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Techno Sparks

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Acknowledgment

We extend our deepest gratitude to all who played a pivotal role in making the Techno Sparks Center implementation possible. This achievement comes as a result of the collective dedication, experience, and steadfast support of our dear supervisor, Dr. Amjad Abu Hassan.

Primarily, we would like to express our deep appreciation to our esteemed project supervisor whose wise guidance propelled the project towards excellence. His guidance has been indispensable in shaping the implementation of the Techno Sparks Center. We extend our sincere thanks to the distinguished faculty members in the Department of Computer Engineering for fostering an environment of academic rigor and innovation. Their commitment to academic excellence has been a cornerstone in providing the foundation needed to develop the Techno Sparks Center application.

We extend our deepest thanks to our families and friends, whose unwavering encouragement and understanding have been a constant source of strength throughout this journey. In conclusion, the completion of the Techno Sparks Center project is a testament to the collective efforts.

Sincerely,

Housnia Mushaqi, Fatima Abu Reesh

Abstract

This graduation project in software engineering aims to develop a comprehensive e-commerce platform named Techno Sparks for electrical appliances. The platform offers a diverse range of electrical appliances categorized into sections, each featuring detailed product descriptions, photos, videos, and user feedback. The website incorporates essential functionalities such as live chat support for immediate assistance with device malfunctions, warranty provisions for products, and dedicated maintenance teams for each category. The platform facilitates varied payment methods and enables users to save items in their shopping carts. Special offers and discounts are highlighted, and options for product delivery are provided. Additionally, a mobile application developed using Flutter enhances the user experience by providing notifications to keep users informed about their orders, special offers, and important updates.

The platform serves both administrators and users. Users can register for free, browse products, submit purchase requests, and communicate with administrators. Upon registration, users can mark favorite products and interact with administrators via messaging. The platform automatically calculates prices for user requests. Administrators have access to an interface where they can add, modify, or delete products, manage user requests, and view statistics such as total request prices, message counts, user counts, product counts, and admin counts. The project also includes features for invoice printing, generating graphical representations of data, and tracking the status of orders (whether they are ready, in preparation, or with the maintenance team). By integrating these features, the Techno Sparks platform offers a seamless and efficient e-commerce experience for both administrators and users in the realm of electrical appliances.

Table of Contents

| | |
|--|------------|
| English Acknowledgment | I |
| Abstract | II |
| Table of Contents | III |
| List of Figures | V |
| 1 Introduction | 1 |
| 1.1 General background | 1 |
| 2 Literature Review | 3 |
| 2.1 The Impact of E-commerce on Consumer Behavior | 3 |
| 2.2 Importance of Customer Support and Maintenance | 3 |
| 2.3 Role of Mobile Technology | 3 |
| 2.4 Advanced Payment Systems | 4 |
| 2.5 Technological Infrastructure | 4 |
| 2.6 Agile Methodology | 4 |
| 2.7 Comprehensive User Experience | 4 |
| 3 Methodology | 5 |
| 3.1 Backend Development | 5 |
| 3.2 Frontend Development | 6 |
| 3.3 Database | 6 |
| 3.4 Main Features | 7 |
| 4 Future work | 46 |
| 5 Conclusion | 47 |

List of Figures

| | | |
|------|---|----|
| 3.1 | Home | 8 |
| 3.2 | Login | 8 |
| 3.3 | sign up | 9 |
| 3.4 | sign up with data | 9 |
| 3.5 | home page | 10 |
| 3.6 | menu page | 11 |
| 3.7 | delete account | 12 |
| 3.8 | divides devices into several categories | 13 |
| 3.9 | category products | 13 |
| 3.10 | product details | 14 |
| 3.11 | account information | 14 |
| 3.12 | chat | 15 |
| 3.13 | notification | 15 |
| 3.14 | cart | 16 |
| 3.15 | checkout | 16 |
| 3.16 | dialog add address | 17 |
| 3.17 | add address | 17 |
| 3.18 | payment method | 18 |
| 3.19 | checkout with information | 18 |
| 3.20 | Success checkout | 19 |
| 3.21 | Track order | 19 |
| 3.22 | On the Track Order page, the admin is able to change the order status and it appears to the user. | 19 |
| 3.23 | The user can see all product details, order status, order history, and product order history. | 20 |
| 3.24 | orders | 20 |
| 3.25 | my order | 20 |

| | |
|---|----|
| 3.26 search products | 21 |
| 3.27 search success | 21 |
| 3.28 search no product found | 21 |
| 3.29 If no product | 21 |
| 3.30 empty cart | 22 |
| 3.31 add to cart | 22 |
| 3.32 Already added to cart | 22 |
| 3.33 My cart | 22 |
| 3.34 guest mode | 23 |
| 3.35 my orders in guest mode | 23 |
| 3.36 my profile in guest mode | 23 |
| 3.37 chat in guest mode | 23 |
| 3.38 notification in guest mode | 24 |
| 3.39 checkout in guest mode | 24 |
| 3.40 email validation | 25 |
| 3.41 invalid information | 25 |
| 3.42 email already exist | 25 |
| 3.43 forget password | 25 |
| 3.44 Admin login | 27 |
| 3.45 Admin account | 27 |
| 3.46 Dashboard | 28 |
| 3.47 dashboard | 28 |
| 3.48 Inmenitinance orders | 29 |
| 3.49 delivered orders | 29 |
| 3.50 update order status | 30 |
| 3.51 category | 30 |
| 3.52 update category | 31 |
| 3.53 products | 31 |
| 3.54 add product | 32 |
| 3.55 After delete product | 32 |
| 3.56 update product | 33 |
| 3.57 send notification | 33 |
| 3.58 customers | 34 |
| 3.59 customers order | 34 |

| | |
|---|----|
| 3.60 When select print invoice | 35 |
| 3.61 print invoice | 35 |
| 3.62 When more customers sign up | 36 |
| 3.63 Technical support | 36 |
| 3.64 update Technical Support | 37 |
| 3.65 add technical support | 37 |
| 3.66 login Technical Support | 38 |
| 3.67 technical support orders | 38 |
| 3.68 update order Technical Support | 39 |
| 3.69 order status after update order status | 39 |
| 3.70 order status support | 40 |
| 3.71 technical support orders | 40 |
| 3.72 Logout | 41 |
| 3.73 cancel logout | 41 |
| 3.74 Admin accept the order but still not delivered | 42 |
| 3.75 status changed to accepted | 43 |
| 3.76 Admin change status to delivered | 44 |
| 3.77 order view in history and can reorder it | 45 |
| 3.78 after reorder it checkout show as normal | 45 |

Chapter 1

Introduction

Contents

| | |
|----------------------------------|---|
| 1.1 General background | 1 |
|----------------------------------|---|

1.1 General background

In a world where technology is rapidly evolving, the Techno Sparks Project stands out as a leading force in the field of e-commerce for electrical appliances. Techno Sparks rises to the challenge by seamlessly integrating advanced features and functionalities to provide a comprehensive platform for users. In an age where online shopping has become indispensable, Techno Sparks aspires to be more than just a shopping site – it aims to revolutionize the e-commerce experience. Diving into the heart of Techno Sparks, the platform offers a wide range of electrical appliances categorized into sections, each featuring detailed product descriptions, photos, videos, and user feedback. This comprehensive approach ensures that users have all the information they need to make informed purchasing decisions. The website incorporates essential functionalities such as live chat support for immediate assistance with device malfunctions, warranty provisions for products, and dedicated maintenance teams for each category. For users navigating the world of Techno Sparks, the experience is transformative. They can create and edit profiles reflecting their individual preferences and shopping histories. The social community aspect allows users to interact with others, share ideas, and support each other's experiences. The platform also includes features for invoice printing, graphical representations of data, and tracking the status of orders (whether they are ready, in preparation, or with the maintenance team). Users can save items in their shopping carts, enjoy special offers and discounts, and choose from various product delivery options. A mobile application developed using Flutter enhances the user experience by providing convenient access on the go. Techno Sparks serves both administrators and users. Users can register for free, browse products, submit purchase requests, and communicate with administrators. Upon registration, users can mark favorite products and interact with administrators via messaging. The platform automatically calculates prices for user requests. Administrators have access to an interface where they can add, modify, or delete products, manage user requests, and view statistics such as total request prices, message counts, user counts, product counts, and admin counts. The choice of technologies—Flutter for the interface, Laravel for the backend, and SQL for data storage—reflects a strategic decision aimed at delivering a seamless, efficient,

and robust application. Using Flutter, a cross-platform framework, is pivotal in ensuring an attractive and consistent UI across Android and iOS platforms. This choice not only simplifies the development process but also enhances the user experience by allowing for the creation of a unified and engaging interface that meets the preferences of users on both mobile platforms. Laravel serves as the backbone of Techno Sparks' backend, providing efficient data management and ensuring the smooth operation of the platform. Its powerful capabilities enable robust handling of user accounts, managing subscriptions, and processing financial transactions. Laravel excels at handling concurrent connections, ensuring Techno Sparks runs smoothly even during periods of high user activity. SQL, chosen as the database system and managed through XAMPP and PHPMyAdmin, plays a pivotal role in data security and accessibility. The structured nature of SQL databases allows for flexible and scalable storage, accommodating the diverse information associated with user profiles, product details, and transaction histories. The ease of use and scalability of SQL is particularly beneficial for Techno Sparks, as it efficiently handles the diverse and evolving data requirements inherent in an e-commerce application. Postman is used for API testing, ensuring that all backend services are functioning correctly and efficiently. This tool is essential for verifying the functionality and performance of the APIs that connect the frontend with the backend.

In summary, the strategic choice of Flutter, Laravel, SQL, XAMPP, PHPMyAdmin, and Postman collectively contribute to Techno Sparks' success by providing a visually appealing interface, real-time data management, and secure, scalable storage capabilities. This combination ensures that Techno Sparks not only meets but exceeds the expectations of users looking for a comprehensive solution to their e-commerce needs. The development of the Techno Sparks application faced several constraints that shaped the course of the project. There are many features that could be included, but limited time necessitated a focus on the most important ones. Compiling these features required a thoughtful selection process to meet the diverse needs of users. Learning new technologies such as Dart, Flutter, Laravel, SQL, and Postman within a limited time frame increased complexity. Previous coursework in web programming, object-oriented programming, and databases provided the foundational knowledge and building blocks. Independent learning of these technologies enriched our capabilities, contributing to a smoother development process. Adopting the Agile model methodology served as the guiding framework to navigate the Techno Sparks project through its various development phases, promoting a systematic and iterative approach. The Agile model's focus on flexibility and collaboration enabled seamless progress through requirements analysis, planning, design, development, and testing, ensuring methodological rigor and continuous improvement. The project commenced with an extensive requirements analysis to identify essential features, laying the foundation for understanding user needs and defining project goals. The planning phase involved creating a detailed timeline, facilitating efficient task management and ongoing reviews with supervisors. Prioritizing tasks during the design phase, daily meetings assessed progress and addressed challenges, ensuring effective solutions. Development marked the coding initiation for both front-end and back-end components. The final testing phase encompassed backend functionality verification, frontend connectivity, and rigorous testing to ensure the accuracy and performance of the platform. The Agile model methodology ensured a methodologically rigorous and continuously improving development process for Techno Sparks, allowing for adaptability and systematic progress from conception to implementation.

Chapter 2

Literature Review

Contents

| | | |
|-----|--|---|
| 2.1 | The Impact of E-commerce on Consumer Behavior | 3 |
| 2.2 | Importance of Customer Support and Maintenance | 3 |
| 2.3 | Role of Mobile Technology | 3 |
| 2.4 | Advanced Payment Systems | 4 |
| 2.5 | Technological Infrastructure | 4 |
| 2.6 | Agile Methodology | 4 |
| 2.7 | Comprehensive User Experience | 4 |

2.1 The Impact of E-commerce on Consumer Behavior

E-commerce has revolutionized consumer behavior by offering convenient access to products and services. Studies emphasize that detailed product descriptions, high-quality images, and user reviews significantly influence consumer trust and informed decision-making [2]. Platforms like "Techno Sparks" leverage these aspects to create a compelling shopping experience, crucial for customer acquisition and retention.

2.2 Importance of Customer Support and Maintenance

Effective customer support is pivotal for e-commerce success. Research underscores that platforms providing live chat support with quick responses excel in resolving customer issues compared to traditional methods [4]. "Techno Sparks" enhances customer satisfaction through instant assistance via live chat and dedicated maintenance teams for each product category, ensuring prompt problem resolution and fostering customer loyalty.

2.3 Role of Mobile Technology

Mobile technology plays a crucial role in enhancing e-commerce platforms. Smartphones and mobile apps provide seamless access to products and services, enhancing user experience with intuitive navigation and quick access to information [6]. "Techno Sparks" capitalizes on this by developing a user-friendly Flutter-based mobile app for Android and iOS, ensuring a unified and engaging interface.

2.4 Advanced Payment Systems

Offering diverse payment options is critical for e-commerce success. Research indicates that multiple payment methods increase customer satisfaction and conversion rates [8]. "Techno Sparks" supports various payment methods, facilitating efficient transactions and accommodating diverse consumer preferences, thereby enhancing user convenience and satisfaction.

2.5 Technological Infrastructure

A robust technological infrastructure is essential for e-commerce platforms to ensure functionality and performance. "Techno Sparks" utilizes Flutter for frontend development, Laravel for backend operations, and SQL for database management, ensuring efficient data handling and secure transactions [10]. These technologies support scalability and real-time updates, crucial for delivering a seamless user experience.

2.6 Agile Methodology

Agile methodology enhances software development by promoting flexibility and iterative improvements. It enables teams to respond promptly to changes and deliver incremental improvements based on user feedback [12]. "Techno Sparks" adopts Agile practices to iteratively develop and refine its platform, fostering collaboration and ensuring alignment with customer needs and market dynamics.

2.7 Comprehensive User Experience

"Techno Sparks" enhances user experience with features like invoice printing, data visualization, and detailed order status tracking [14]. These functionalities improve transparency and keep users informed throughout their purchase journey, building trust and satisfaction.

Chapter 3

Methodology

Contents

| | |
|---|----------|
| 3.1 Backend Development | 5 |
| 3.2 Frontend Development | 6 |
| 3.3 Database | 6 |
| 3.4 Main Features | 7 |

3.1 Backend Development

In order to improve organization and scalability, we implemented a specific design during the Laravel application development phase. The main parts of our system, controllers, services, models, routes, and middleware are separated into different directories within the backend source code.

The initial phase of the application is represented by the standard entry point, index.php, located in the public directory. It is responsible for setting up the server and bootstrapping the Laravel framework.

We have set up the basic parameters of our Laravel application in app.php. This requires defining the routing system using Laravel's routing functionality, configuring the middleware, and importing the necessary modules.

One important part is the router, which arranges the endpoints and directs incoming requests to the correct control paths. Modular routers help divide responsibilities, making the maintenance of the code base easier.

In order to manage the business logic of our application, controller files are necessary. Agents provide input that they receive, process, and collaborate to create relevant responses. Controllers act as intermediaries, coordinating with services and models to perform specific tasks in response to client requests.

Services include business logic, specialized management, and reusable functionality such as database interfaces, data processing, and communication with third-party APIs. Controllers often use services to perform the real work required to complete a particular process.

This flow [index.php -> app.php -> Router -> Controller -> Service] is a common prac-

tice in Laravel application development, helping to build a well-structured, scalable, and maintainable code base.

3.2 Frontend Development

For the admin panel, we utilize HTML and Laravel Blade templating to create a dynamic and responsive user interface. This approach allows us to leverage Laravel's powerful features while ensuring a seamless user experience.

We decided to use the flexible Flutter framework to create the mobile application. We were able to save significant development time by avoiding the need to duplicate code thanks to this wise decision.

The choice to use Flutter was made after a thorough analysis of all its features, focusing on its success. Flutter is a powerful cross-platform framework that makes it easy to share code across multiple target systems. Flutter simplifies the development process by allowing both UI and code to be shared, unlike existing application frameworks. Being an open-source framework, Flutter also includes a large number of training materials and abundant documentation, which helps developers solve problems more quickly and easily. Flutter is, in any case, the perfect choice for creating cross-platform mobile applications that work quickly and efficiently.

Our top pick among programming languages was Dart. Dart was created by Google specifically for web and mobile app developers, and can be used to create apps for both iOS and Android. The language is designed to run flawlessly on contemporary web servers, mobile devices, and browsers.

3.3 Database

A number of convincing arguments led us to select SQL as our project's database platform. Firstly, the structured query language (SQL) provides a robust framework for data manipulation and retrieval. Using XAMPP, we set up a local development environment that includes Apache for serving our web application and MySQL (a popular SQL database) for data storage and management. This setup ensures a cohesive development experience with all necessary components readily available.

Scalability is another key component of SQL databases. SQL databases can be scaled vertically by upgrading server resources or horizontally through sharding and replication techniques. As the project develops and user needs grow, this feature ensures that massive data volumes and heavy traffic loads are managed efficiently, enabling the database to meet growing requirements.

When it comes to performance, SQL databases are outstanding for data retrieval tasks. Data querying is made quick and easy by its structured paradigm and effective indexing methods. Enhancements to query performance and response times include support for complex queries with numerous fields and criteria, as well as integrated caching and memory management tools.

Dealing with alterations to the data structure over time is made easier by SQL's scalable

design. This flexibility makes it possible to quickly edit fields in a table without affecting already-existing data, which is a useful feature in situations involving rapid development when requirements may change often. Furthermore, Laravel, the project's preferred back-end technology, connects with SQL databases with ease. With Laravel's Eloquent ORM, you may use a wide range of features and methods to streamline CRUD tasks, run intricate queries, and take advantage of sophisticated SQL capabilities in Laravel applications.

Postman is used extensively to test and document our APIs, ensuring that our endpoints function correctly and reliably.

SQL is a great choice for our project's database technology because of its flexibility, scalability, performance, and capacity to scale schemas. Its interaction with Laravel further enhances the development experience.

3.4 Main Features

Mobile Home page:

On Home page, the user can browse as a guest and see all the products and the feature to search for any product. When ordering any product, the login page appears to subscribe and enter to complete the ordering process. In Login page is the page that the user deals with when visiting our application. On this page, the user is welcomed and options such as "Sign In," "Sign Up," and "Guest Login" are provided.

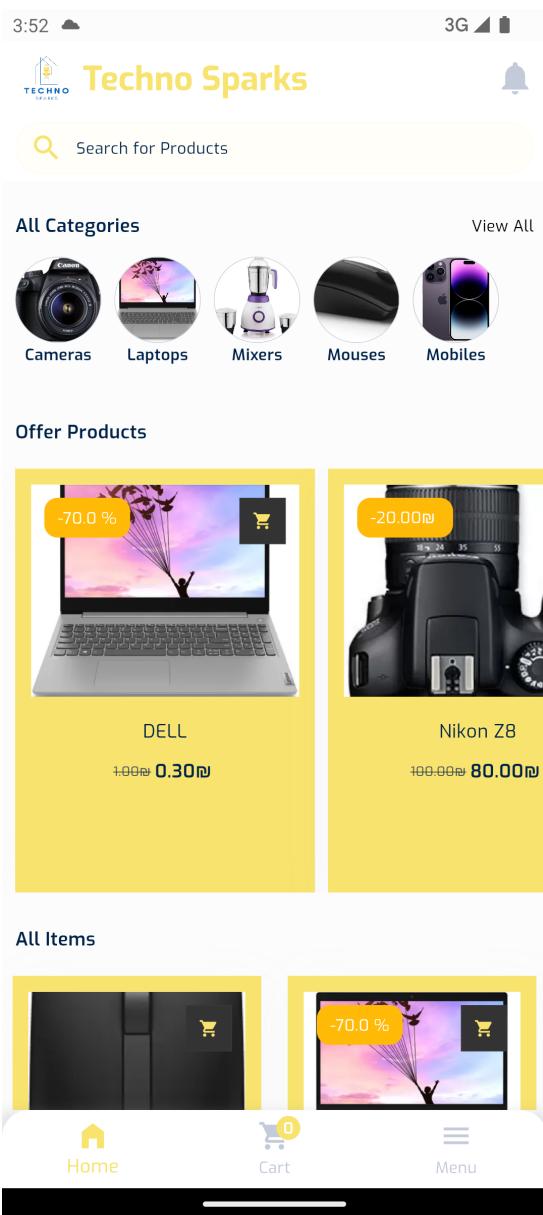


Figure 3.1: Home

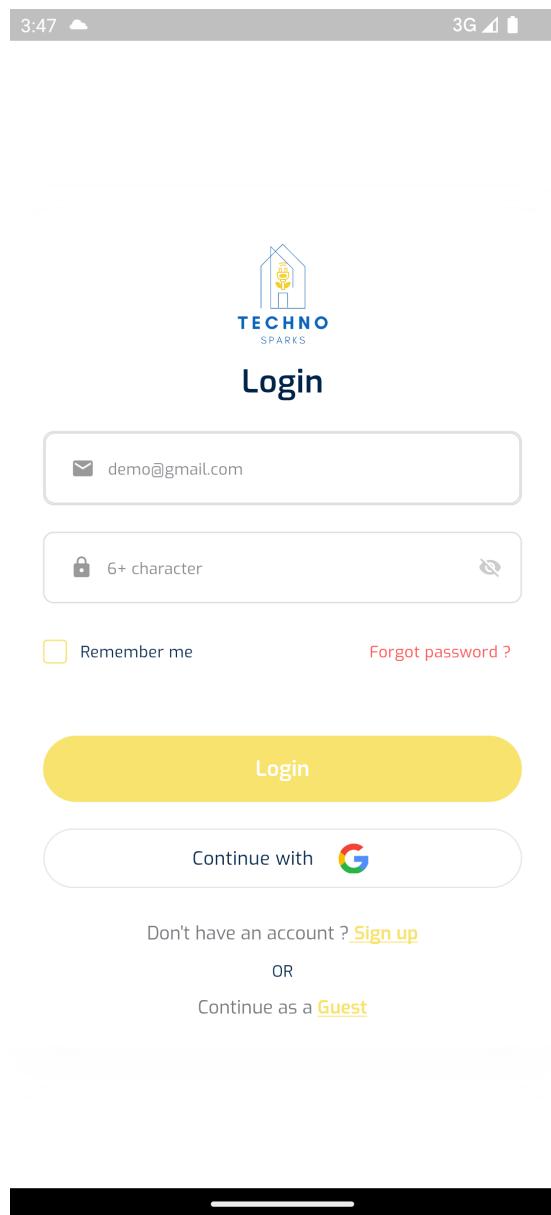


Figure 3.2: Login

Users need to register the correct password and email address to log in. While trying to log in, the program verifies that the user has filled out everything completely and that the information is accurate. People who do not currently have an account can choose to create a new account. In order to access more capabilities within the system, users must first register an account through it. Sql database securely stores all user provided data. Email addresses, and hashed passwords, where the password must be more than 6 characters long to be strong . The site also provides the remember me feature, which is a feature used to facilitate the login process for users. When this feature is activated, login information (such as user name and password) is stored securely on the device used to access the site, so that the user does not need to enter it each time he visits the site. And also log in with your Google account.

Sign Up

First Name

Last Name

Enter phone number

Email

Password

Confirm Password

[Sign Up](#)

Already have an account ? [Login](#)

OR

Continue as a [Guest](#)

Sign Up

Fatma

Fatma

0512345678

fatima.abureesh2001@gmail.com

.....

.....

[Sign Up](#)

Already have an account ? [Login](#)

OR

Continue as a [Guest](#)

Figure 3.3: sign up

Figure 3.4: sign up with data

After the user fills out the necessary information, the home page will appear.

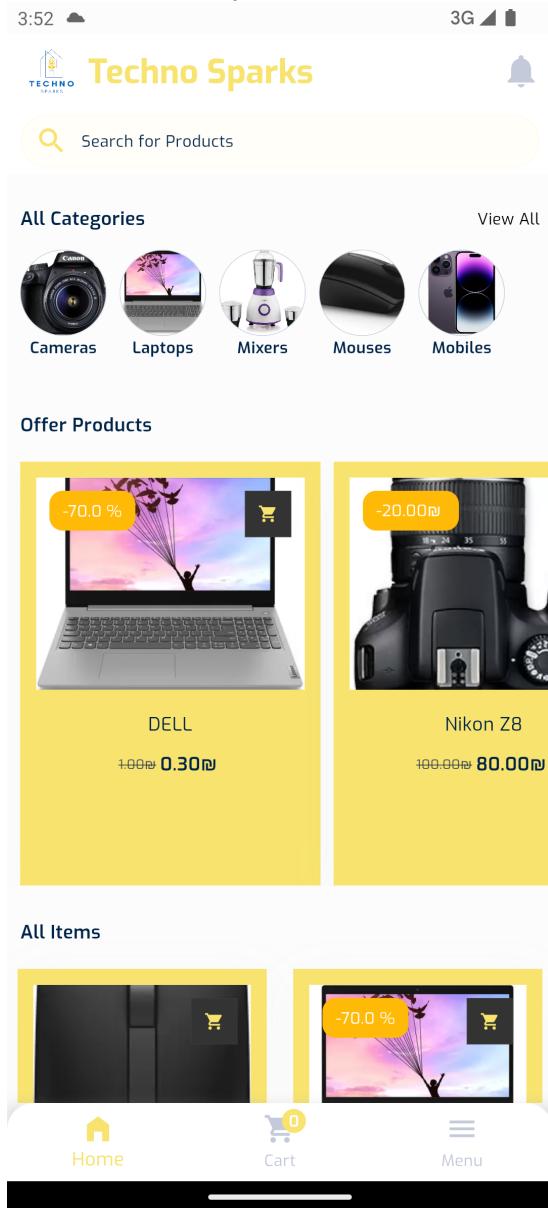


Figure 3.5: home page

After the user has registered his information and created an account, this menu page appears, which contains several options that the user can do, such as my profile, my orders, chat, deleting his account, and also logging out.

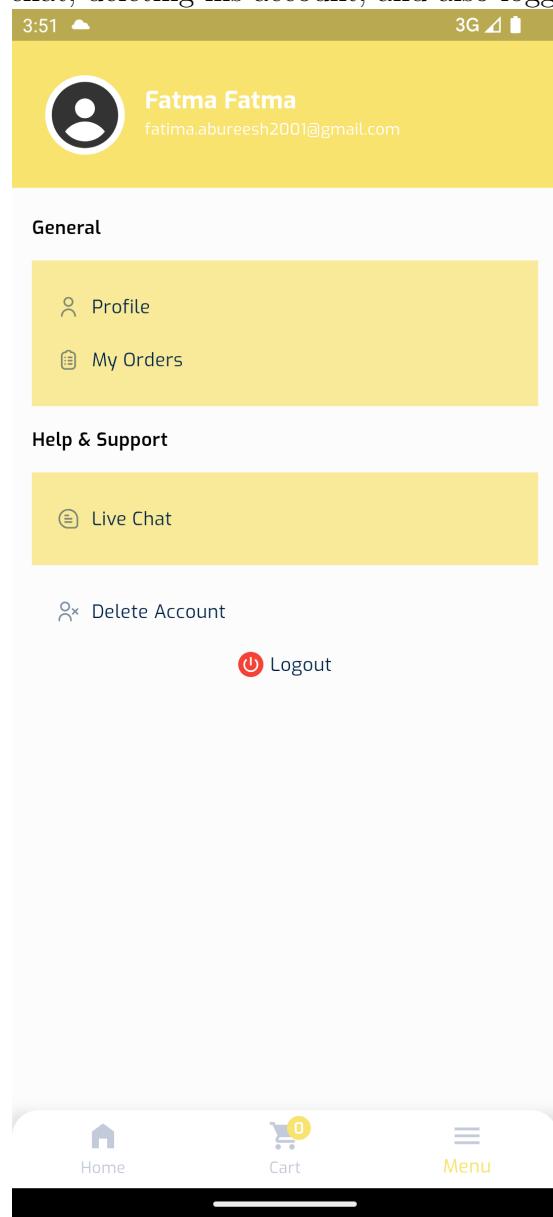


Figure 3.6: menu page

If the user wants to delete his account, he will receive a confirmation message to delete

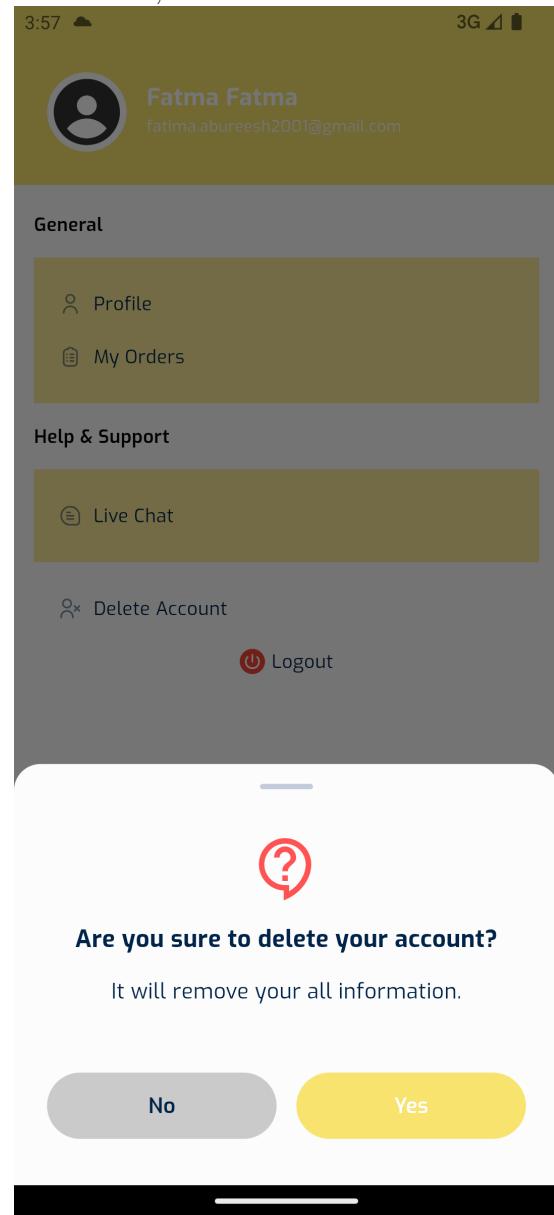


Figure 3.7: delete account

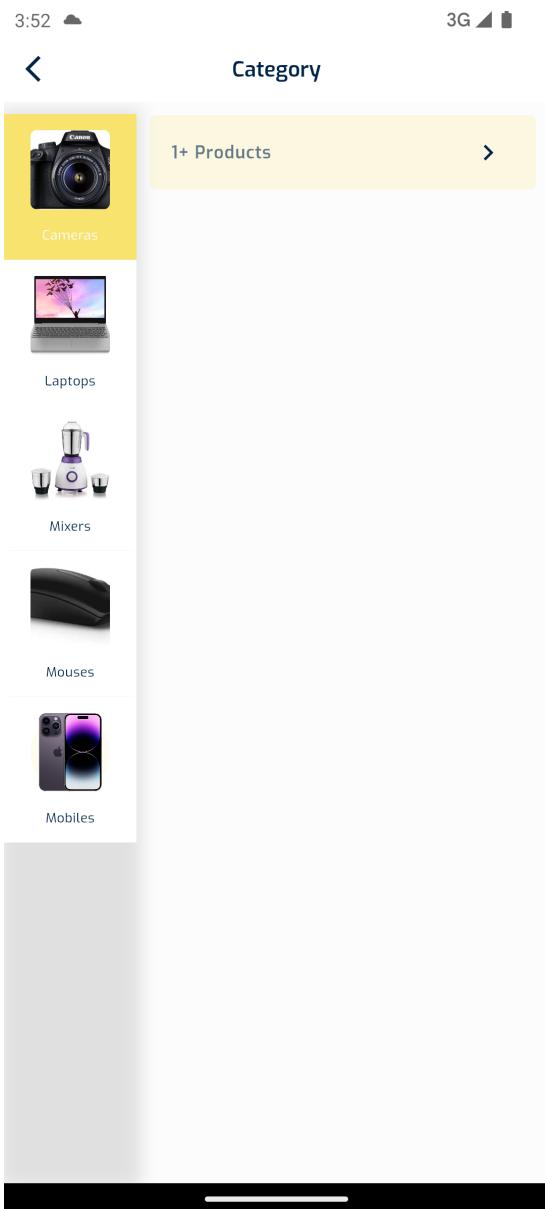


Figure 3.8: divides devices into several categories

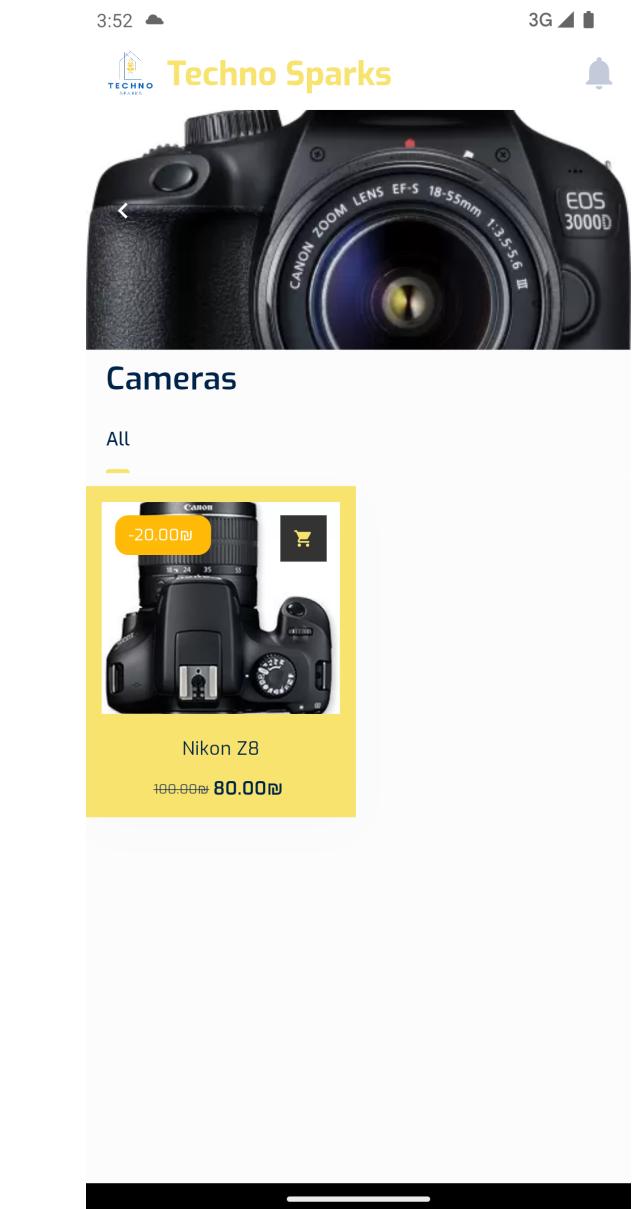


Figure 3.9: category products

Product details appear, such as several pictures from all sides of the product, the quantity that the user wants, the price before and after the discount, and a description of the product. On the My Profile page, the account information appears, and the user can update his information, including reset password.

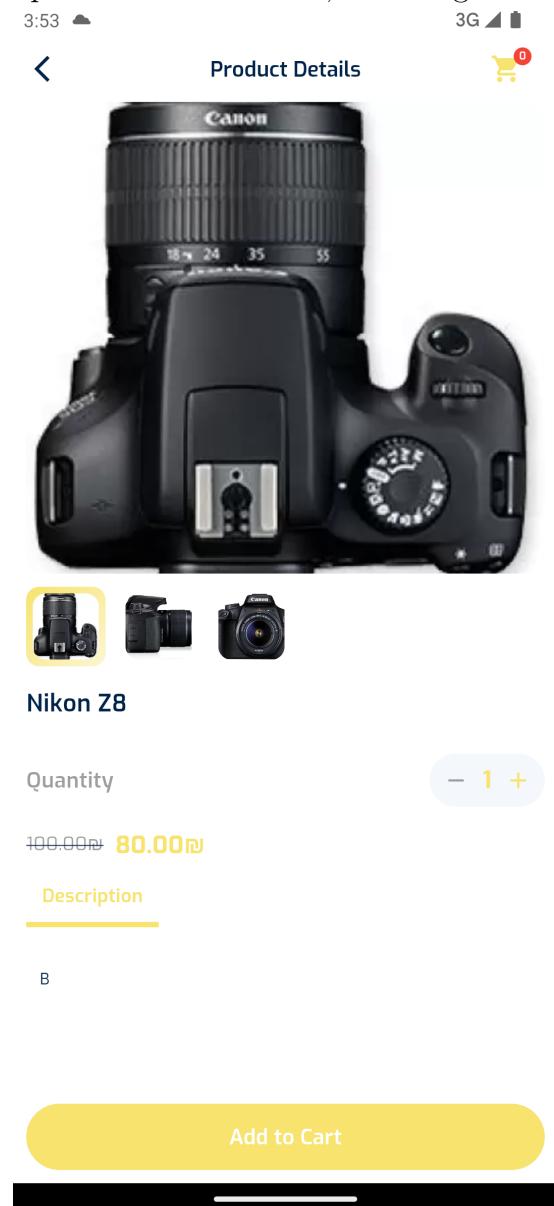


Figure 3.10: product details

The screenshot shows the 'My Profile' screen. At the top, there's a navigation bar with a back arrow, the title 'My Profile', and a user icon. Below the title is a placeholder profile picture. The user's name, 'Fatma Fatma', is displayed. The screen contains several input fields for account information: 'First Name' (Fatma), 'Last Name' (Fatma), 'Email' (fatima.abureesh2001@gmail.com), 'Mobile Number (Non Changeable)' (+9700512345678), 'Password' (a redacted string), and 'Confirm Password' (a redacted string). At the bottom is a large yellow 'Update Profile' button.

Figure 3.11: account information

The user can communicate with the admin when a problem occurs with the device and others through the chat menu on the menu page. The site also allows sending notifications to all users to benefit from offers, discounts , etc.

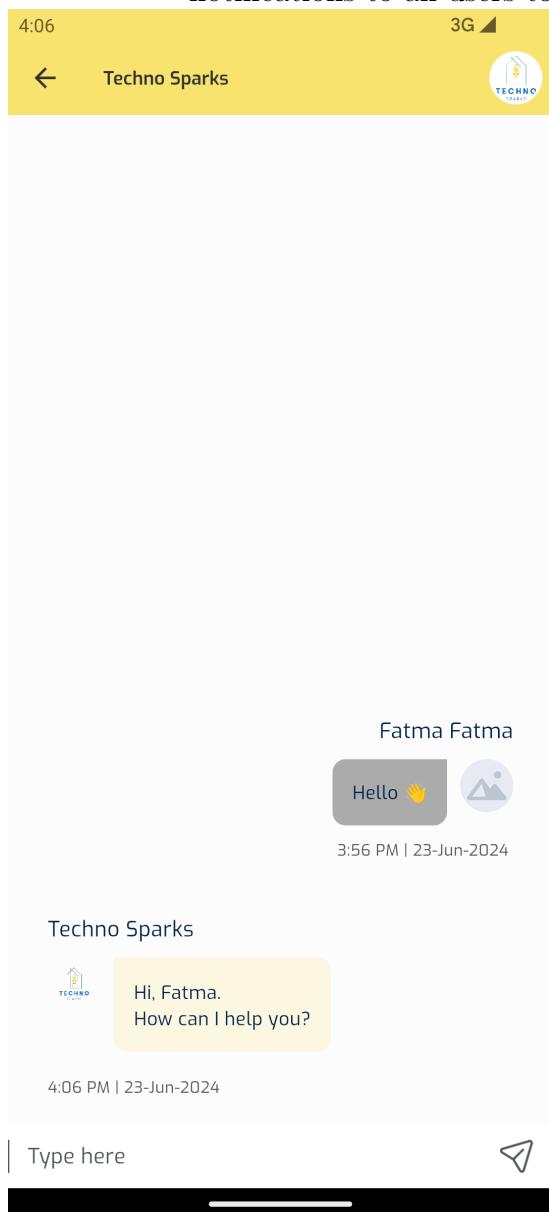


Figure 3.12: chat

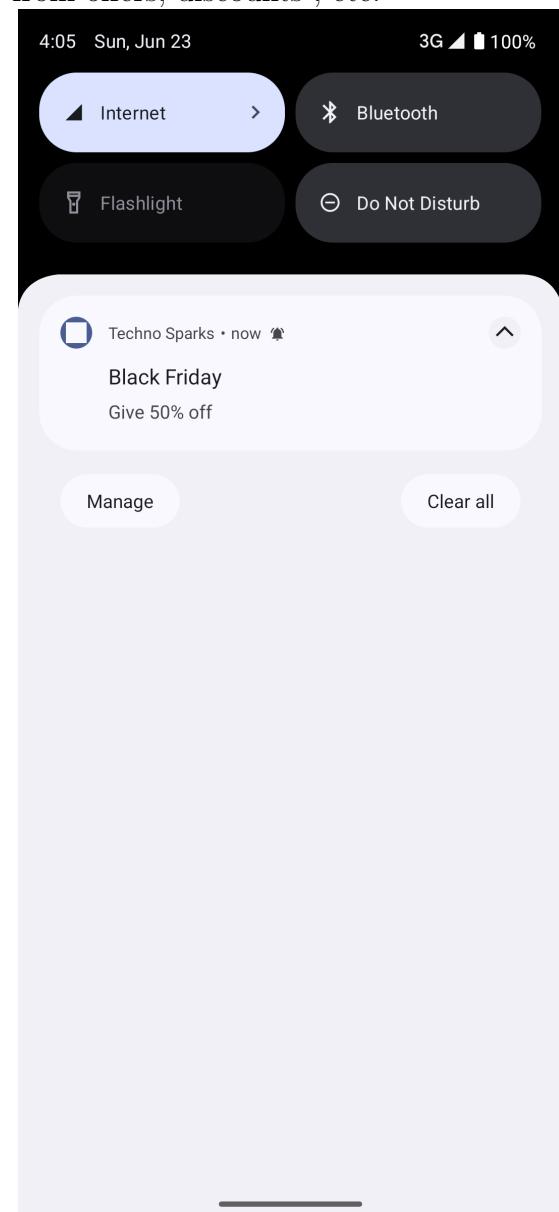


Figure 3.13: notification

From the Product Details page, users can add the product to my cart So this page contains all the products that the user has chosen, and the user uses the appropriate number of devices or deletes the device, price, and discounts. After that, the user presses "pressed to checkout" To confirm your purchase Where the check out page appears the user can choose the appropriate address for delivery and the appropriate payment method , delivery notes and the final price of the product is shown after the discount.

My Cart



Nikon Z8
Unit price: 100.00₪ **80.00₪**
100.00₪ **80.00₪**

+
1
-

| | |
|---------------------|---------------|
| Items Price | 100.00₪ |
| Discount | - 20.00₪ |
| Total Amount | 80.00₪ |

Proceed to Checkout

Home Cart Menu

Checkout

Delivery to - [Add](#)
(i) No Contact Info Added

Payment Method
[+ Add Payment Method](#)

Add Delivery Note

Subtotal **80.00₪**

Total Amount **80.00₪**

Confirm Order

Figure 3.14: cart

Figure 3.15: checkout

This message appears if the user has not added the appropriate address to confirm the arrival of the product, so the address and user information must be added.

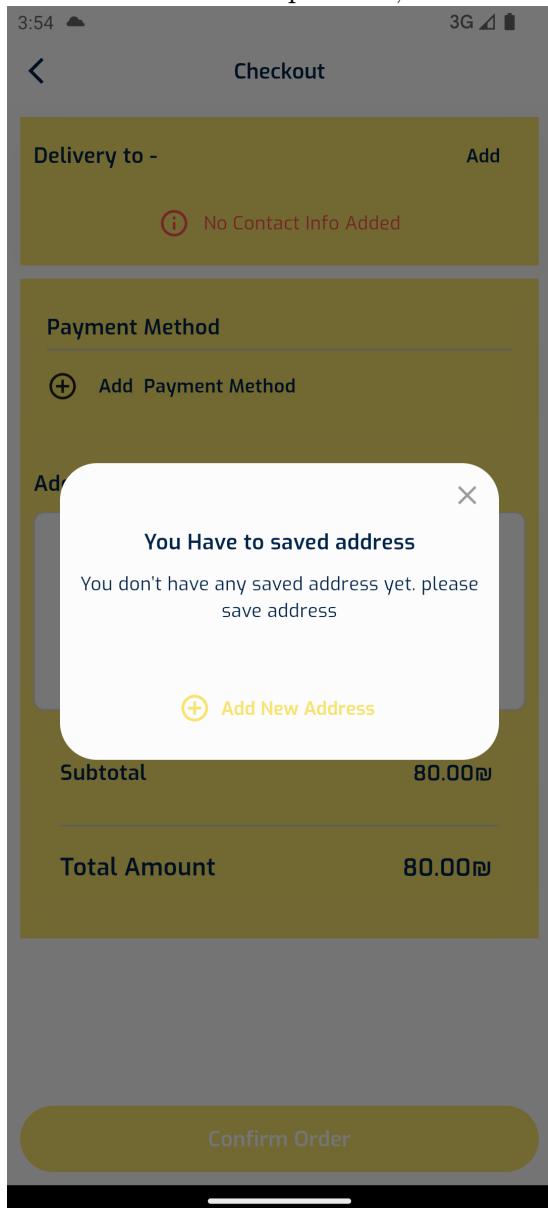


Figure 3.16: dialog add address

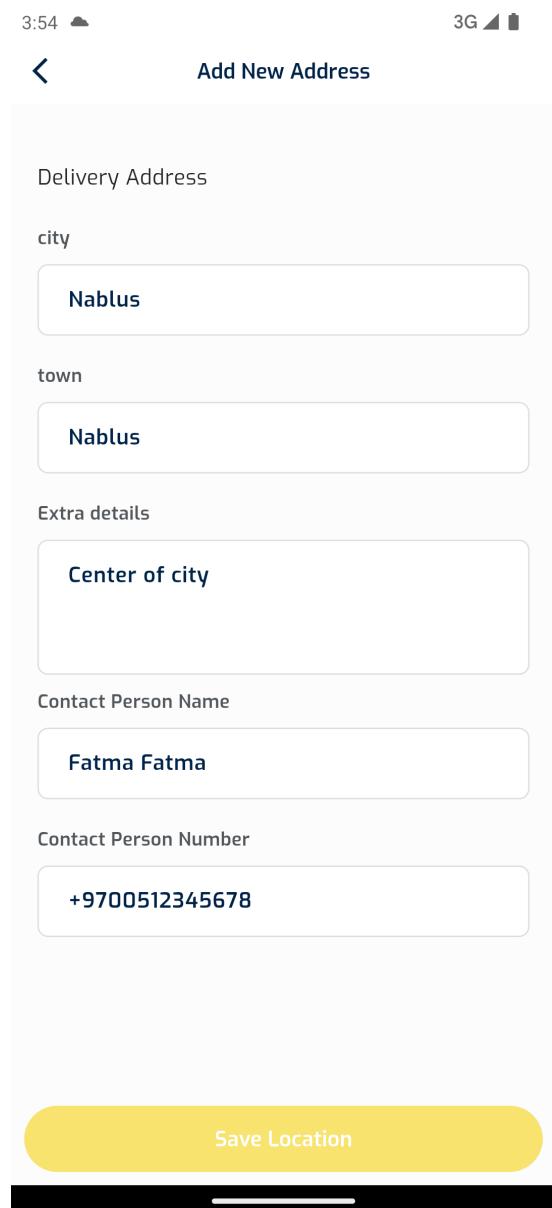


Figure 3.17: add address

The user chooses the payment method and the user information is completed.

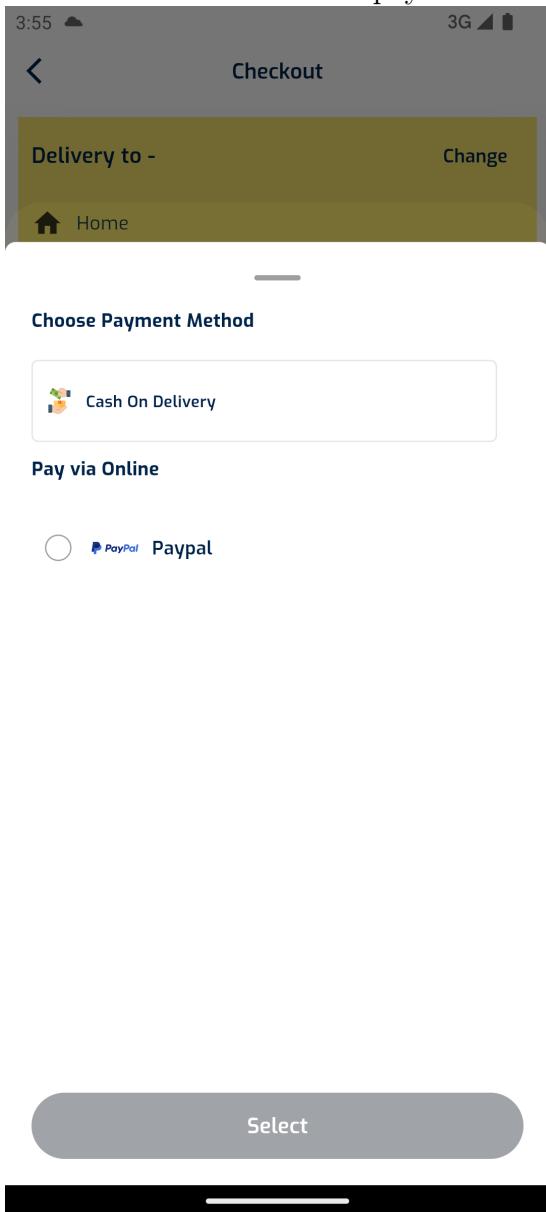


Figure 3.18: payment method

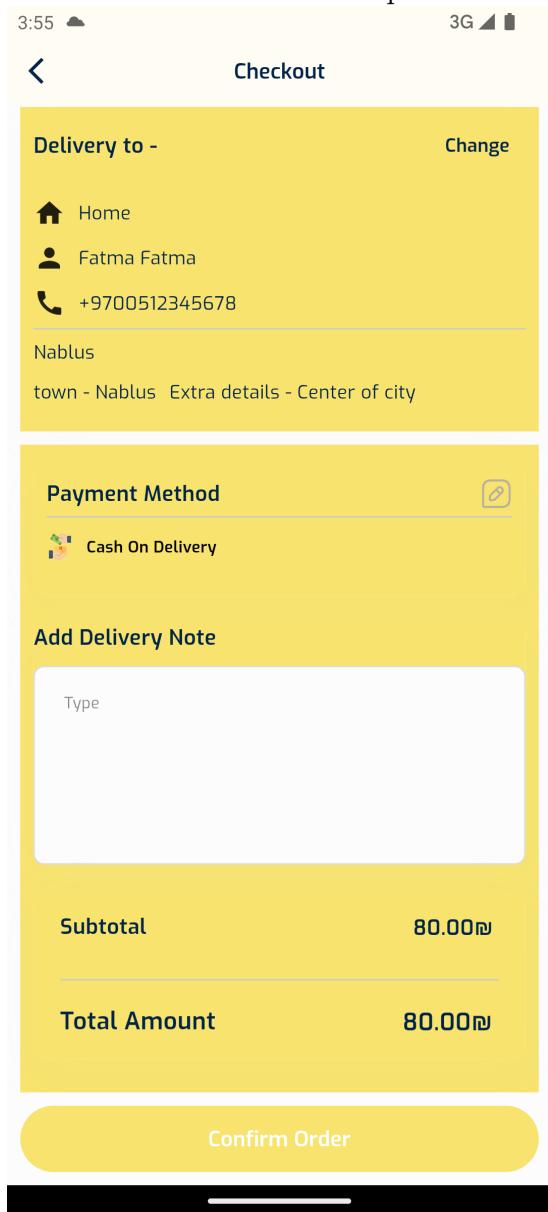


Figure 3.19: checkout with information

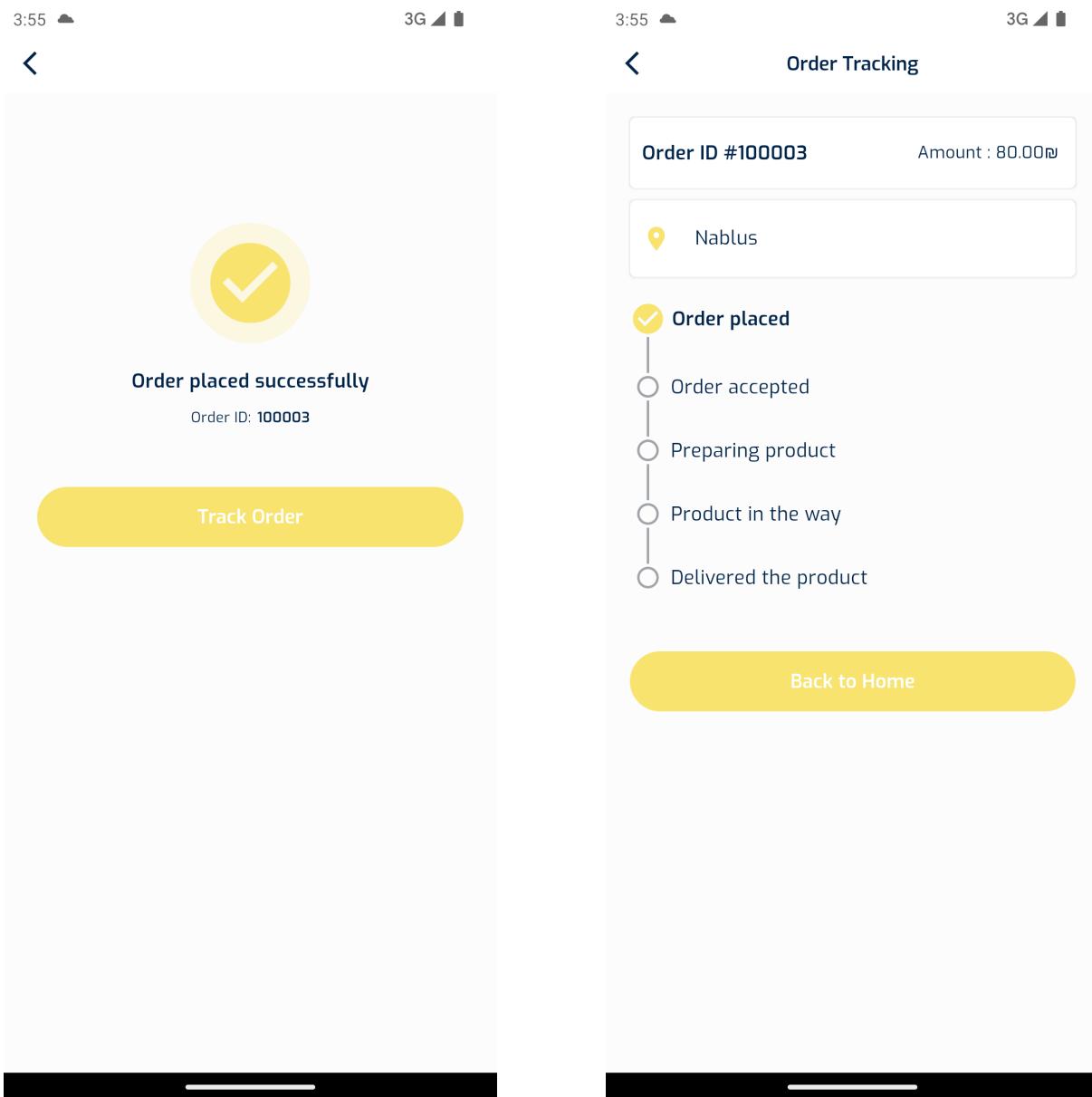


Figure 3.20: Success checkout

Figure 3.21: Track order

Figure 3.22: On the Track Order page, the admin is able to change the order status and it appears to the user.

Figure 3.23: The user can see all product details, order status, order history, and product order history.

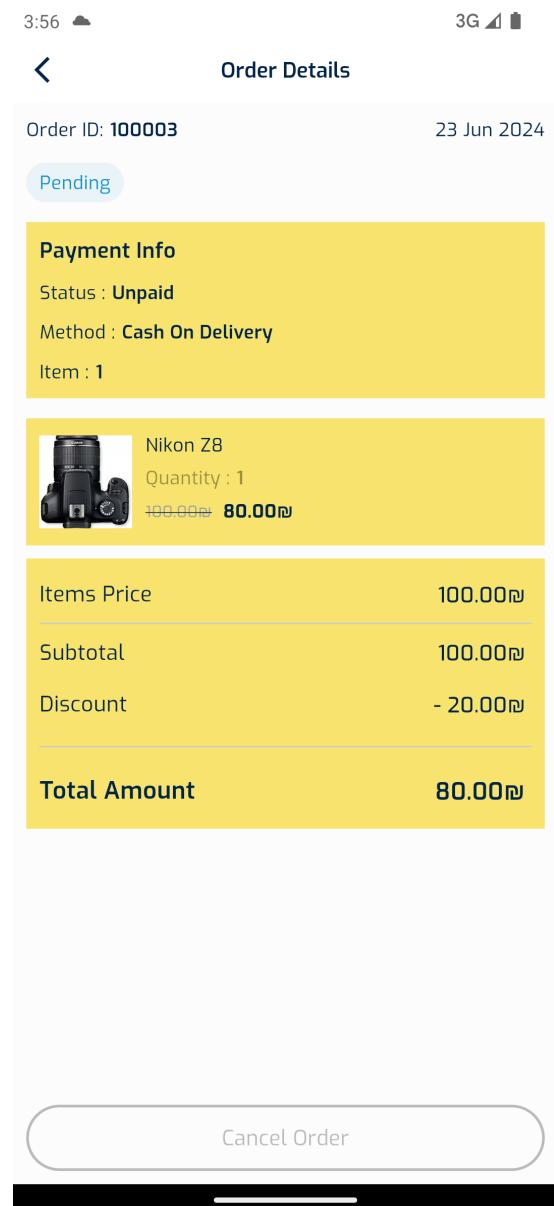


Figure 3.24: orders



Figure 3.25: my order

The application provides the feature of searching for products:

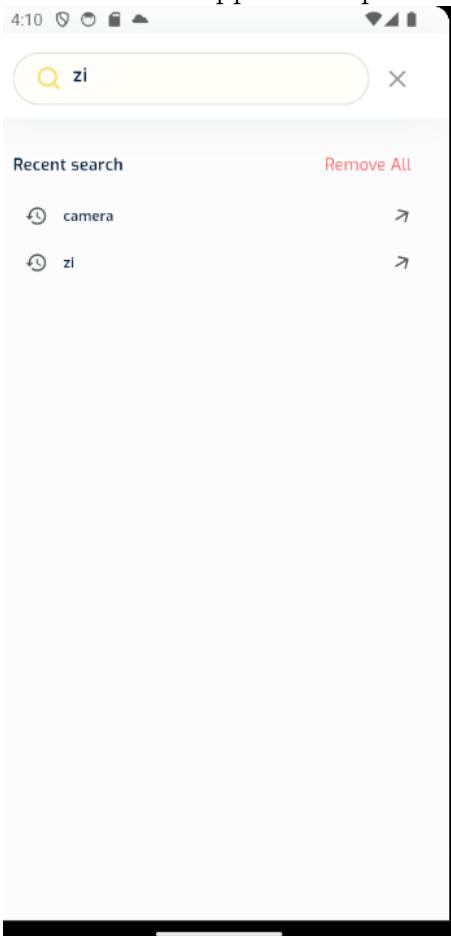


Figure 3.26: search products

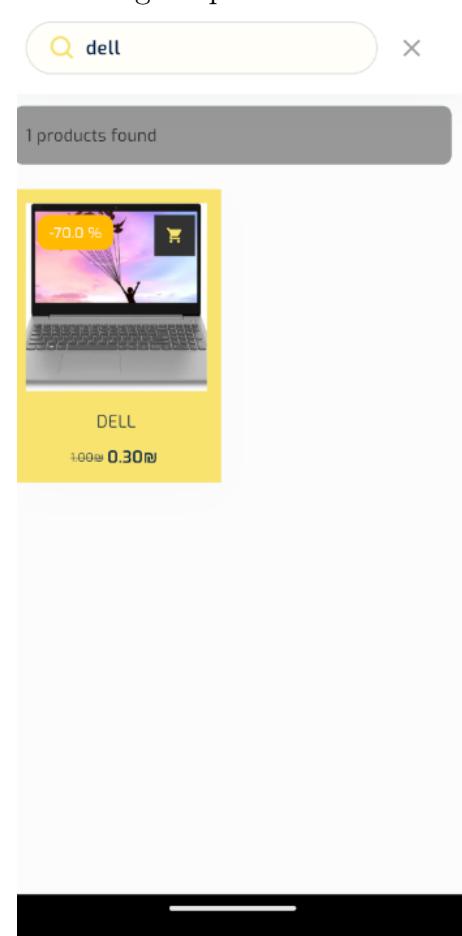


Figure 3.27: search success

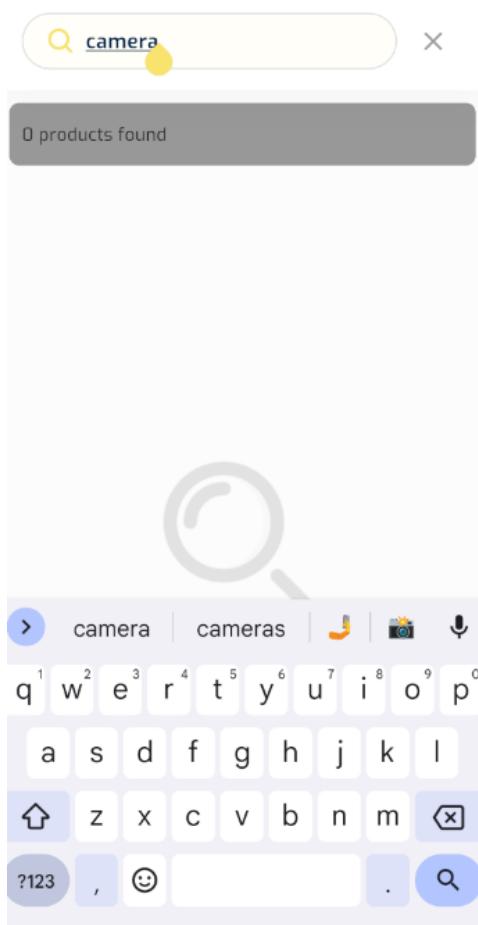


Figure 3.28: search no product found

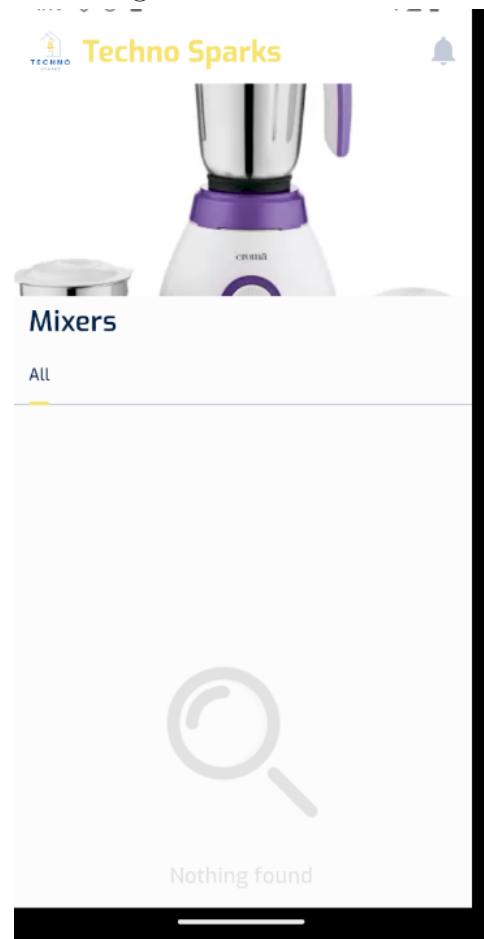


Figure 3.29: If no product

My cart :

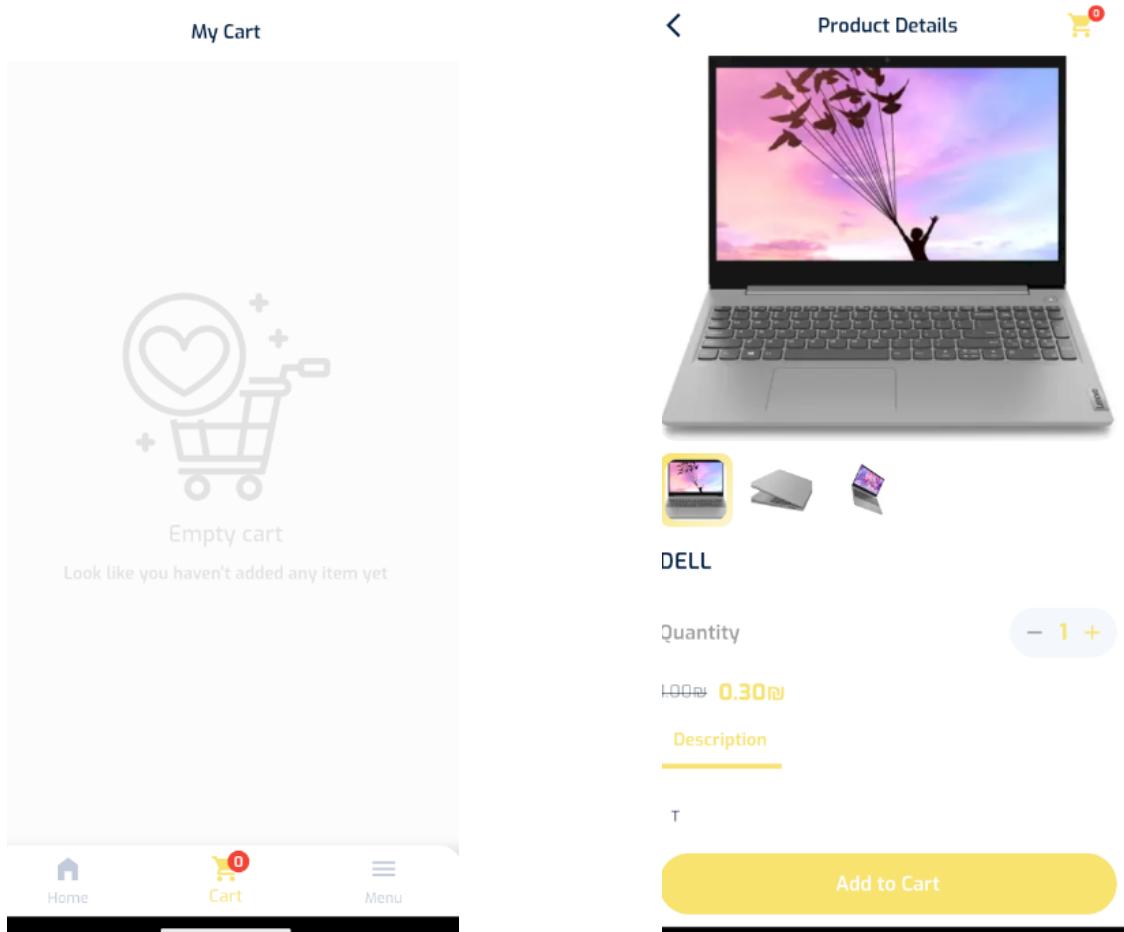


Figure 3.30: empty cart

Figure 3.31: add to cart

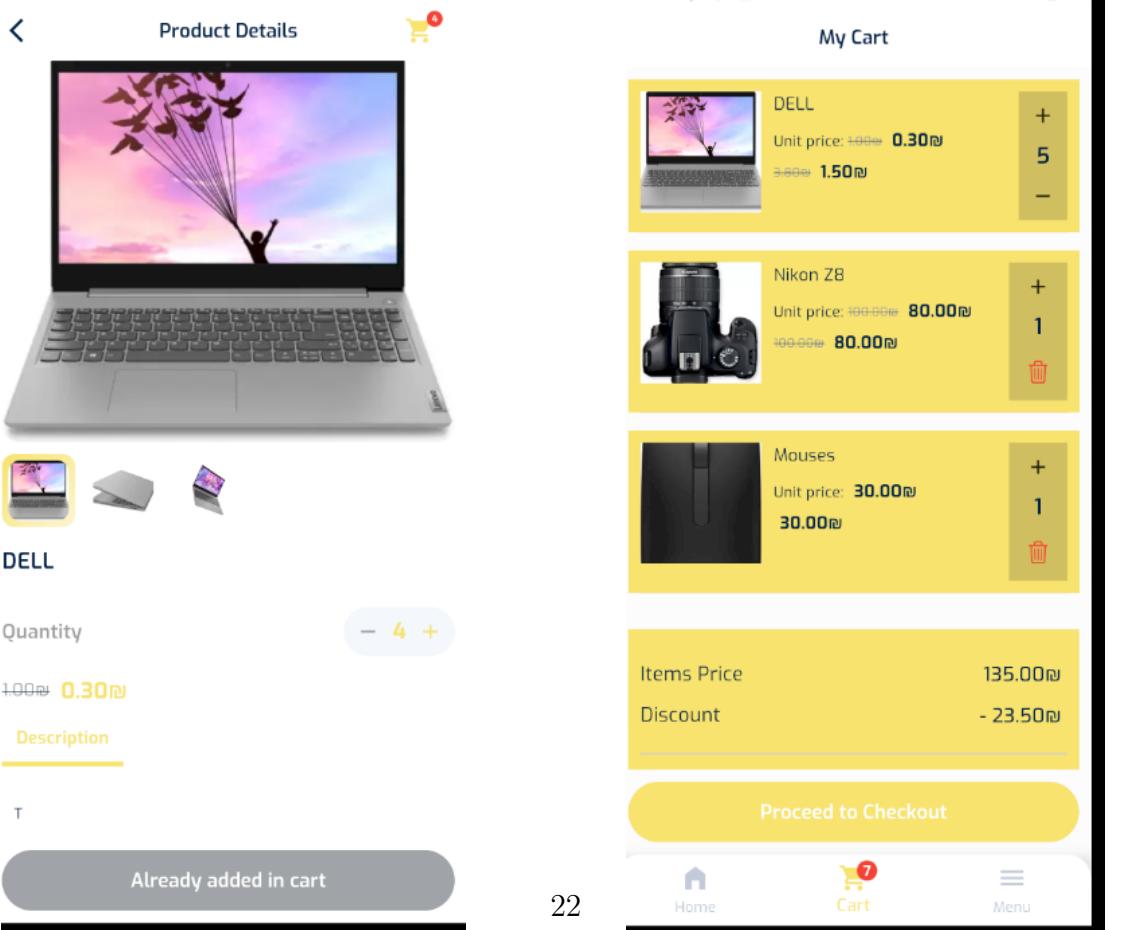


Figure 3.32: Already added to cart

Figure 3.33: My cart

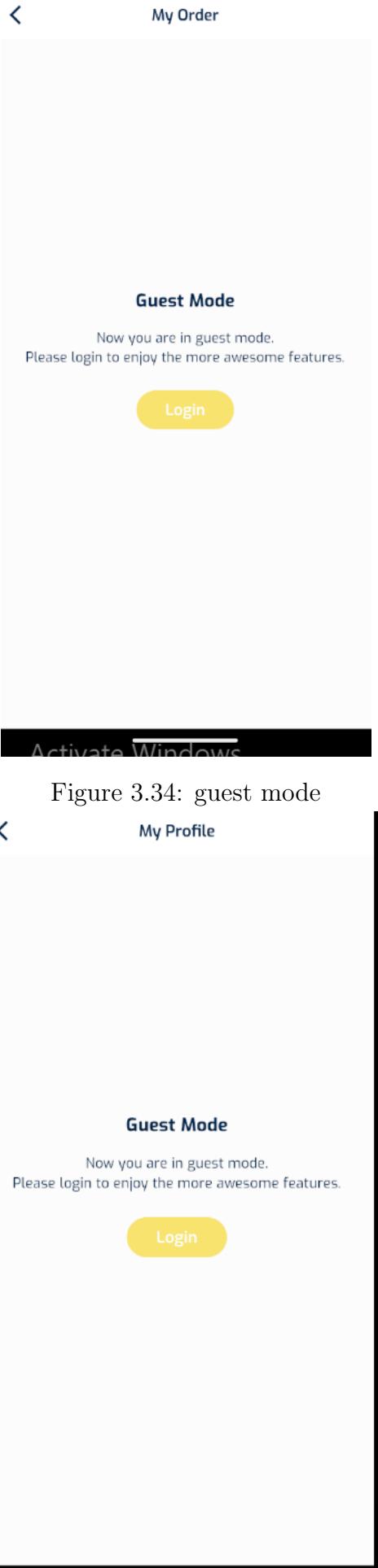


Figure 3.34: guest mode

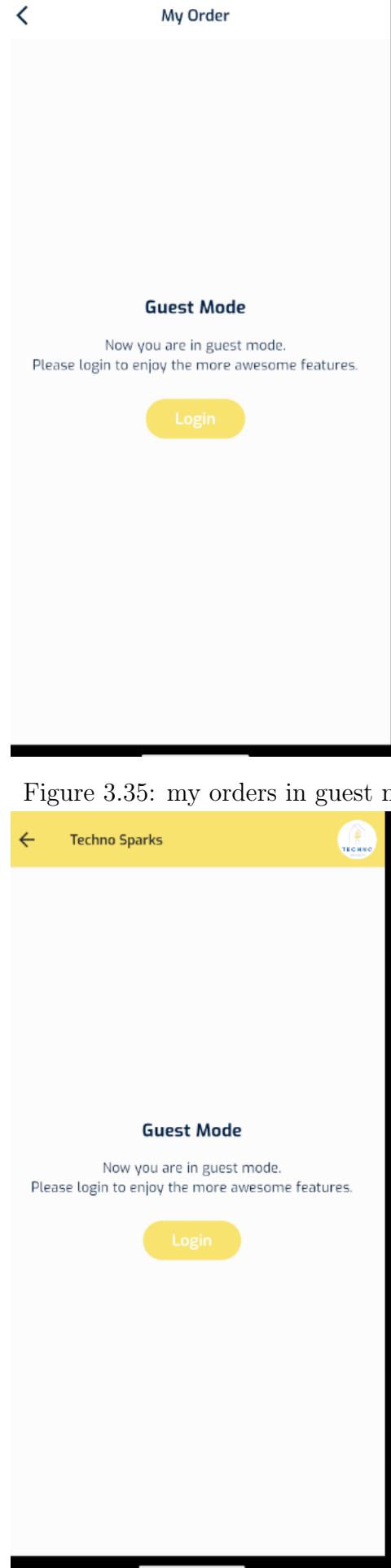


Figure 3.35: my orders in guest mode

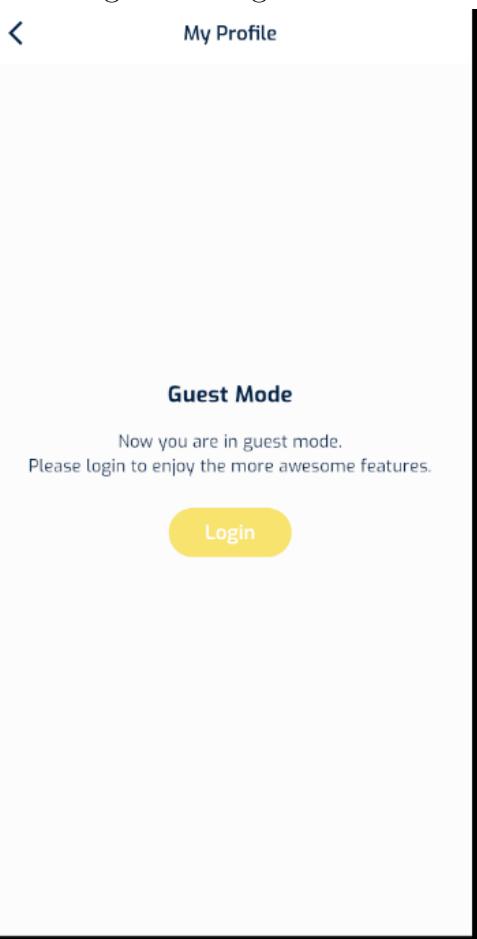


Figure 3.36: my profile in guest mode

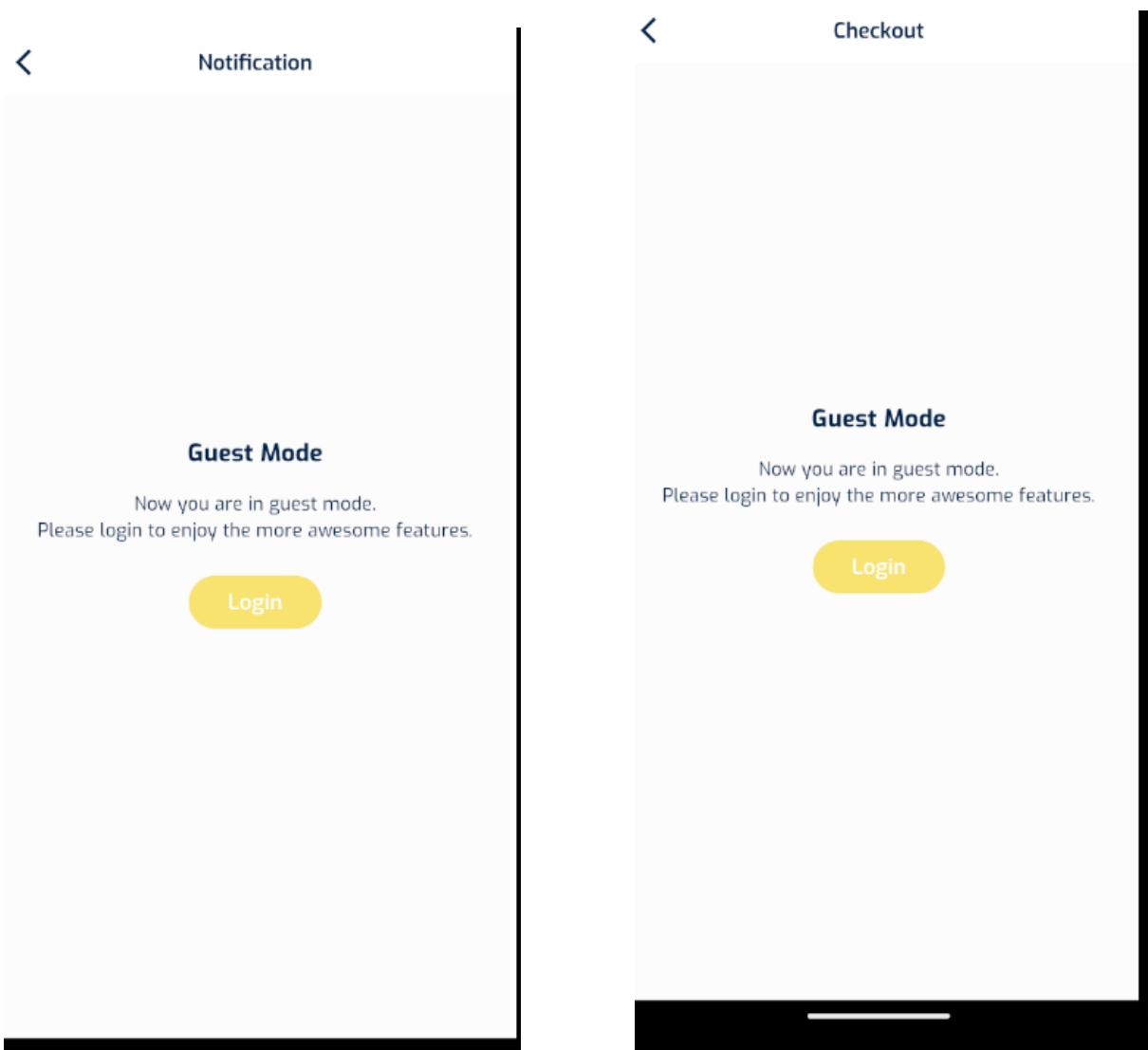


Figure 3.38: notification in guest mode

Figure 3.39: checkout in guest mode

more details:

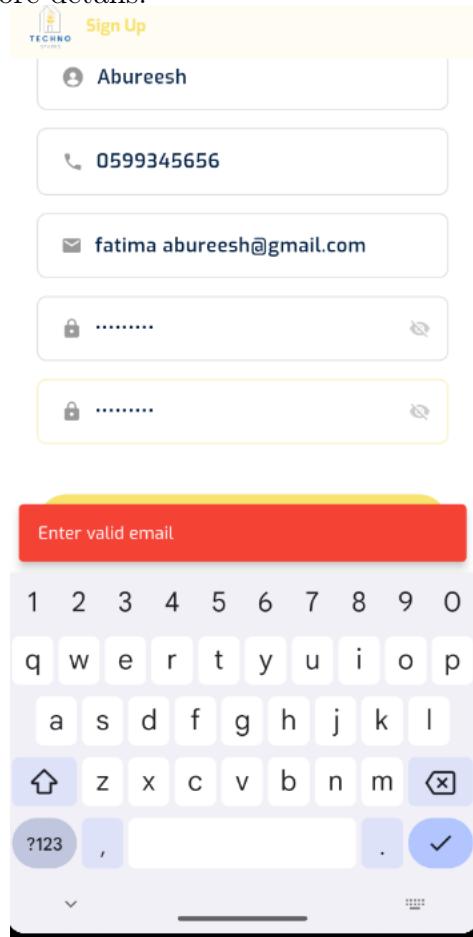


Figure 3.40: email validation

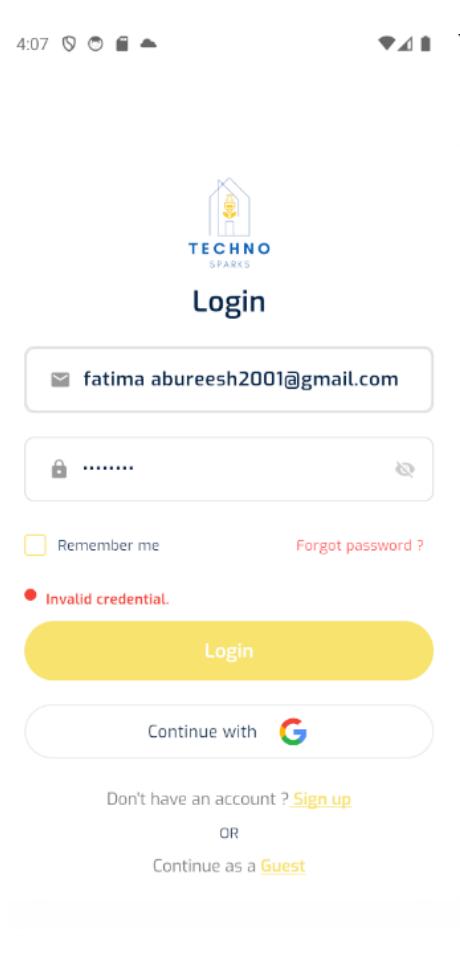


Figure 3.41: invalid information

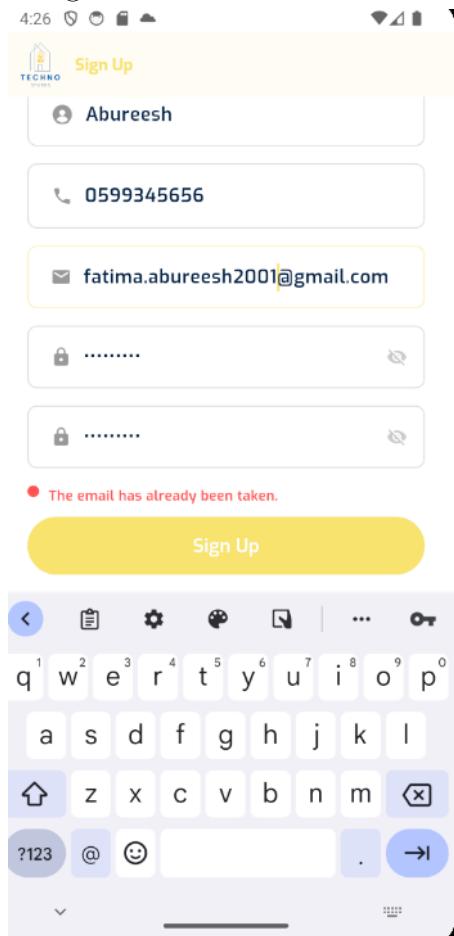


Figure 3.42: email already exist

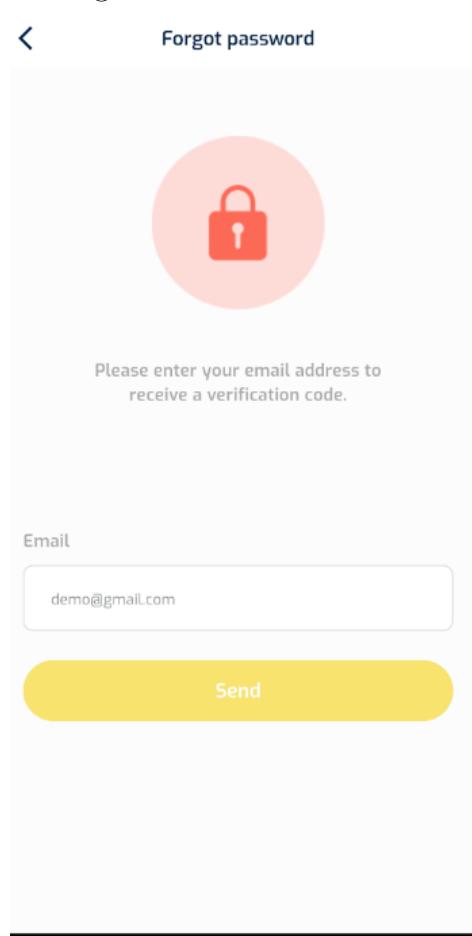


Figure 3.43: forget password

Admin Web Pages:



Login

Sign In

Want to login as technical support? [Technical support login](#)

Your Email

Password

[Sign In](#)

A screenshot of a web application interface. On the left, there is a sidebar menu with items like Dashboard, Order, Category, Product, Send Notification, Messages, Customer List, and Technical Support. The main content area has a white header with a logo and the text "Basic Information". It contains three input fields: "Full Name" (Housnia Mashaqi), "Phone" (0592940208), and "Email" (housnianahelmashaqi@gmail.com). A yellow "Save Changes" button is located at the bottom right of this section. Below it is another section titled "Change password" with two input fields: "New Password" and "Confirm Password", both with placeholder text "Enter new password". A second yellow "Save Changes" button is located at the bottom right of this section.

Figure 3.44: Admin login

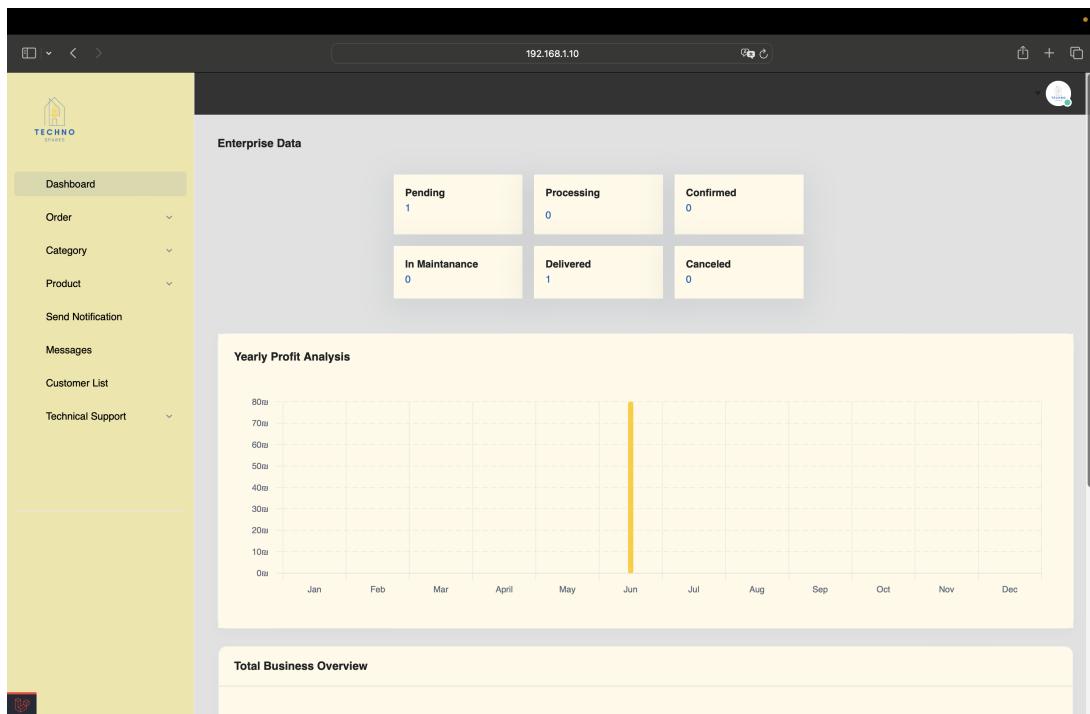


Figure 3.46: Dashboard

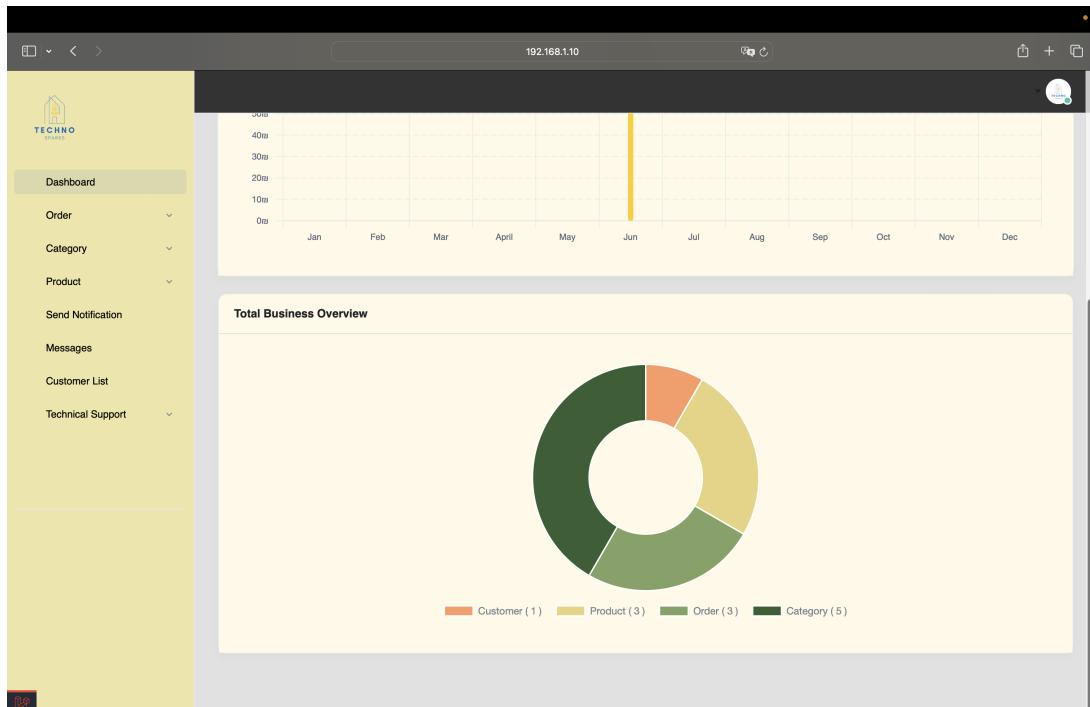


Figure 3.47: dashboard

The screenshot shows the 'All Orders' section with one item listed:

| # | Order ID | Order Date | Customer Info | Total Amount | Order Status | Pay Off Status | Actions |
|---|----------|-------------|-------------------------------|--------------|--------------|----------------|--|
| 1 | 100001 | 21 Jun 2024 | Fatma Fatma +9700512345678 | 950.00₼ | Unpaid | In Maintenance | <button>Update</button> <button>Print Invoice</button> |

The left sidebar has 'In Maintenance' selected under the 'Order' dropdown. A watermark at the bottom right says 'Activate Windows Go to Settings to activate Windows.'

Figure 3.48: Inmenitinance orders

The screenshot shows the 'All Orders' section with one item listed:

| # | Order ID | Order Date | Customer Info | Total Amount | Order Status | Pay Off Status | Actions |
|---|----------|-------------|-------------------------------|--------------|--------------|----------------|--|
| 1 | 100003 | 23 Jun 2024 | Fatma Fatma +9700512345678 | 80.00₼ | Paid | Delivered | <button>Update</button> <button>Print Invoice</button> |

The left sidebar has 'Delivered' selected under the 'Order' dropdown. A watermark at the bottom right says 'Activate Windows Go to Settings to activate Windows.'

Figure 3.49: delivered orders

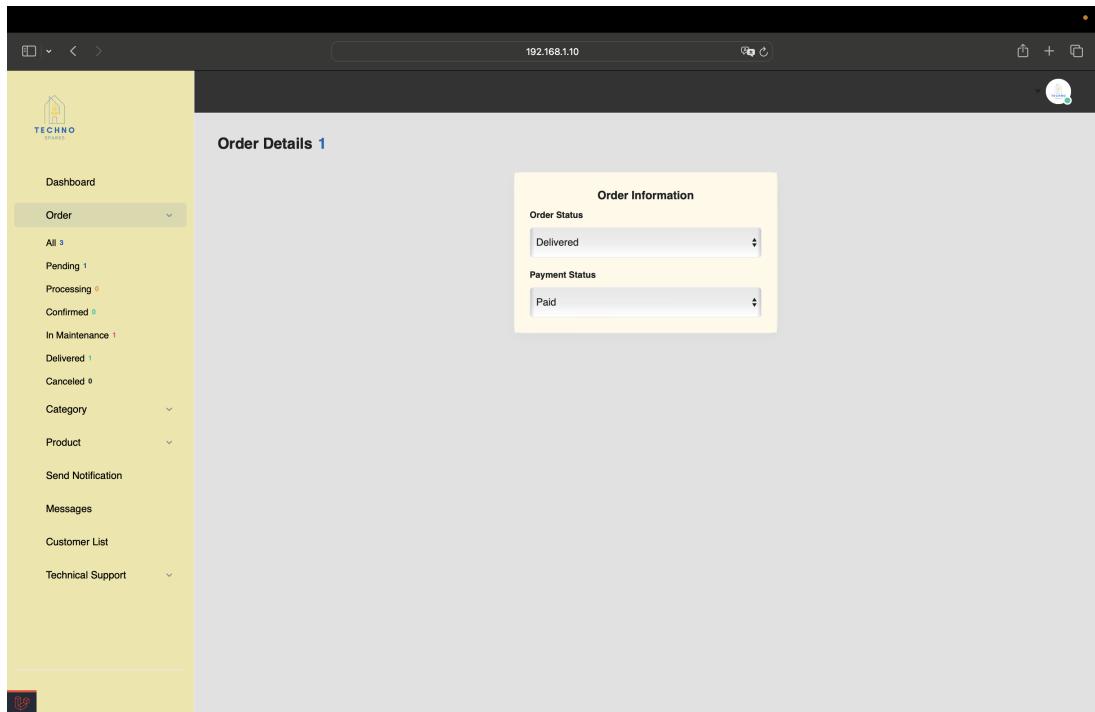


Figure 3.50: update order status

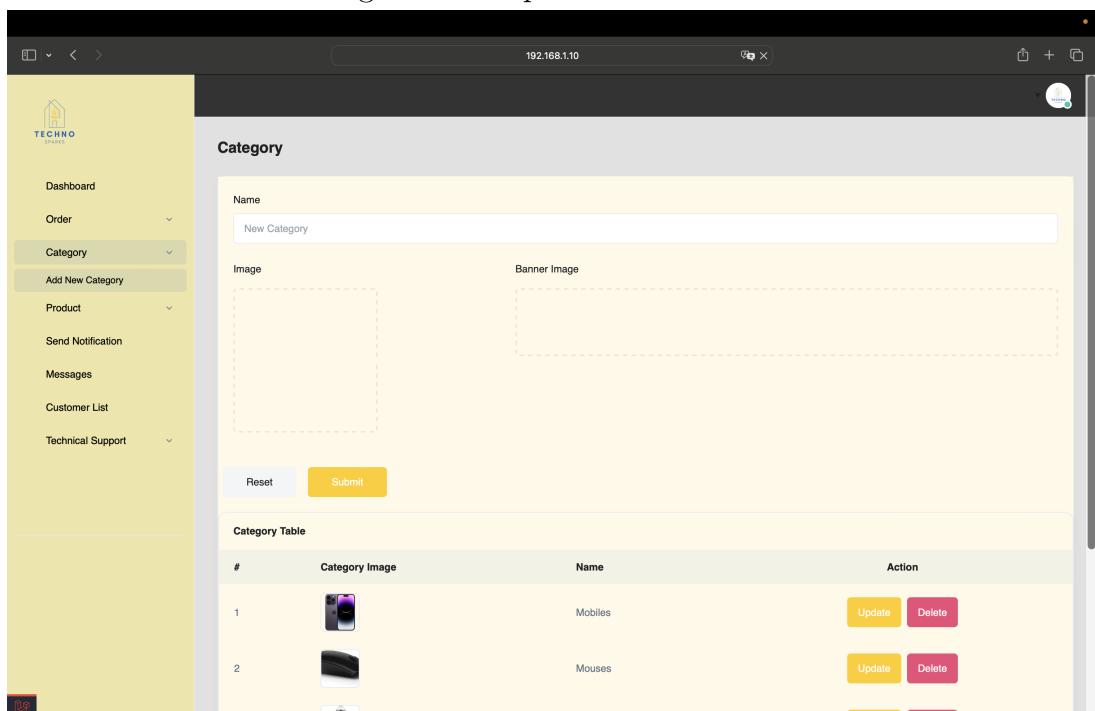


Figure 3.51: category

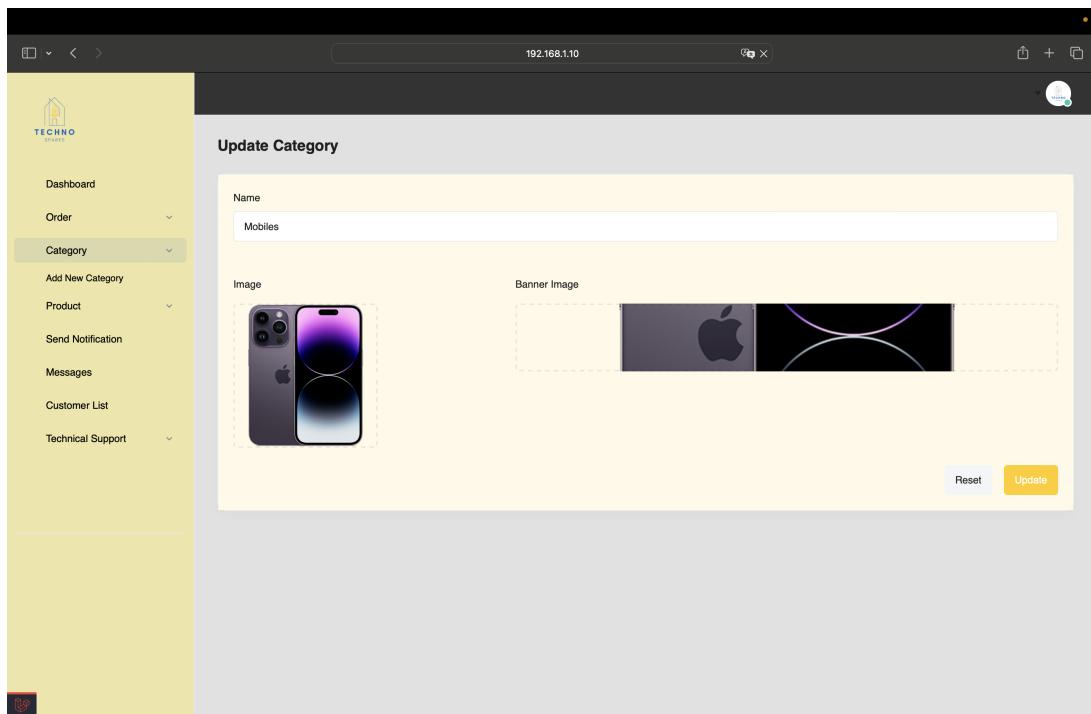


Figure 3.52: update category

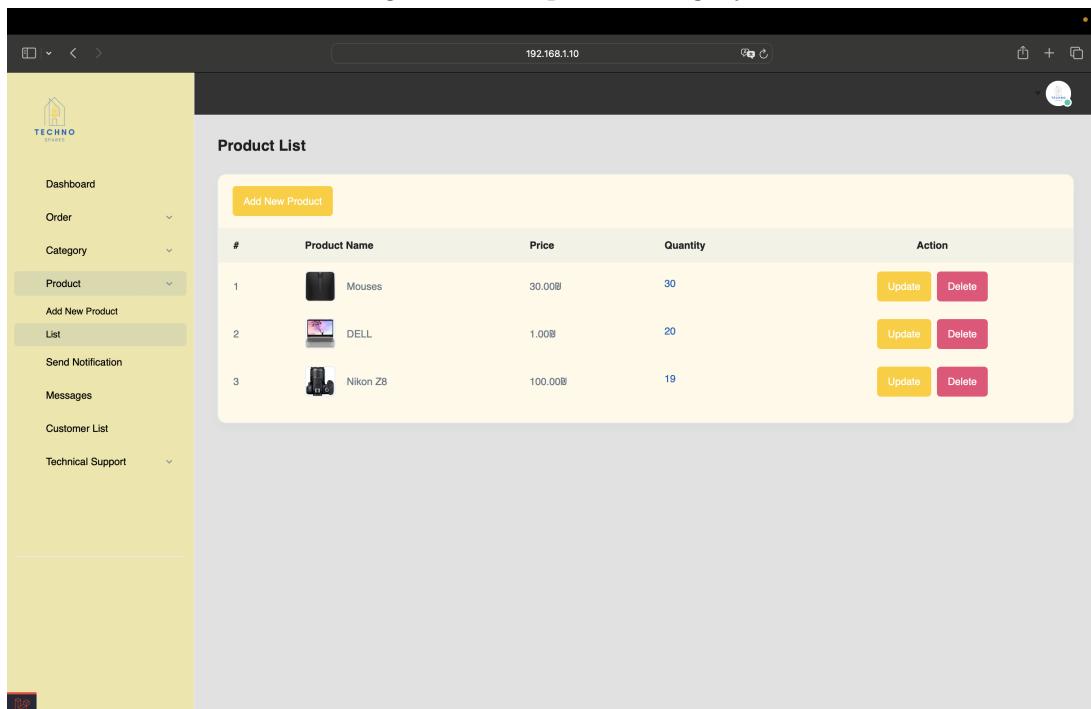


Figure 3.53: products

Add New Product

| | | | |
|--------------------------|---------------------|-----------------------|--|
| Name | new product | | |
| Description | Product Description | | |
| Price | Unit | Discount | |
| 1 | kg | 0 | |
| Discount Type | Stock | Category | |
| percent | 0 | ---Select Category--- | |
| Product Image | | | |
| <input type="file"/> (1) | | | |

Figure 3.54: add product

Product List

| # | Product Name | Price | Quantity | Action |
|---|--------------|----------|----------|---|
| 1 | DELL | 1.00ru | 20 | <button>Update</button> <button>Delete</button> |
| 2 | Nikon Z8 | 100.00ru | 19 | <button>Update</button> <button>Delete</button> |

Figure 3.55: After delete product

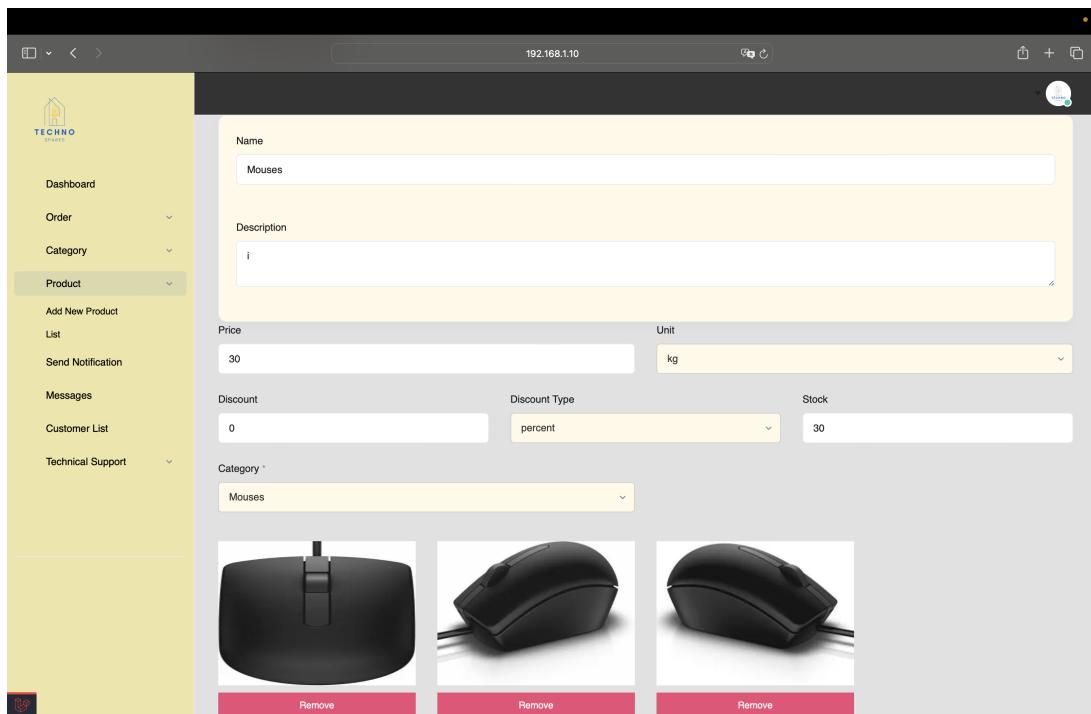


Figure 3.56: update product

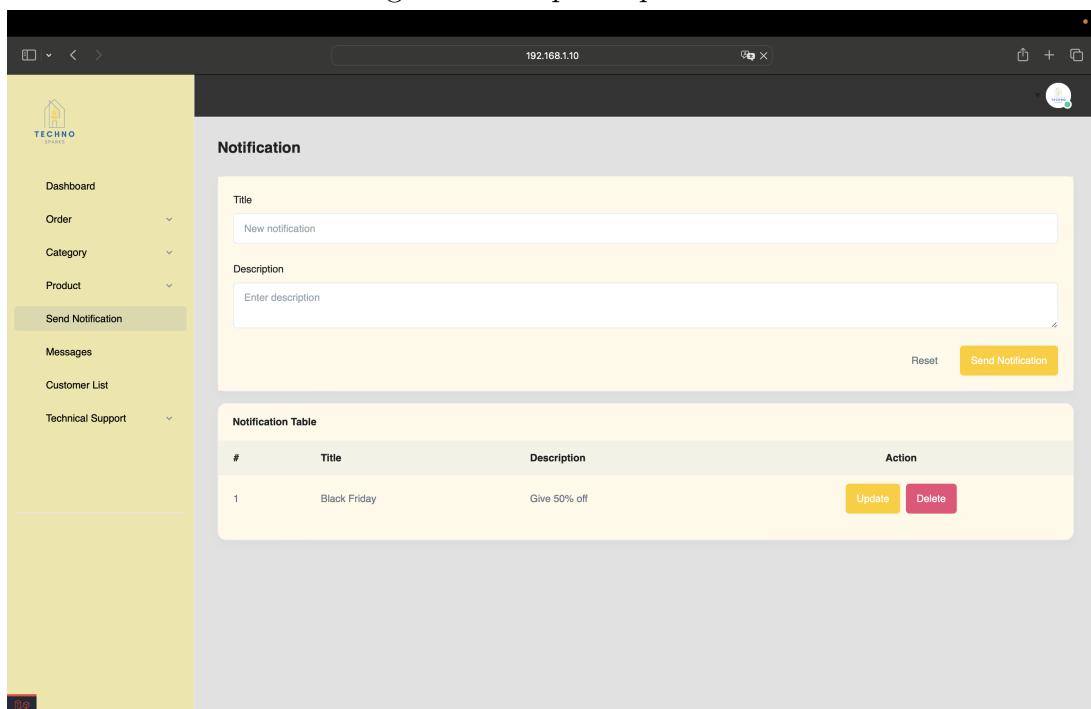


Figure 3.57: send notification

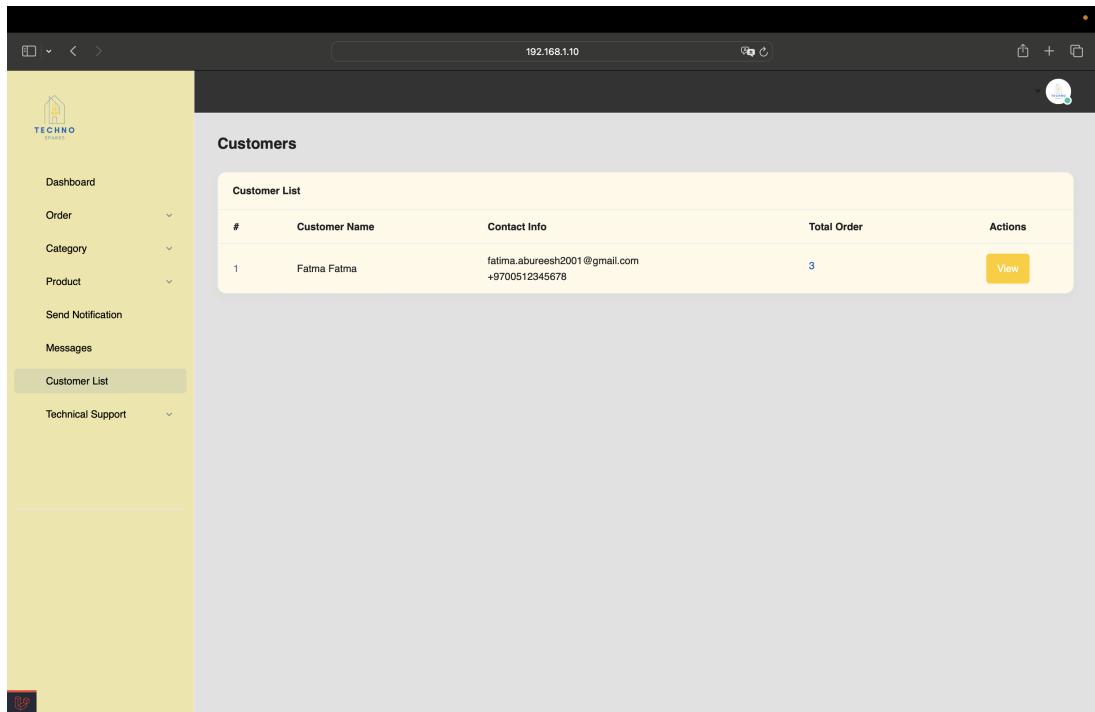


Figure 3.58: customers

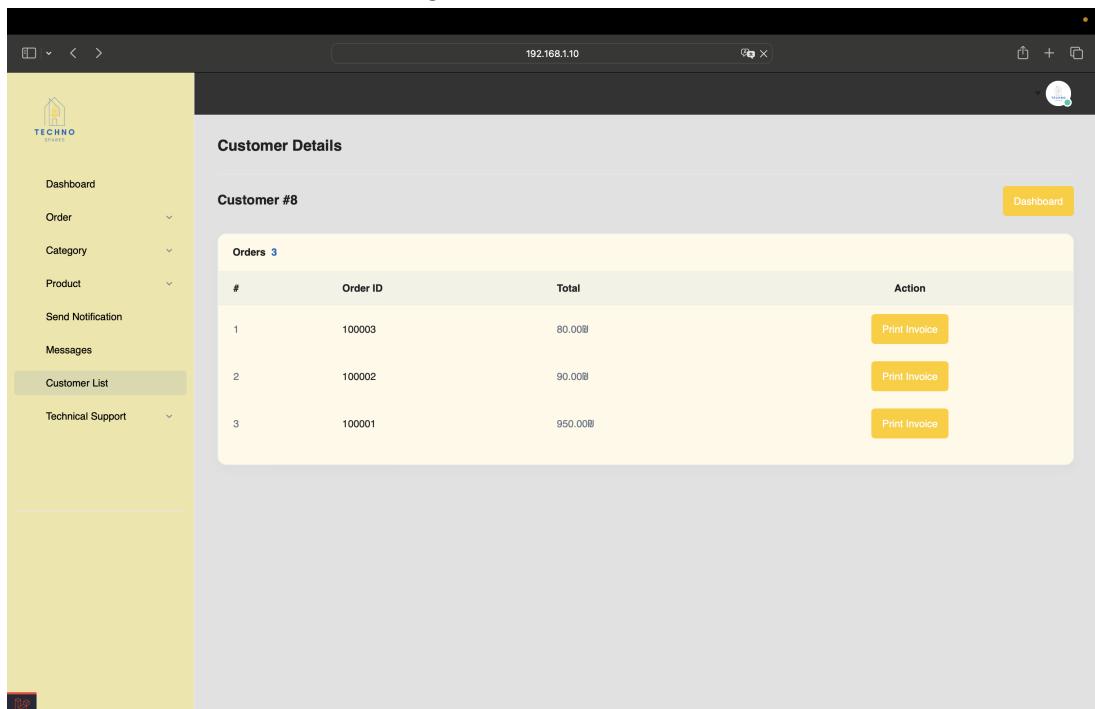


Figure 3.59: customers order

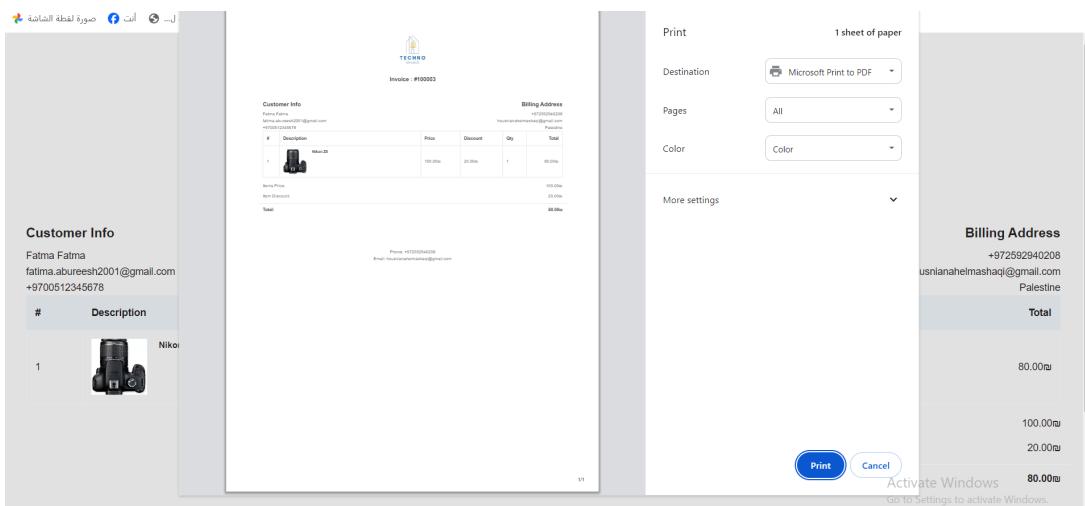


Figure 3.60: When select print invoice

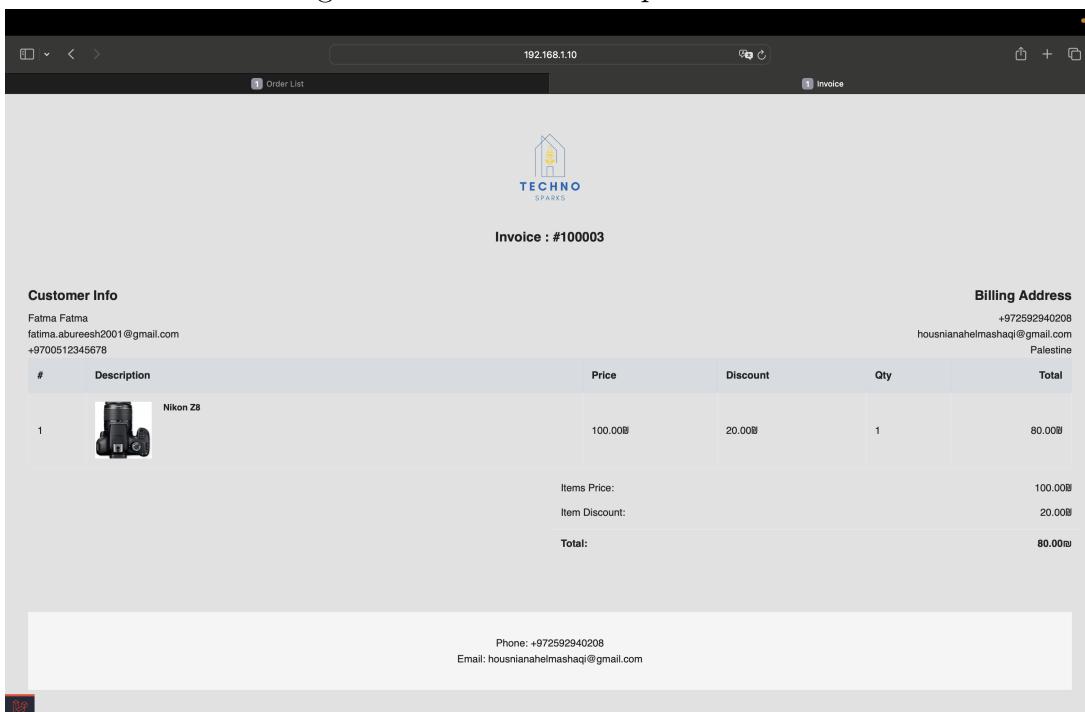


Figure 3.61: print invoice

Customers

Customer List

| # | Customer Name | Contact Info | Total Order | Actions |
|---|-----------------|---|-------------|-----------------------|
| 1 | Housnia Mashaqi | housnianahelmashaqi@gmail.com +9700592940208 | 0 | <button>View</button> |
| 2 | Fatima Abureesh | s1192456@stu.najah.edu +9700599782363 | 0 | <button>View</button> |
| 3 | Fatma Fatma | fatima.abureesh2001@gmail.com +9700512345678 | 3 | <button>View</button> |

Figure 3.62: When more customers sign up

Technical Support Team

Technical Support Members 1

| # | Name | Email | Action |
|---|-----------------|-------------------------------|---|
| 1 | Housnia Mashaqi | housnianahelmashaqi@gmail.com | <button>Update</button> <button>Delete</button> |

Figure 3.63: Technical support

Update Technical Support Information

Technical Support Information

| | | |
|-----------------|---|----------|
| Name | Image | |
| Housnia Support |  | |
| Address | | |
| engineer | | |
| Number | Email | Password |
| 05987665 | housnianahelma@gmail.com | |

Reset **Update**

Figure 3.64: update Technical Support

Add New Technical Support

Technical Support Information

| | | |
|---------------------|---|----------|
| Name | Image | |
| Name |  | |
| Address | | |
| Address | | |
| Number | Email | Password |
| EX : +88 05454 6446 | EX : example@example.com | |

Reset **Submit**

Figure 3.65: add technical support

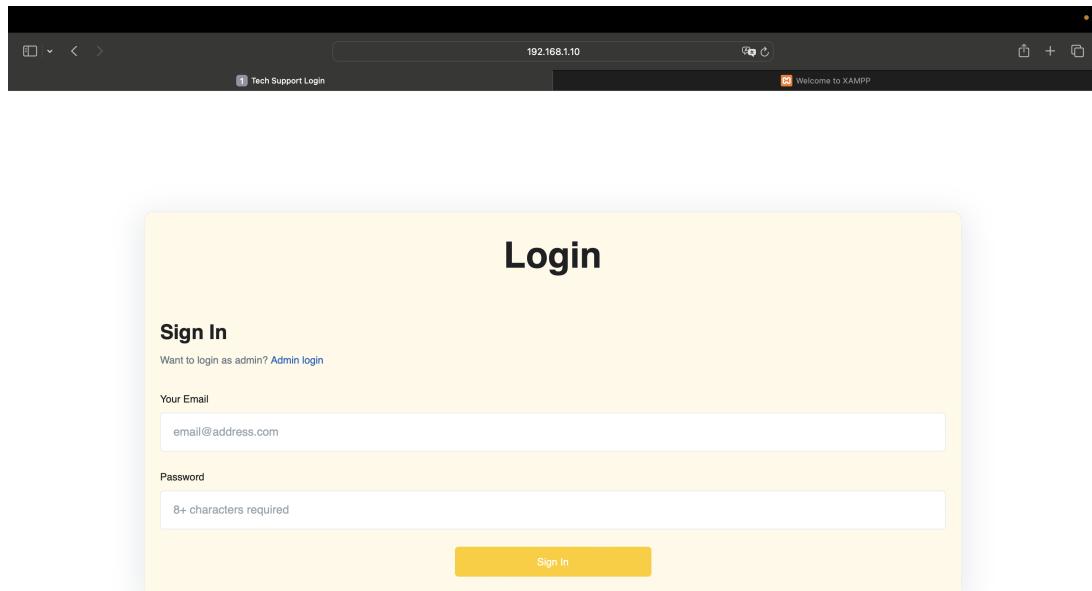


Figure 3.66: login Technical Support

| # | Order ID | Order Date | Customer Info | Total Amount | Pay Off Status | Order Status | Actions |
|---|----------|-------------------------|-------------------------------|--------------|----------------|----------------|--|
| 1 | 100001 | 21 Jun 2024 08:47 PM | Fatma Fatma +9700512345678 | 950.00 | Unpaid | In Maintenance | <button>Update</button> <button>Print Invoice</button> |

Figure 3.67: technical support orders

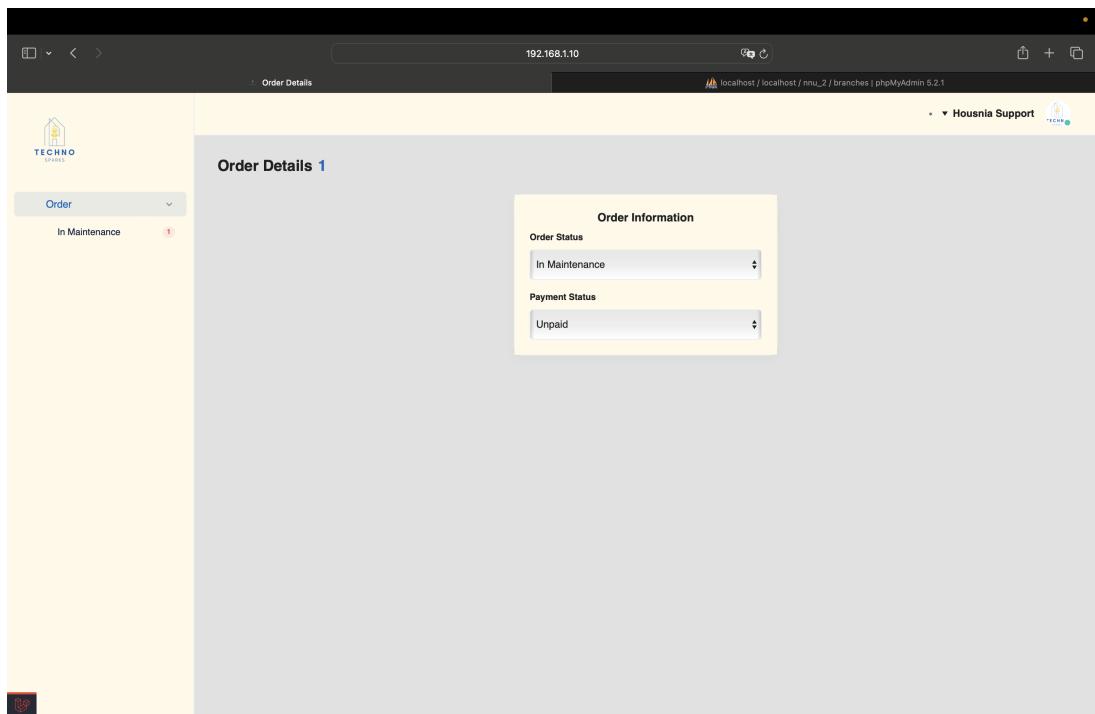


Figure 3.68: update order Technical Support

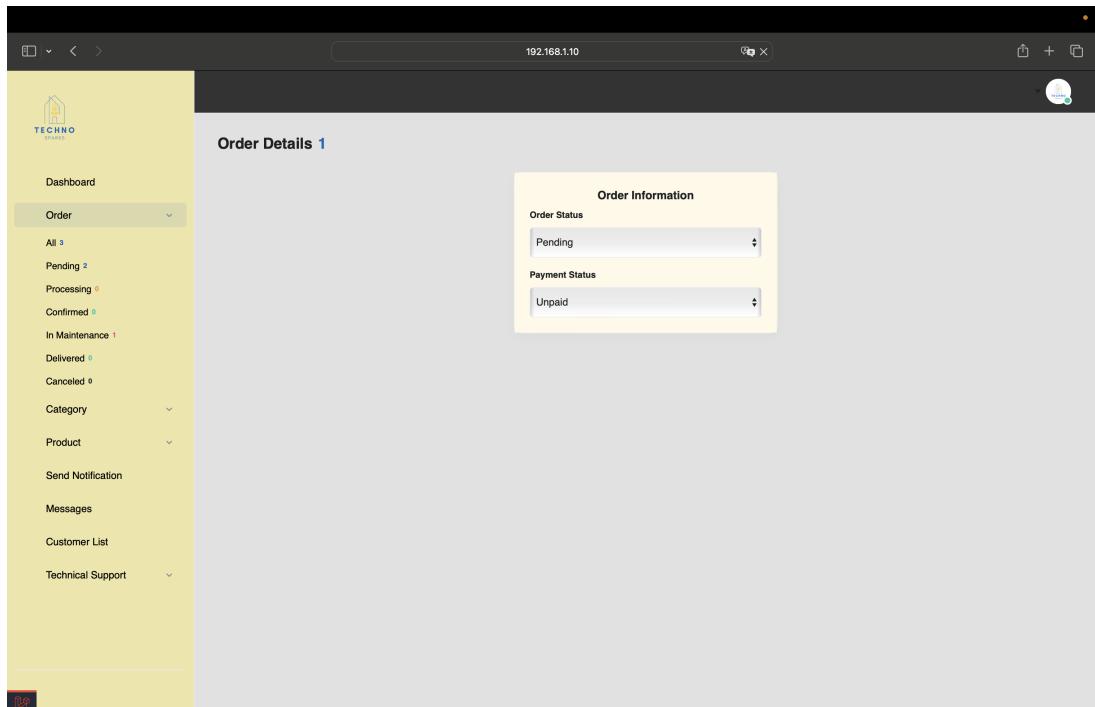


Figure 3.69: order status after update order status

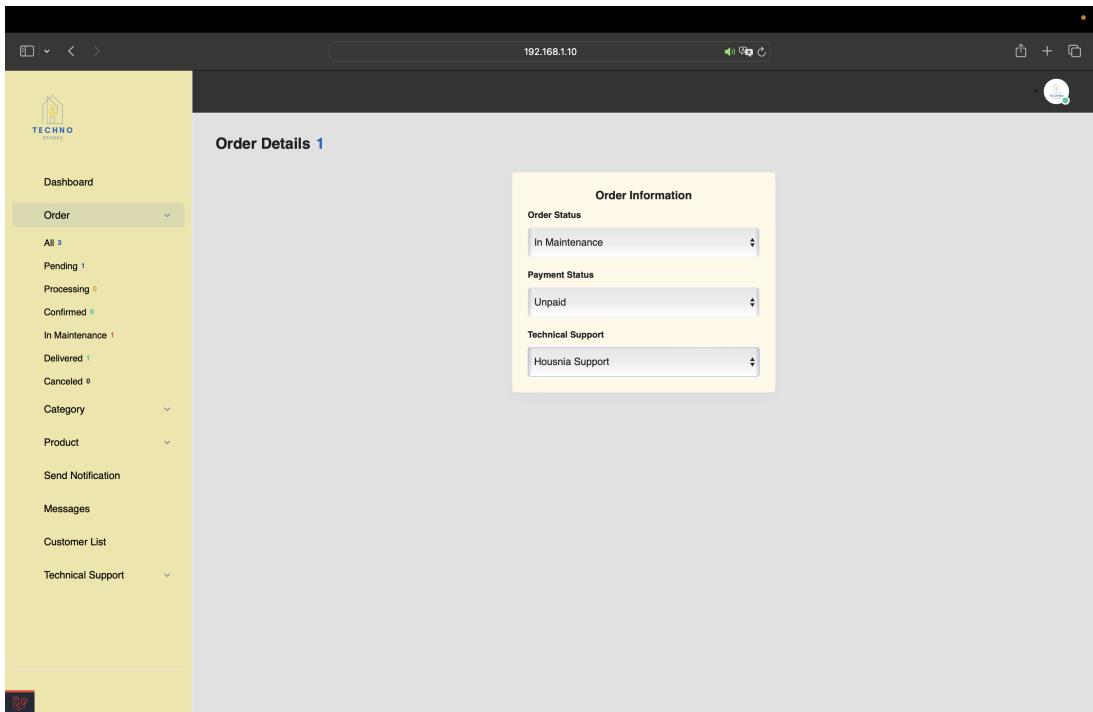


Figure 3.70: order status support

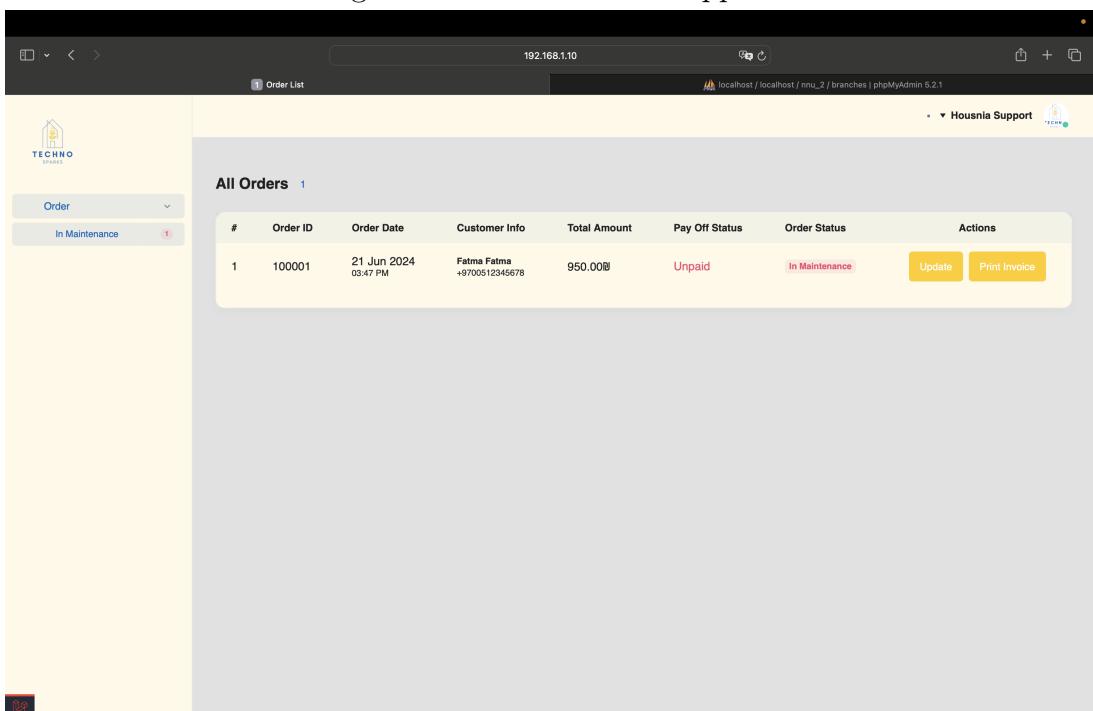


Figure 3.71: technical support orders

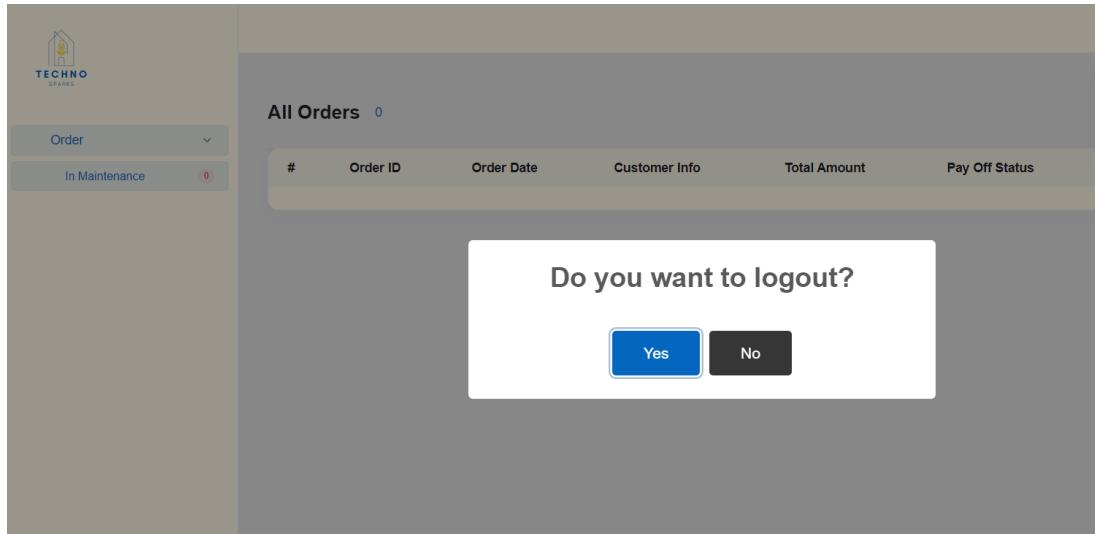


Figure 3.72: Logout

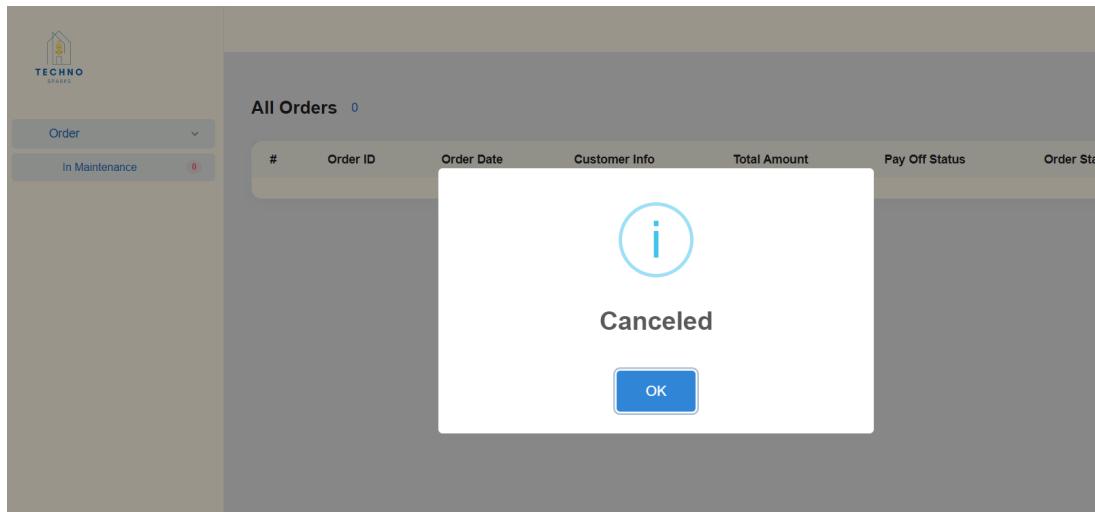


Figure 3.73: cancel logout

Here the change in the status of the order appears by the admin, and the effect appears at the user so that he can know the status of his order. A simple example of cases when the admin accepts the order appears at the user, but when it is transferred to the status of Delivered, the order moves to the order history of the user, where he can reorder it.

After that, the ordering process is like any normal order. .

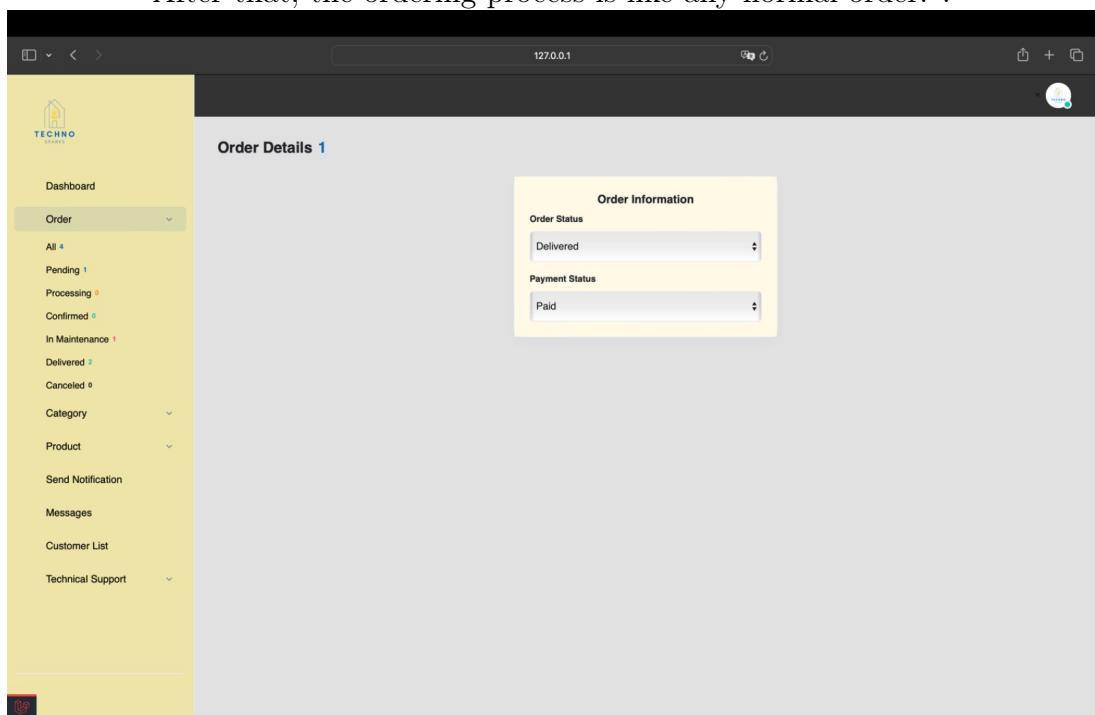


Figure 3.74: Admin accept the order but still not delivered

3:02 ⓘ G A



Order Tracking

Order ID #100002

Amount : 90.00₹



tt

Order placed

Order accepted

Preparing product

Product in the way

Delivered the product

[Back to Home](#)

Figure 3.75: status changed to accepted

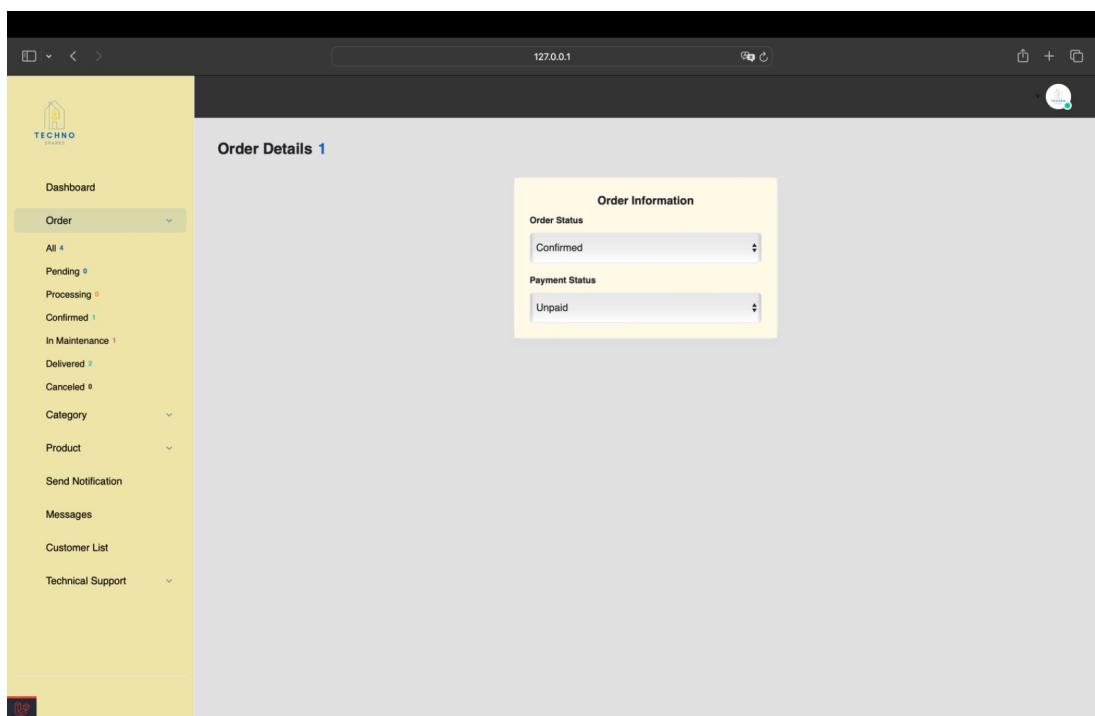


Figure 3.76: Admin change status to delivered

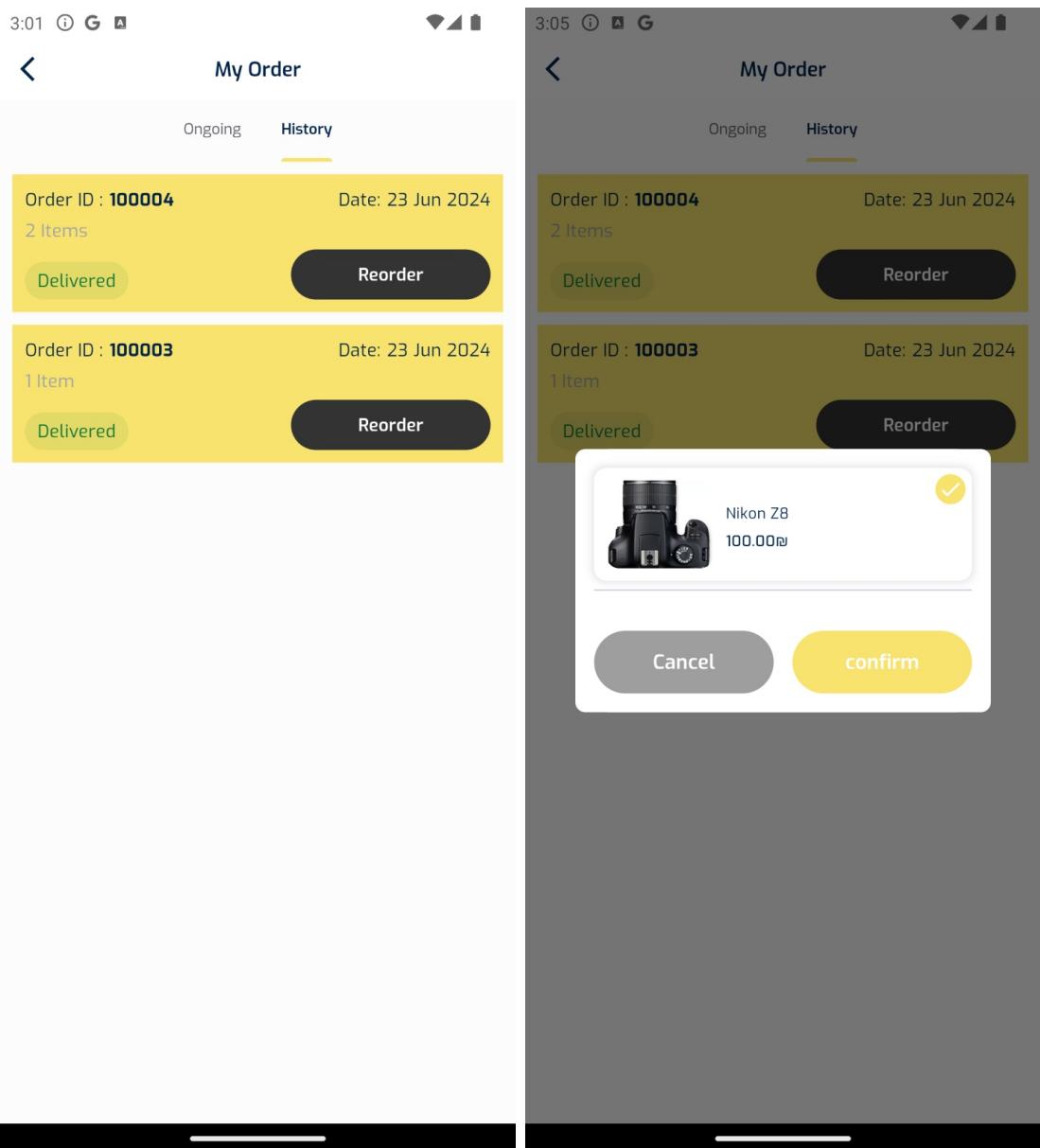


Figure 3.77: order view in history and Figure 3.78: after reorder it checkout can reorder it show as normal

Chapter 4

Future work

To enhance the Techno Sparks platform, future developments will focus on integrating 3D visualization, voice search, and artificial intelligence (AI). Implementing 3D device visualization will allow users to view products from all angles, providing a more interactive shopping experience. Adding voice search capabilities will enable users to find products and navigate the app hands-free, improving accessibility and convenience. Additionally, leveraging AI for personalized recommendations and predictive maintenance will enhance user engagement and operational efficiency, ensuring a more tailored and proactive service.

Chapter 5

Conclusion

In conclusion, the Techno Sparks project represents a groundbreaking initiative in the realm of e-commerce for electrical appliances. Designed to cater to diverse consumer needs, the platform integrates advanced technologies and agile methodologies to deliver a seamless and personalized shopping experience.

Techno Sparks leverages SQL databases for robust data management, ensuring efficient storage and retrieval of product information and user data. The Flutter-based mobile application enhances accessibility with a responsive interface across both Android and iOS devices, empowering users to browse, purchase, and interact effortlessly.

Agile principles have been integral to our development process, fostering flexibility, collaboration, and iterative improvement. From initial concept to deployment, the iterative nature of Agile has enabled us to adapt to evolving market demands and user feedback effectively.

HTML and Laravel PHP form the backbone of our admin panel, facilitating efficient content management and business operations. These technologies, combined with rigorous testing and continuous integration, have ensured the platform's reliability and scalability.

Despite challenges, our team's dedication to innovation and user-centric design has driven significant advancements. Features like real-time product updates, secure payment gateways, and intuitive user interfaces reflect our commitment to exceeding customer expectations.

In summary, Techno Sparks not only sets a new standard in e-commerce for electrical appliances but also embodies our commitment to technological excellence, user satisfaction, and continuous improvement. As we look ahead, we remain focused on enhancing functionality, expanding capabilities, and delivering unparalleled value to our users and stakeholders.

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