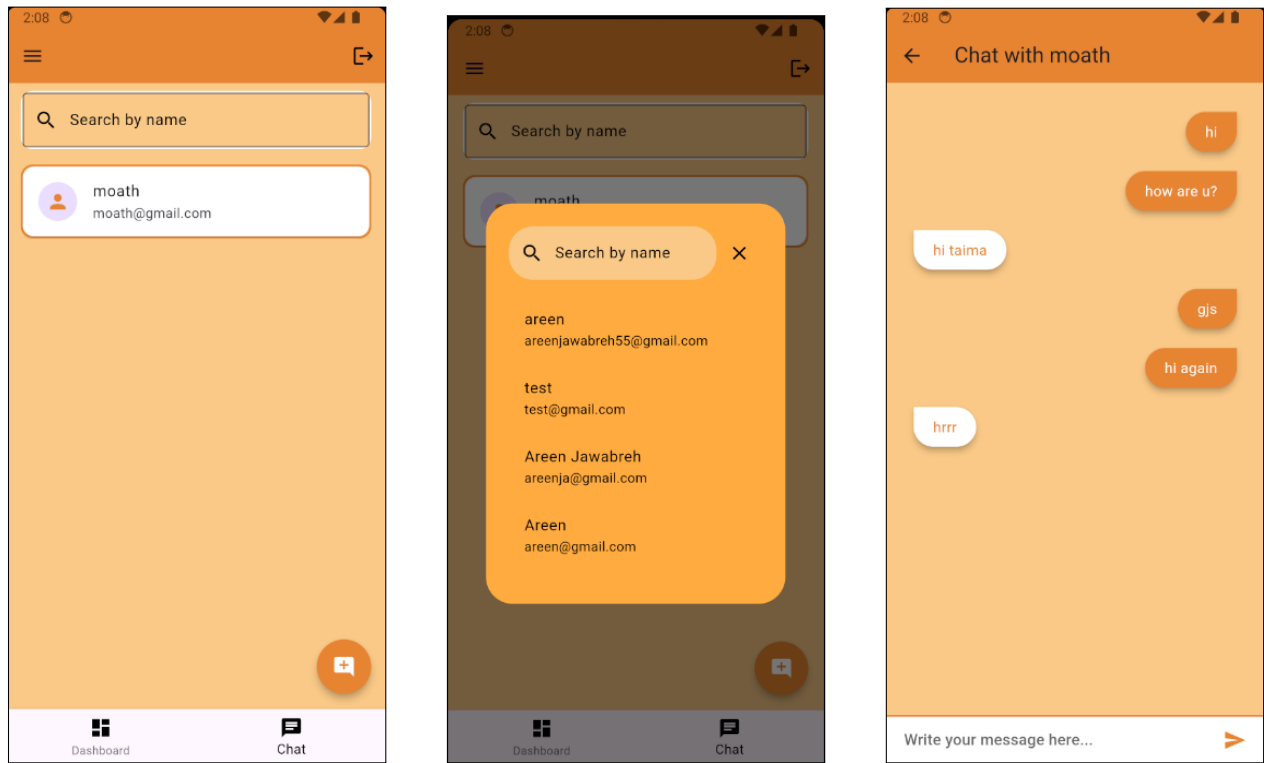
(a) Warehouses Overview part 1



(b) Warehouses Overview part 2

Figure 48: Warehouses Card In Admin Dashboard

Admin has a chat system to communicate with merchants when needed and reply to their messages.



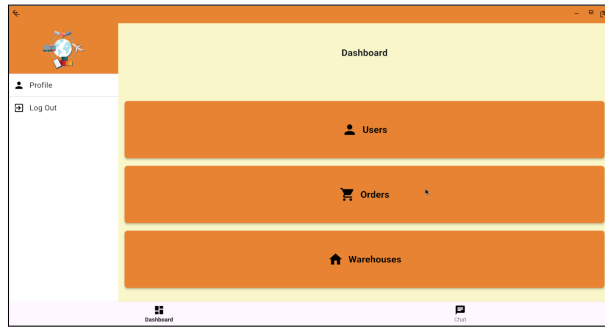
(a) Home Chat

(b) All Merchants

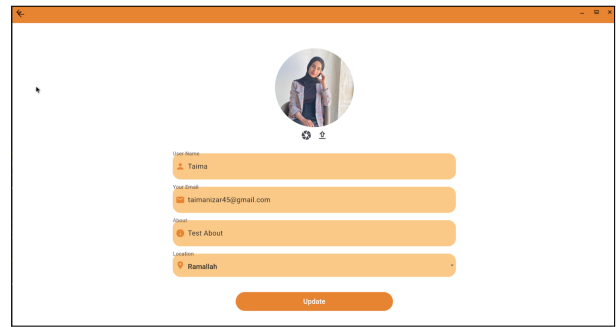
(c) Chatting Area

Figure 49: Chatting For Admin With Merchants

## Admin Pages As Desktop:



(a) Home Chat



(b) All Merchants



(c) Chatting Area

Name	Email	Location
Sali	sali@gmail.com	Nablus
Sami Saleh	sami@store.com	Jenin

(d) All Employees

Name	Email	Location
moath	moath@gmail.com	Jenin
taima test	tairmanizar7@gmail.com	Nablus
areenjwabreth	areenjwabreth55@gmail.com	other
Rama	rama@gmail.com	other
Areen Jawabreth	areenj@gmail.com	other
test	test@gmail.com	other
test	tttest@gmail.com	other

(e) Employee Details

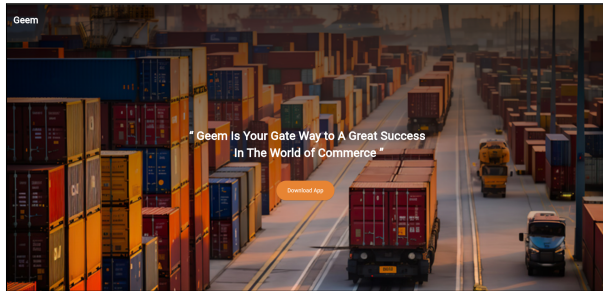
Name	Email	Location
Taiba	tairmanizar45@gmail.com	Ramallah
moath	moath@gmail.com	Jenin
taima test	tairmanizar7@gmail.com	Nablus
Sara Sami	sarasami36@gmail.com	other
areenjwabreth	areenjwabreth55@gmail.com	other
Rama	rama@gmail.com	other
Areen Jawabreth	areenj@gmail.com	other
test	test@gmail.com	other
test	tttest@gmail.com	other
test	tree@gmail.com	other

(f) Merchant Details

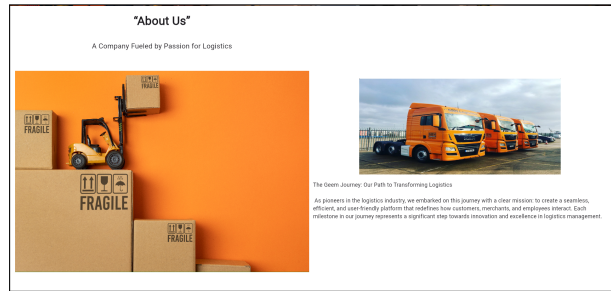
Figure 50: Admin Pages In Desktop Part 1



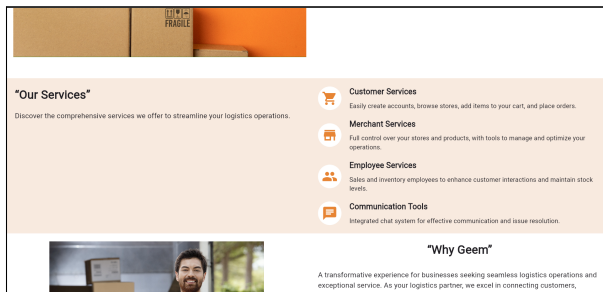
**Promotional Web Page:** During this page, we promote the Geem application by presenting the importance of the application to merchants and users and its user friendly. We also review the collection of feedback from current users of the application, and there is the possibility of contacting us if one wants to ask about something specific.



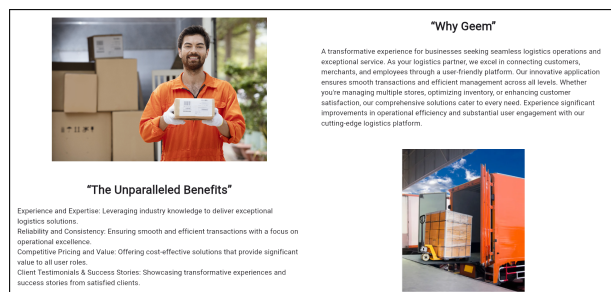
(a) Home Page



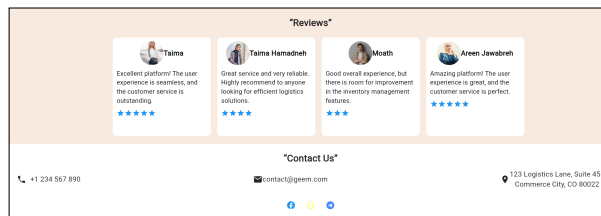
(b) About Us



(c) Our services



(d) Why Geem



(e) Feedback and contact section

Figure 52: Promotional Web Page

## 0.5 Future Work

- 1- The merchants can post a job advertisement, and users can apply to become employees through the application.
- 2- We will add shipping and delivery companies to our application and the merchant can choose which one to deal with.
- 3- According to the previous point, the sales employee can change the status of the orders until they are shipped, and then the orders are delivered to the contracted delivery company, which is responsible for delivering or returning the orders.
- 4- We will check the barcode for every product added to the application, if the product supports Zionism it won't be added to our application.

## 0.6 Conclusion

In summary, this comprehensive logistics application aims to greatly improve how customers, merchants, employees, and admins interact with each other. It achieves this by offering tailored features for each user group: merchants get powerful tools to manage their stores, staff handle inventory and sales efficiently, and administrators oversee everything smoothly. By using a dedicated chat system, we can solve problems and communicate better. This makes the work environment better for everyone. The app aims to make logistics operations better by focusing on what users need, making interactions smoother, improving management tools, and overall making logistical tasks more efficient.

# References

- [1] Azumo, “Flutter is a powerful and reliable sdk for cross-platform development,” <https://azumo.com/insights/what-is-flutter/#:\~:text=include%3AConclusion%E2%80%8D-\%E2%80%8DFlutter%20is%20a%20Powerful%20and%20Reliable%20SDK%20for%20Cross-Platform%20Development%20for%20Android%20and%20iOS%20devices.>, Accessed: 2024-06-19.
- [2] Google, “Firebase,” <https://firebase.google.com/>, Accessed: 2024-06-19.
- [3] MongoDB, Inc., “What is mongodb?” <https://www.mongodb.com/company/what-is-mongodb>, Accessed: 2024-06-19.
- [4] Node.js Contributors, “About node.js®,” <https://nodejs.org/en/about/#:\~:text=to%20Node.js-,About%20Node.js%20will%20sleep.>, Accessed: 2024-06-19.