COSC 304: Introduction into Databases

Resurrection Electronics Emporium – Report

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12-8-2023

https://github.com/mrichards03/Resurrection-Electronics-Emporium

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Mission Statement:

Resurrection Electronics Emporium strives to make electronic repair cheaper for consumers and to reduce the amount of electronic waste produced by facilitating reuse.

Executive Summary:

At some point in life, almost everyone has dealt with the horror of repairing and replacing electronics. Companies deliberately make repairs needlessly difficult to discourage it and instead push replacement. Furthermore, when we do replace, our 90% functional old electronics usually go to waste. Resurrection Electronics Emporium (REE) strives to address this problem by facilitating repair and reuse.

The best way to understand REE's business model is as an electronic scrapyard. There are two sides to the business model: purchases and sales. On the purchase side, customers are brought in by promising offers on broken electronics. Skilled workers will assess the electronics and determine an estimated value, which will be lowered slightly to account for operation costs and then offered to the customer as a buy price. If they accept the price, the electronic will be broken down into its components that still function. Then, other customers whose electronics have broken components could come and purchase the scrapped parts, and REE's skilled workers would install the parts.

As an example, consider a smartphone that has suffered catastrophic screen damage. Its resale price would be practically zero, even though there are still many functional components. The smartphone would be dismantled and parts like the camera, charging port, speakers, microphone, battery, and various buttons would be removed and inventoried. These items would be uploaded to REE's database with all identifying information. Then, a customer with a functional phone but a broken camera could search our database for the camera they need, and if one is available the customer can come in and purchase it. The result is a customer who made some money, a customer who was able to repair their phone cheaper than usual, and less electronic waste in the world.

As illustrated, REE is positive for everyone involved. There are no drawbacks, except that large companies will have more difficulty overcharging consumers.

Installation and Running Instructions

1. Go to https://github.com/mrichards03/Resurrection-Electronics-Emporium and download the zip folder
2. Unzip the folder to your desired location
3. Ensure you have docker installed. If you don't, download from https://docs.docker.com/desktop/install/windows-install/
4. Open the project in your preferred IDE
5. Build the project
6. Open a command line and navigate to inside the Resurrection-Electronics-Emporium-main folder
7. Run docker-compose up -d
8. Open a new web browser window and navigate to http://127.0.0.1/shop/loaddata.jsp
9. Finally, navigate to http://127.0.0.1/shop/
10. Login Information: Admin: username: Arnold, password: 304Arnold!
    Customer: username: bobby, password: 304Bobby!

Development Project Features List Template

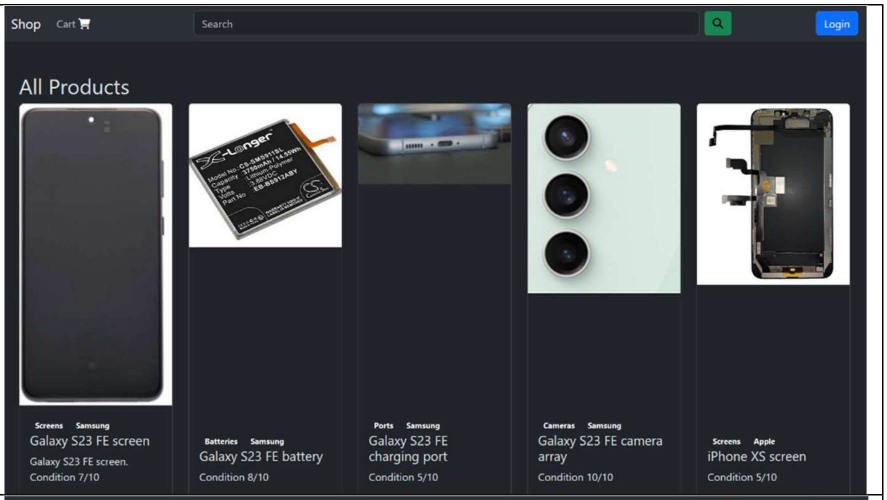
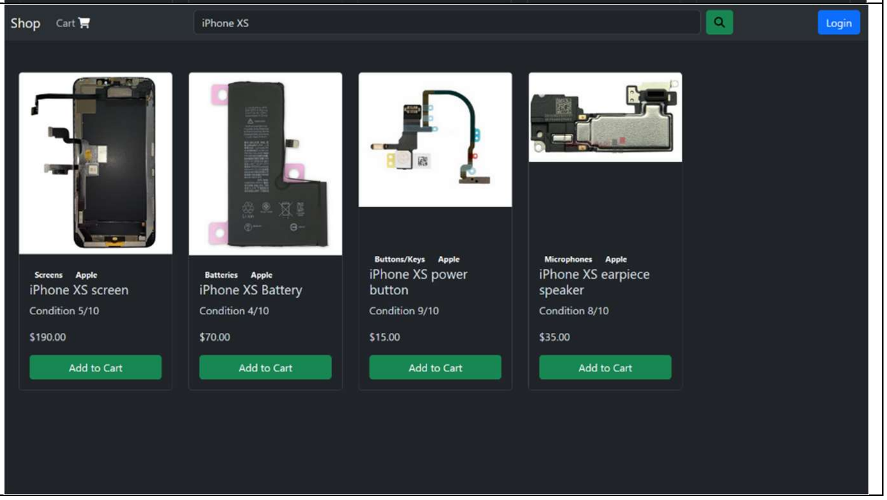
Final Overall System Features	**Category**	**Possible Points**	**Points**	**Comments / Code Files**
Documentation (15 total points)				
Executive Summary (up to 1 page)	Core	2	2	
System Features (2 pages)	Core	2	2	
List of Web and AI sources used	Core	3	3	
Walkthrough with screenshots (up to 15 pages)	Core	8	8	
Hosting (10 total points)				
Running on cloud server	Advanced	10		
Main/Home Page (up to 14 total points)				
Search for a product by name	Core	1	1	Listprod.jsp + Product.java + header.jsp
Browse products by category	Core	1		
List products (by search/browse)	Core	1	1	listProd.jsp + productCard.jsp
List products with image	Core	1	1	Productcard.jsp
Page header with menu	Basic	1	1	Header.jsp
Page header shows current logged in user	Basic	1	1	Header.jsp
Dynamic products on page based on sales	Basic	2		
Improved UI (user-friendly, images, etc.)	Basic	2	2	
Product recommendation based on user	Advanced	4		
Shopping Cart (up to 8 total points)				
Add to shopping cart	Core	1	1	productCard.jsp + addcart.jsp
View shopping cart	Core	1	1	showCart.jsp
Update quantity (with data validation)	Basic	1	1	showCart.jsp
Remove item from shopping cart	Basic	1	1	showCart.jsp
Improved formatting/UI (e.g. in header bar)	Basic	1	1	Header.jsp (cart icon bounces when cart has item)
Cart stored in database between sessions	Basic	3		
Checkout (up to 9 total points)				

Checkout with customer id	Core	1	1	If the user is not already logged in, they are redirect to login page and then directed to checkout.jsp
Checkout with payment/shipment info	Basic	2	2	Checkout.jsp + global.js + addressesList.jsp + paymentsList.jsp + AddPayment.java + AddAddress.java + GetUpdatedPayments.java + GetUpdatedAddresses.java + toast.jsp
Checkout with data validation	Basic	2	1	Checkout.jsp
Multiple shipments per order supported	Advanced	2		Note: Requires DB change.
Calculate taxes/shipping (by items/state)	Advanced	2		Note: Requires DB change.
Product Detail Page (up to 2 total points)				
Product detail page and item description	Core	1	1	productCard.jsp
Product detail has an image from database	Core	1	1	productCard.jsp
User Accounts/Login (up to 12 total points)				
Create user account page	Basic	2		
Create account with data validation	Basic	2		
Edit user account info (address, password)	Basic	2	2	Customer.jsp, UpdataCustomer.jsp, toast.jsp, global.js
Login/logout	Core	1	1	
Register user/Forgot password email	Advanced	4		
Page listing all orders for user	Core	1	1	Order.jsp + Order.java
Product Reviews (up to 5 total points)				
Ability to enter a review on a product	Basic	2		
Display product review on product detail page	Basic	1		
Restrict to one review per user on item purchased	Advanced	2		
Warehouses/Inventory (up to 5 total points)				
Display item inventory by store/warehouse	Basic	2		
Edit item inventory by store/warehouse	Advanced	3		
Administrator Portal (up to 19 total points)				
Secured by login	Core	1	1	Admin.jsp

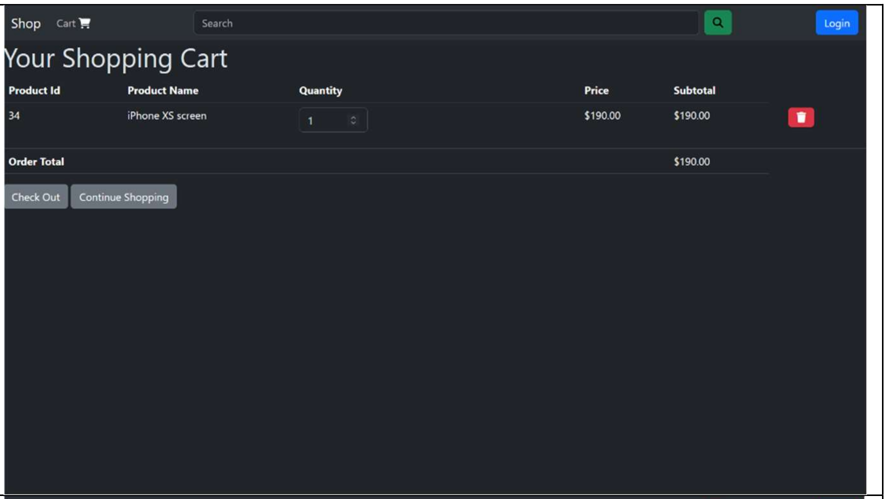
List all customers	Core	1		
List report showing total sales/orders	Core	1	1	Admin.jsp
Report with a graph	Advanced	3	3	Admin.jsp
Add new product	Basic	2	2	Listprod.jsp + productCard.jsp + addproduct.java + Product.java
Update/delete product	Basic	2	1	Listprod.jsp + productCard.jsp + deleteProduct.java + Product.java
Change order status/ship order	Basic	1	1	Ship.jsp, shipProd.jsp
Upload a photo to file system for product	Advanced	2		
OR: Upload a photo to database for product	Advanced	4	4	productCard.jsp + addProduct.java + Product.java
Database restore with SQL script	Basic	2		
Add/update warehouse, customer	Basic	2		
Database System/General				
Implement some validation using triggers	Advanced	2	2	Trigger that adds row in inventory when product is added
Use AJAX for some pages	Advanced	4	4	Checkout.jsp + global.js
User interface and navigation/usability		Up to 5	5	Cohesive look with dark mode, user friendly navigation and automatic redirection when needed.
Others (your suggestions)		Up to 5	5	User can have multiple addresses, servlets and classes are being used, cart icon bounces when items in cart, pagination on products page, show password on login, toasts when saving/adding/deleting, data validation using regex when updating customer info, date range for sales graph
Total: (out of 50 with maximum of 10 bonus marks. i.e. 60 points out of 50 is max.)		115	66	

Walk-Through:

Customer Side:

When the site is first accessed, the user is taken immediately to the product page without asking them to log in	 All Products Screens Samsung Galaxy S23 FE screen Galaxy S23 FE screen. Condition 7/10 Batteries Samsung Galaxy S23 FE battery Condition 8/10 Ports Samsung Galaxy S23 FE charging port Condition 5/10 Cameras Samsung Galaxy S23 FE camera array Condition 10/10 Screens Apple iPhone XS screen Condition 5/10
From the products page, a user can search for their desired product.	 iPhone XS Screens Apple iPhone XS screen Condition 5/10 $190.00 Batteries Apple iPhone XS Battery Condition 4/10 $70.00 Buttons/Keys Apple iPhone XS power button Condition 9/10 $15.00 Microphones Apple iPhone XS earpiece speaker Condition 8/10 $35.00

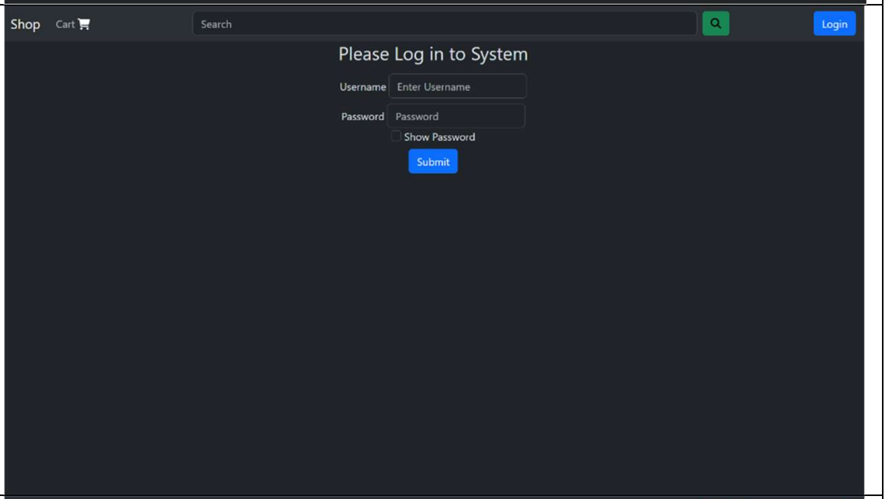
After adding a product to their cart, the user is taken to their cart. The user can either return to the products page, or checkout. This walkthrough will proceed to checkout.



Your Shopping Cart

Product Id	Product Name	Quantity	Price	Subtotal
34	iPhone XS screen	1	$190.00	$190.00
Order Total				$190.00

Once an un-signed-in user tries to checkout, they are asked to sign in. I will sign in as a customer, using username "bobby" and password "304Bobby!"



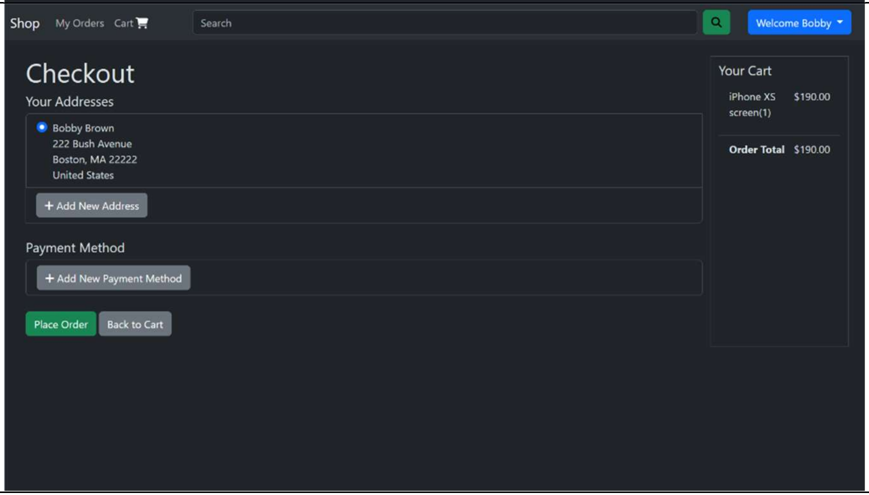
Please Log in to System

Username: Enter Username

Password: Password

□ Show Password

As a signed-in user the checkout displays address information and payment information. A user can add more, and all will be saved. All important fields include data validation.



Checkout

Your Addresses

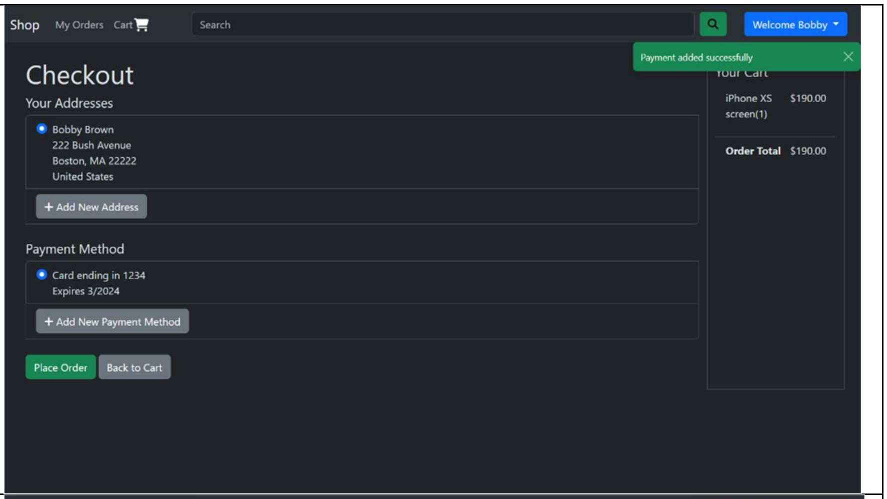
● Bobby Brown
222 Bush Avenue
Boston, MA 22222
United States

Payment Method

Your Cart

iPhone XS screen(1)	$190.00
Order Total	$190.00

Here I add a payment method to make it possible to place the order. Notice the notification in the top right.



Payment added successfully

Checkout

Your Addresses

● Bobby Brown
222 Bush Avenue
Boston, MA 22222
United States

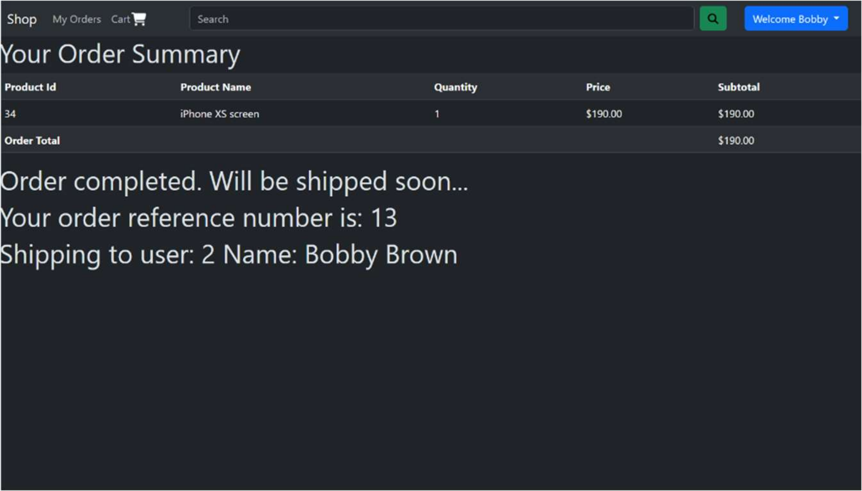
Payment Method

● Card ending in 1234
Expires 3/2024

Your Cart

iPhone XS screen(1)	$190.00
Order Total	$190.00

After placing the order, I am shown the following screen.

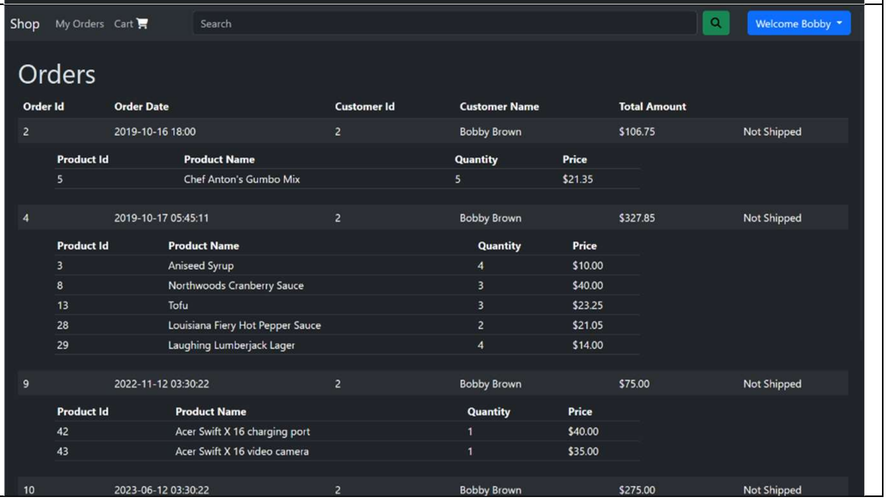


Your Order Summary

Product Id	Product Name	Quantity	Price	Subtotal
34	iPhone XS screen	1	$190.00	$190.00
Order Total				$190.00

Order completed. Will be shipped soon...
Your order reference number is: 13
Shipping to user: 2 Name: Bobby Brown

As a customer, I can view a history of my orders by using the header menu, though I do not have access to anyone else's.



Orders

Order Id	Order Date	Customer Id	Customer Name	Total Amount	
2	2019-10-16 18:00	2	Bobby Brown	$106.75	Not Shipped

Product Id	Product Name	Quantity	Price
5	Chef Anton's Gumbo Mix	5	$21.35

Order Id	Order Date	Customer Id	Customer Name	Total Amount	
4	2019-10-17 05:45:11	2	Bobby Brown	$327.85	Not Shipped

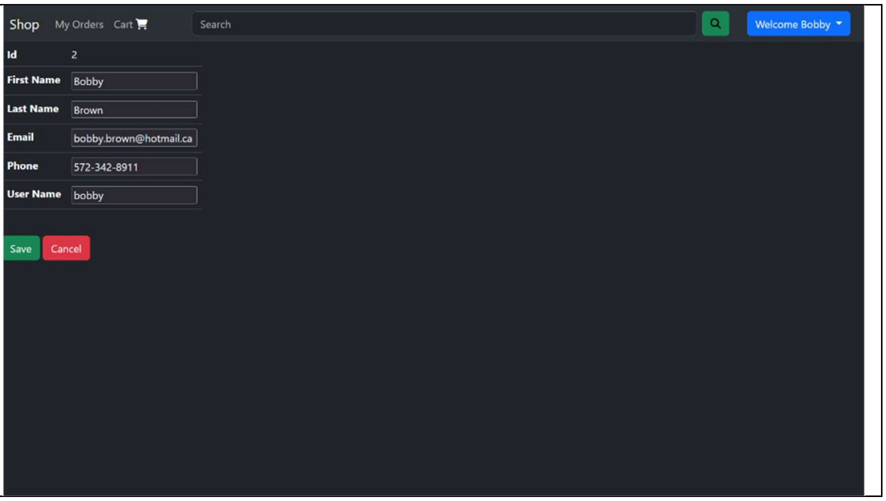
Product Id	Product Name	Quantity	Price
3	Aniseed Syrup	4	$10.00
8	Northwoods Cranberry Sauce	3	$40.00
13	Tofu	3	$23.25
28	Louisiana Fiery Hot Pepper Sauce	2	$21.05
29	Laughing Lumberjack Lager	4	$14.00

Order Id	Order Date	Customer Id	Customer Name	Total Amount	
9	2022-11-12 03:30:22	2	Bobby Brown	$75.00	Not Shipped

Product Id	Product Name	Quantity	Price
42	Acer Swift X 16 charging port	1	$40.00
43	Acer Swift X 16 video camera	1	$35.00

Order Id	Order Date	Customer Id	Customer Name	Total Amount	
10	2023-06-12 03:30:22	2	Bobby Brown	$275.00	Not Shipped

The last page available to me as a customer is the profile page. Here a customer can change any identifying information, and have the change reflected in the database.



Id 2

First Name Bobby

Last Name Brown

Email bobby.brown@hotmail.ca

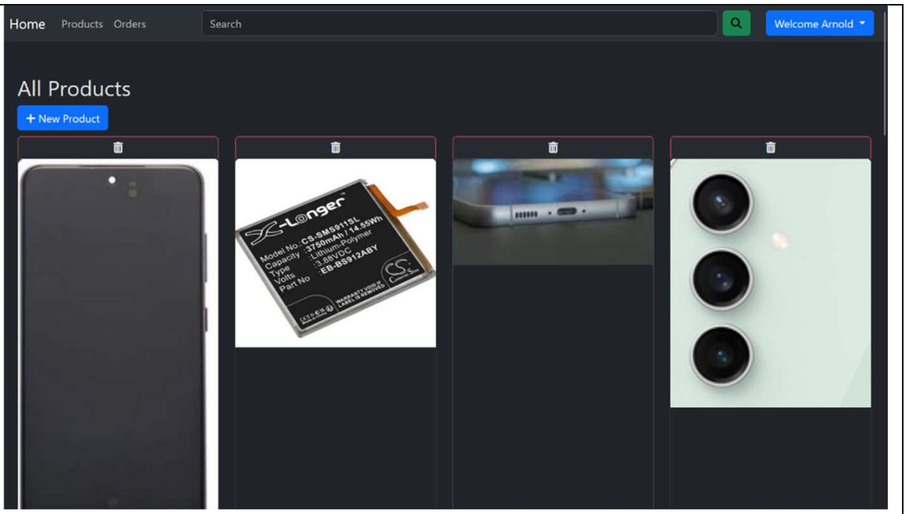
Phone 572-342-8911

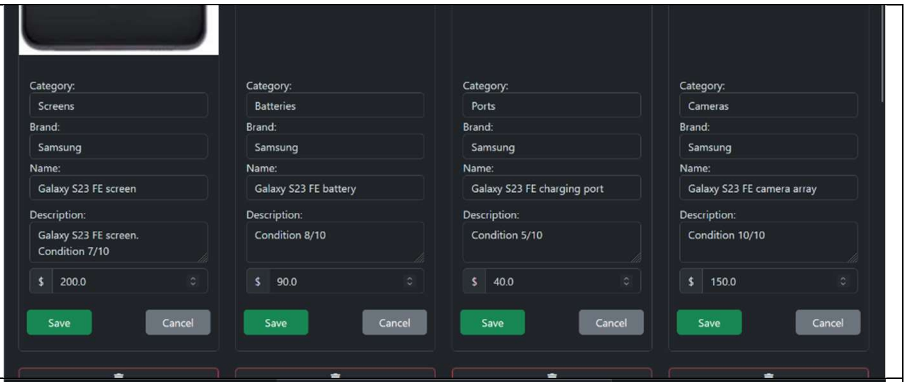
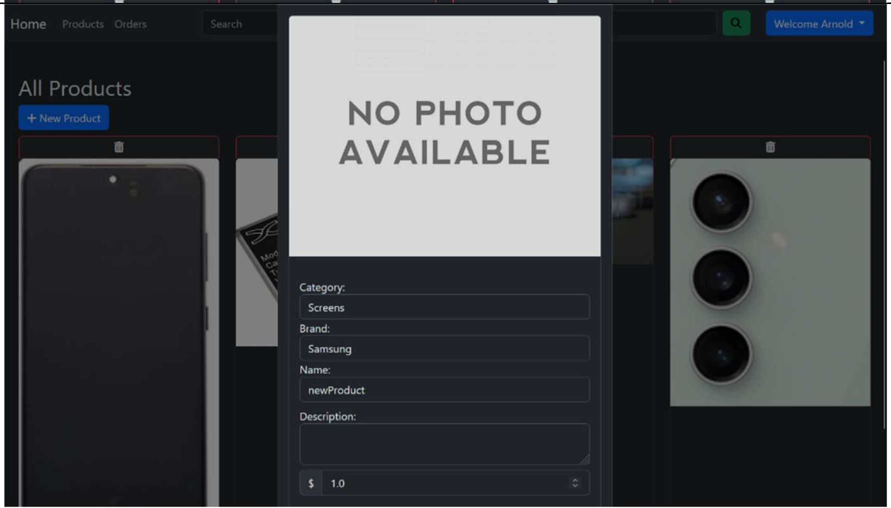
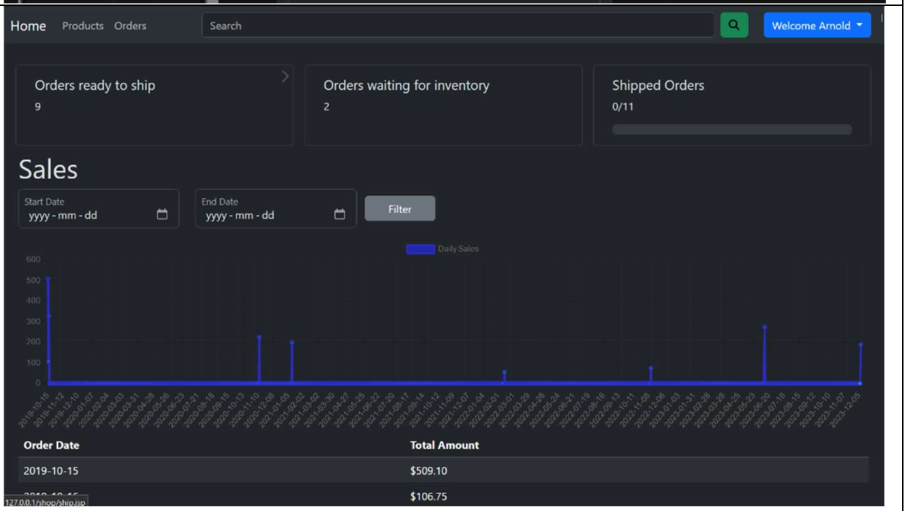
User Name bobby

Admin side:

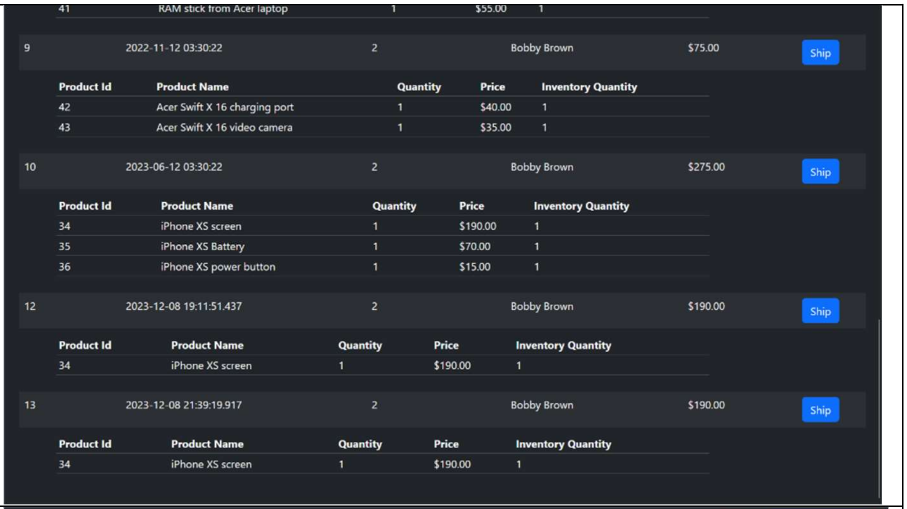
As an admin, my products page looks different, as I can add, delete, and modify products through the GUI.

The admin sign-in used was username “arnold”, password “304Arnold!”



	 Category: Screens Brand: Samsung Name: Galaxy S23 FE screen Description: Galaxy S23 FE screen. Condition 7/10 $ 200.0 Save Cancel Category: Batteries Brand: Samsung Name: Galaxy S23 FE battery Description: Condition 8/10 $ 90.0 Save Cancel Category: Ports Brand: Samsung Name: Galaxy S23 FE charging port Description: Condition 5/10 $ 40.0 Save Cancel Category: Cameras Brand: Samsung Name: Galaxy S23 FE camera array Description: Condition 10/10 $ 150.0 Save Cancel
Here is the view when adding a product.	 Home Products Orders Search Welcome Arnold + New Product NO PHOTO AVAILABLE All Products Category: Screens Brand: Samsung Name: newProduct Description: $ 1.0
As an admin, you gain access to the home page through the header menu, which shows a graph and a list of sales by day. Admins can select a specific range here to view any desired period.	 Home Products Orders Search Welcome Arnold Filter Daily Sales 600 500 400 300 200 100 0 2019-10-15 2019-11-12 2019-12-10 2020-01-07 2020-02-04 2020-03-03 2020-03-31 2020-04-28 2020-05-26 2020-06-23 2020-07-21 2020-08-18 2020-09-15 2020-10-13 2020-11-10 2020-12-08 2021-01-05 2021-02-02 2021-03-02 2021-03-30 2021-04-27 2021-05-25 2021-06-22 2021-07-20 2021-08-17 2021-09-14 2021-10-12 2021-11-09 2021-12-07 2022-01-04 2022-02-01 2022-03-01 2022-03-29 2022-04-26 2022-05-24 2022-06-21 2022-07-19 2022-08-16 2022-09-13 2022-10-11 2022-11-08 2022-12-06 2023-01-03 2023-01-31 2023-02-28 2023-03-28 2023-04-25 2023-05-23 2023-06-20 2023-07-18 2023-08-15 2023-09-12 2023-10-10 2023-11-07 2023-12-05 127.0.0.1/shop/ship.jsp Orders ready to ship 9 Orders waiting for inventory 2 Shipped Orders 0/11 Sales Start Date yyyy - mm - dd End Date yyyy - mm - dd Order Date Total Amount 2019-10-15 $509.10 $106.75

If an Admin clicks on “Orders ready to ship”, they are sent to this page, that displays all orders the database has sufficient inventory for.



41	RAM stick from Acer laptop	1	$55.00	1

9	2022-11-12 03:30:22	2	Bobby Brown	$75.00

Product Id	Product Name	Quantity	Price	Inventory Quantity
42	Acer Swift X 16 charging port	1	$40.00	1
43	Acer Swift X 16 video camera	1	$35.00	1

10	2023-06-12 03:30:22	2	Bobby Brown	$275.00

Product Id	Product Name	Quantity	Price	Inventory Quantity
34	iPhone XS screen	1	$190.00	1
35	iPhone XS Battery	1	$70.00	1
36	iPhone XS power button	1	$15.00	1

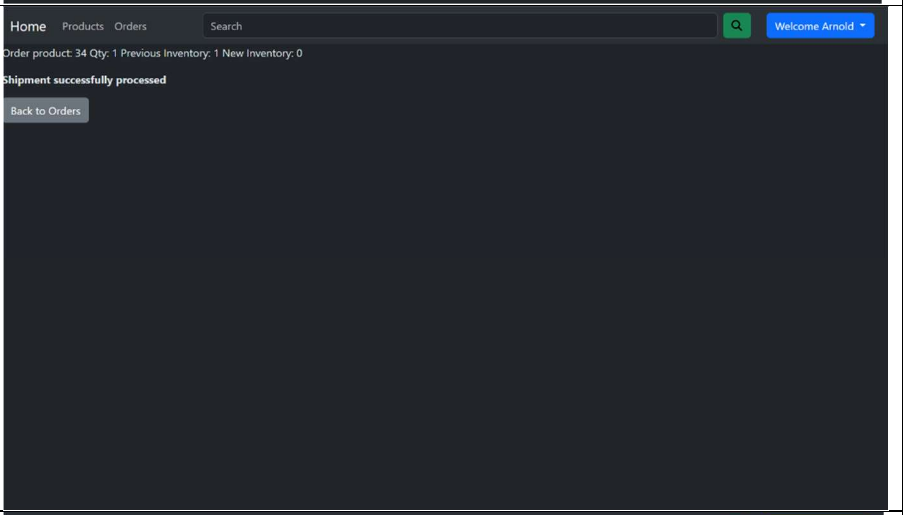
12	2023-12-08 19:11:51.437	2	Bobby Brown	$190.00

Product Id	Product Name	Quantity	Price	Inventory Quantity
34	iPhone XS screen	1	$190.00	1

13	2023-12-08 21:39:19.917	2	Bobby Brown	$190.00

Product Id	Product Name	Quantity	Price	Inventory Quantity
34	iPhone XS screen	1	$190.00	1

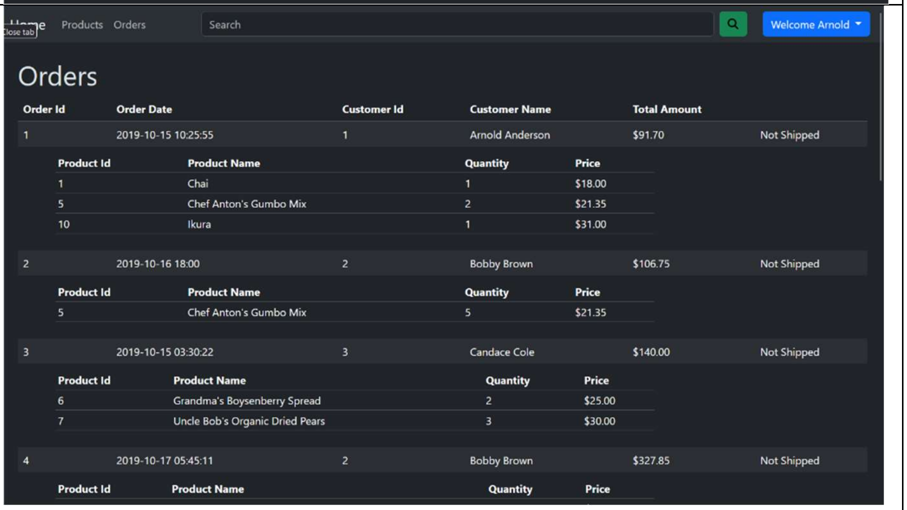
Clicking the ship button from the previous page send the admin to this page, confirming the shipment.



Order product: 34 Qty: 1 Previous Inventory: 1 New Inventory: 0

Shipment successfully processed

Admins can also view orders by clicking on the header menu, but unlike customers they can view the orders of all users at once. In this view, the orders show whether they have been shipped.



Orders

Order Id	Order Date	Customer Id	Customer Name	Total Amount	
1	2019-10-15 10:25:55	1	Arnold Anderson	$91.70	Not Shipped

Product Id	Product Name	Quantity	Price
1	Chai	1	$18.00
5	Chef Anton's Gumbo Mix	2	$21.35
10	Ikura	1	$31.00

2	2019-10-16 18:00	2	Bobby Brown	$106.75	Not Shipped

Product Id	Product Name	Quantity	Price
5	Chef Anton's Gumbo Mix	5	$21.35

3	2019-10-15 03:30:22	3	Candace Cole	$140.00	Not Shipped

Product Id	Product Name	Quantity	Price
6	Grandma's Boysenberry Spread	2	$25.00
7	Uncle Bob's Organic Dried Pears	3	$30.00

4	2019-10-17 05:45:11	2	Bobby Brown	$327.85	Not Shipped

Product Id	Product Name	Quantity	Price

Sources

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