Ain Shams University
Faculty of Engineering
Third year – Computers and Systems

Submitted by:

1701577	نهال ياسر عبد الوهاب
1701571	نرمين عاطف عبد الكريم
1701111	ماهينور عمرو احمد
1701595	نورا نبيل علي
1701636	هبة عاطف احمد محمد
1600654	سلمى علي عبد الحليم عوض الله

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Introduction

The goal of this document is to clarify the functionality of our Online Marketplace system and its features to the reader by showing different diagrams that describe our system in details. It shows distributed database diagrams, the system architecture and how to use it.

“Shams Store” is our product name. It a software system to handle main market services like searching, purchasing, selling and sharing items.

The document includes the user interface and showing how the user can deal with the system. It also includes screenshots for our system and results of testing of our project.

Target Beneficiaries of the Project

Anyone who has enough responsibility and control over their money can use this system easily. Including buyers and sellers.

Adopted Programming Language

For the front end:
HTML, CSS, Bootstrap

For the back end:
Asp.net core framework, MVC

System Architecture

The **Model-View-Controller (MVC)** is an architectural pattern that separates an application into three main logical components: the **model**, the view, and the controller. Each of these components are built to handle specific development aspects of an application. MVC is one of the most frequently used industry-standard web development framework to create scalable and extensible projects.

MVC Components

Following are the components of MVC

Model

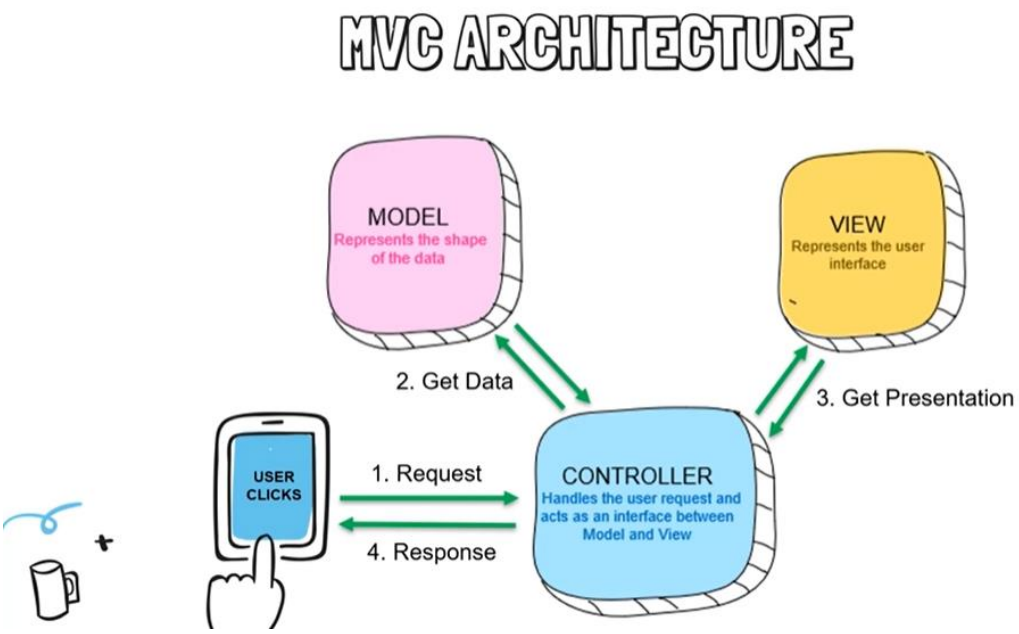
The Model component corresponds to all the data-related logic that the user works with. This can represent either the data that is being transferred between the View and Controller components or any other business logic-related data. For example, a Customer object will retrieve the customer information from the database, manipulate it and update it data back to the database or use it to render data.

View

The View component is used for all the UI logic of the application. For example, the Customer view will include all the UI components such as text boxes, dropdowns, etc. that the final user interacts with.

Controller

Controllers act as an interface between Model and View components to process all the business logic and incoming requests, manipulate data using the Model component and interact with the Views to render the final output. For example, the Customer controller will handle all the interactions and inputs from the Customer View and update the database using the Customer Model. The same controller will be used to view the Customer data.

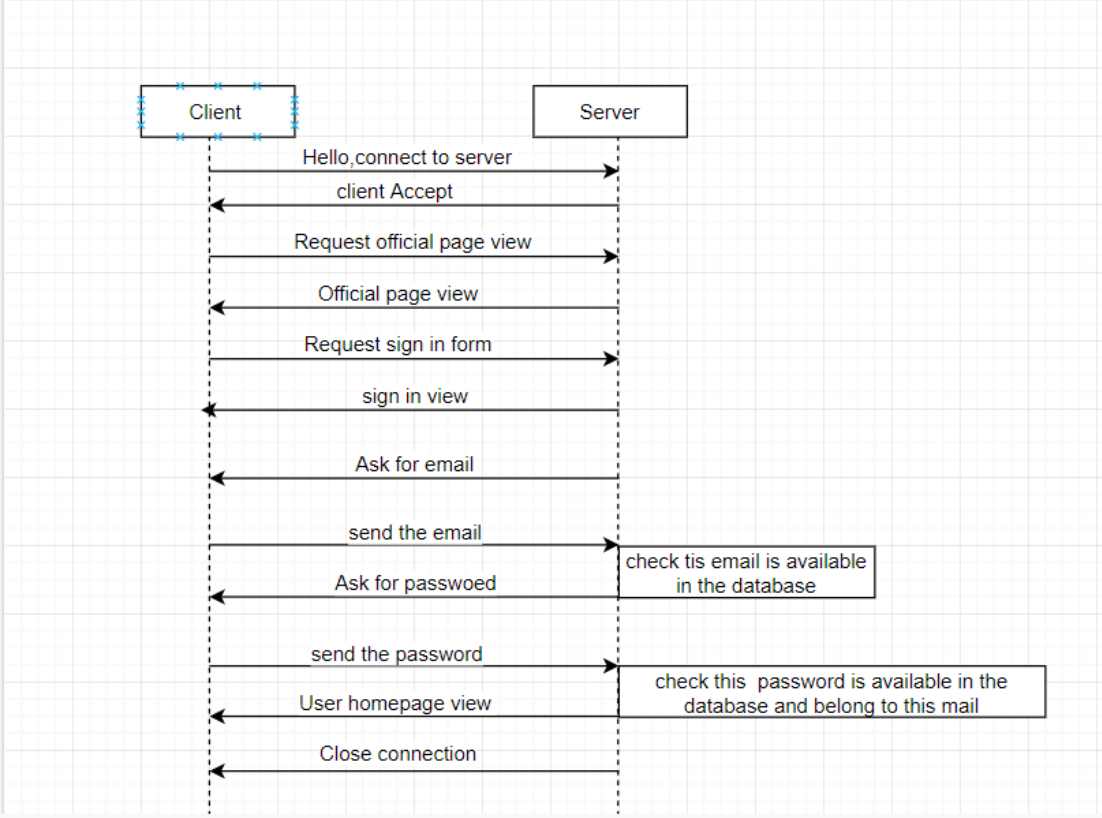


Application Level Protocol

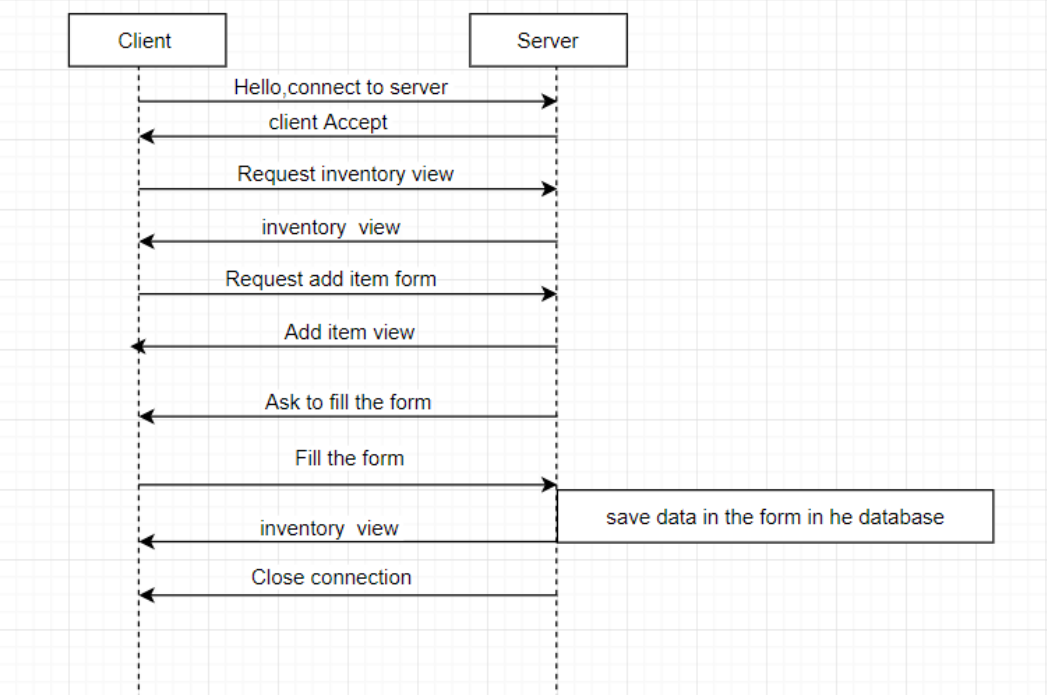
Link:

https://www.diagrameditor.com/webapp/?ui=atlas&tr=0&gh=0&gl=0&gapi=0&od=0&db=0&lang=en#Lalp.

First scenario: Login

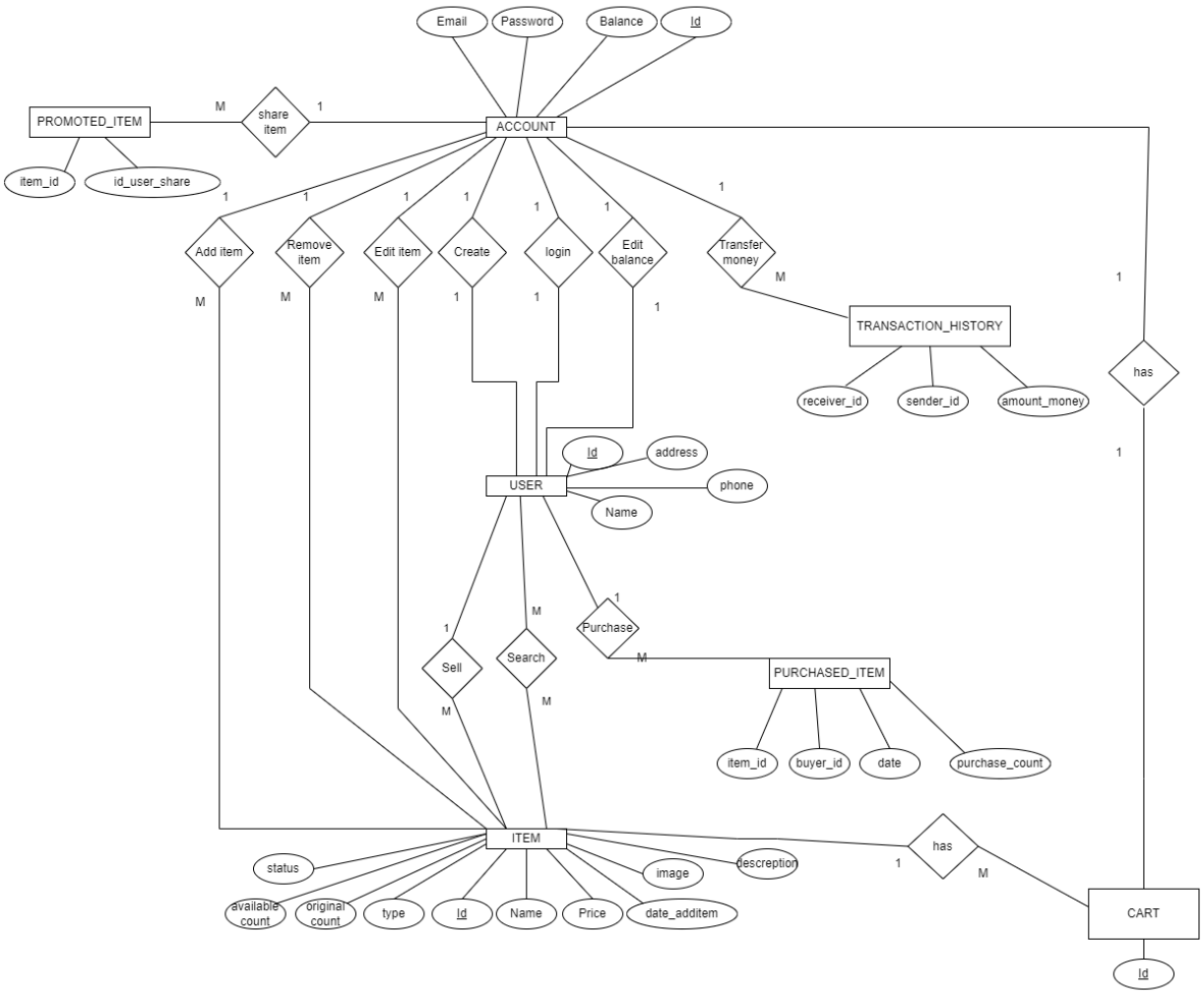


Second scenario: Add item


Client
Server
Hello,connect to server
client Accept
Request inventory view
inventory view
Request add item form
Add item view
Ask to fill the form
Fill the form
save data in the form in he database
inventory view
Close connection

Distributed Database Design

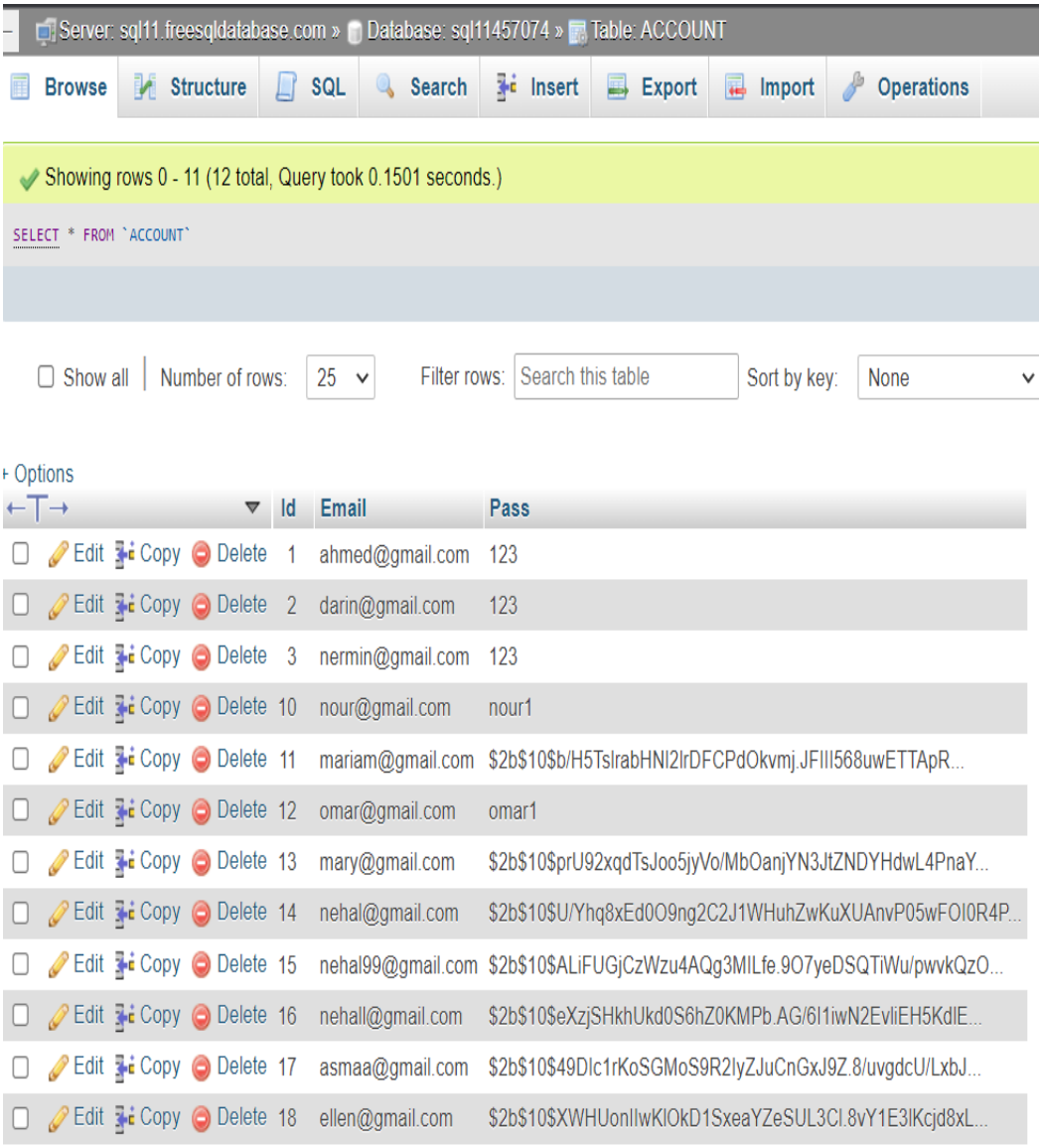
Entity Relationship Diagram



Database Schema

1- Account schema:

We used vertical fragmentation in the account schema to separate the data related to the balance and the login data as shown in the following figures:



Showing rows 0 - 13 (14 total, Query took 0.1820 seconds.)

```
SELECT * FROM `ACCOUNT`
```

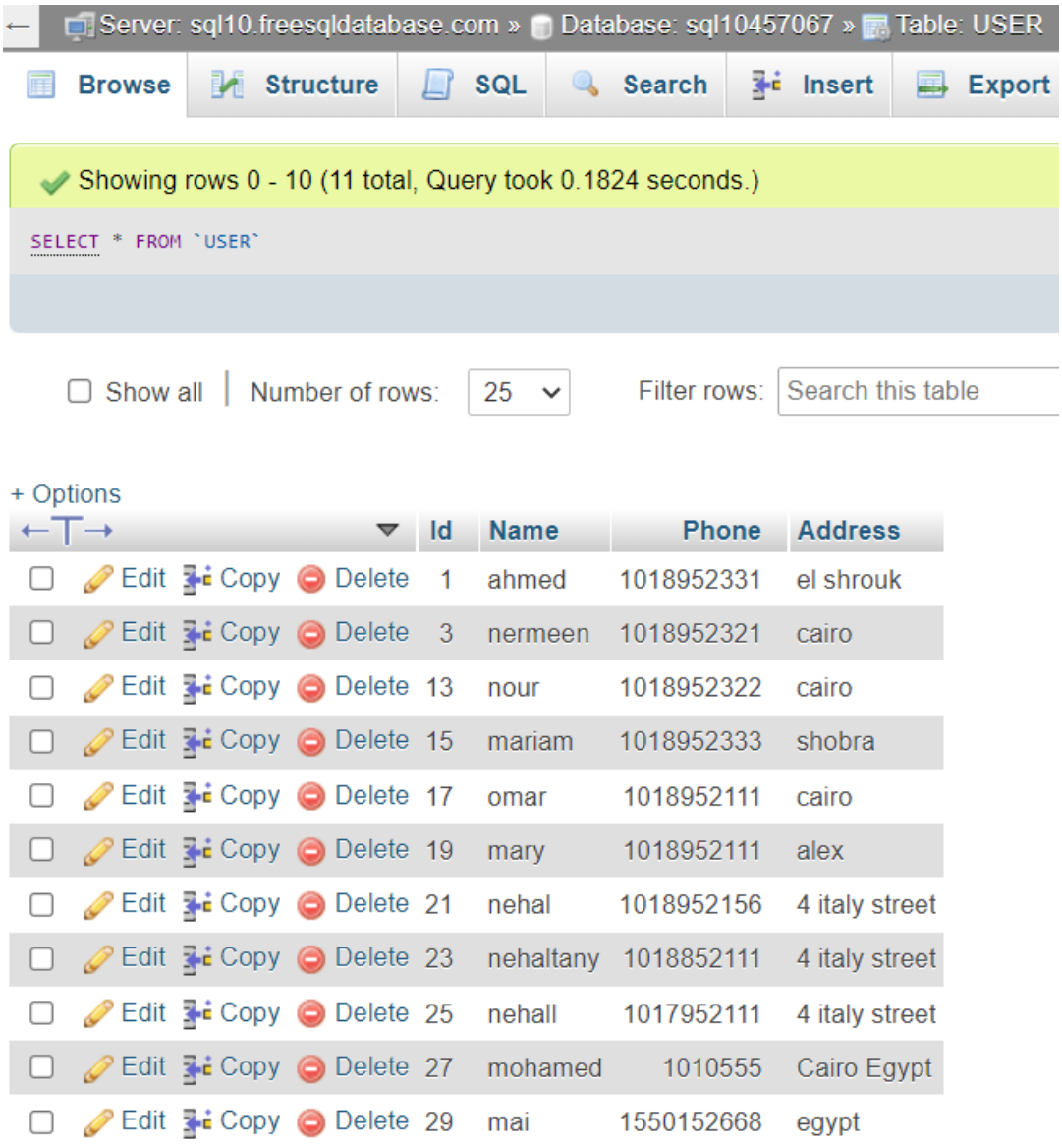
Show all | Number of rows: 25 Filter rows: Search this table

+ Options

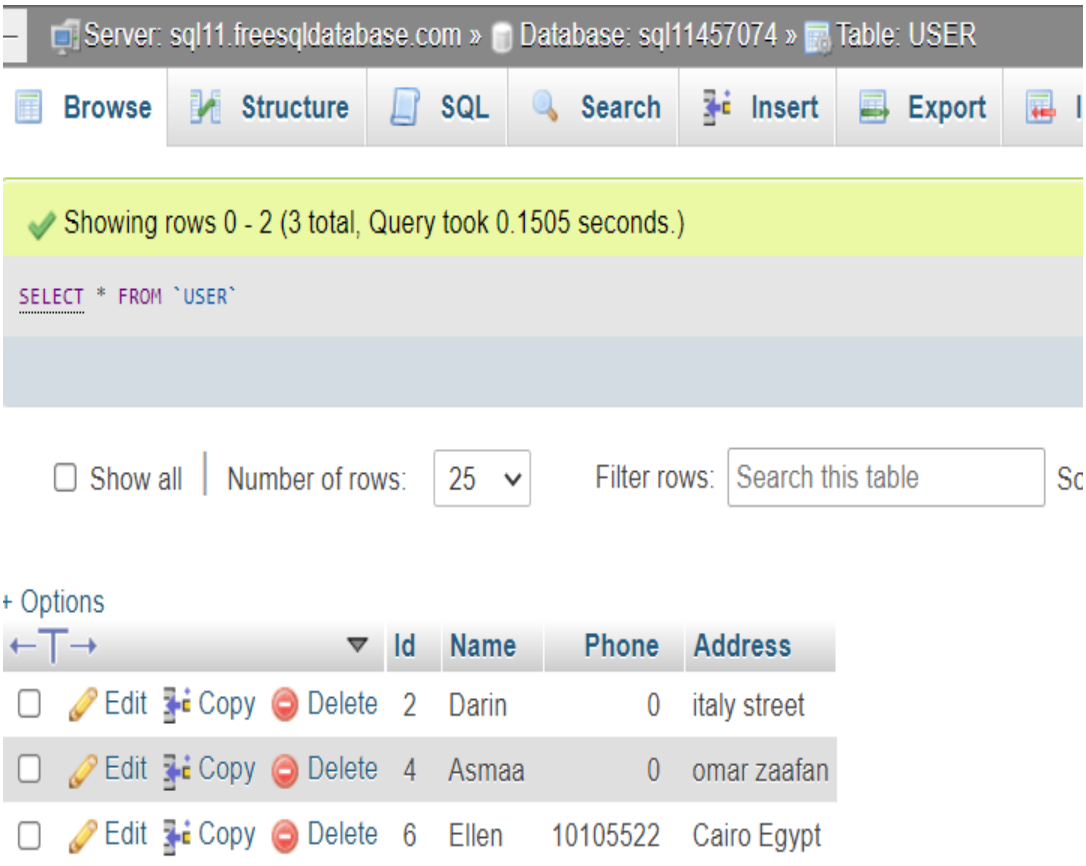
	Id	User_Id	Balance
Edit Copy Delete	1	1	560
Edit Copy Delete	2	2	1000
Edit Copy Delete	3	3	2000
Edit Copy Delete	10	13	0
Edit Copy Delete	11	15	0
Edit Copy Delete	12	17	0
Edit Copy Delete	13	19	0
Edit Copy Delete	14	21	0
Edit Copy Delete	15	23	0
Edit Copy Delete	16	25	0
Edit Copy Delete	17	4	0
Edit Copy Delete	18	6	0
Edit Copy Delete	19	27	0
Edit Copy Delete	20	29	0

2- User schema:

We used horizontal fragmentation in the user schema as shown in the following figures:

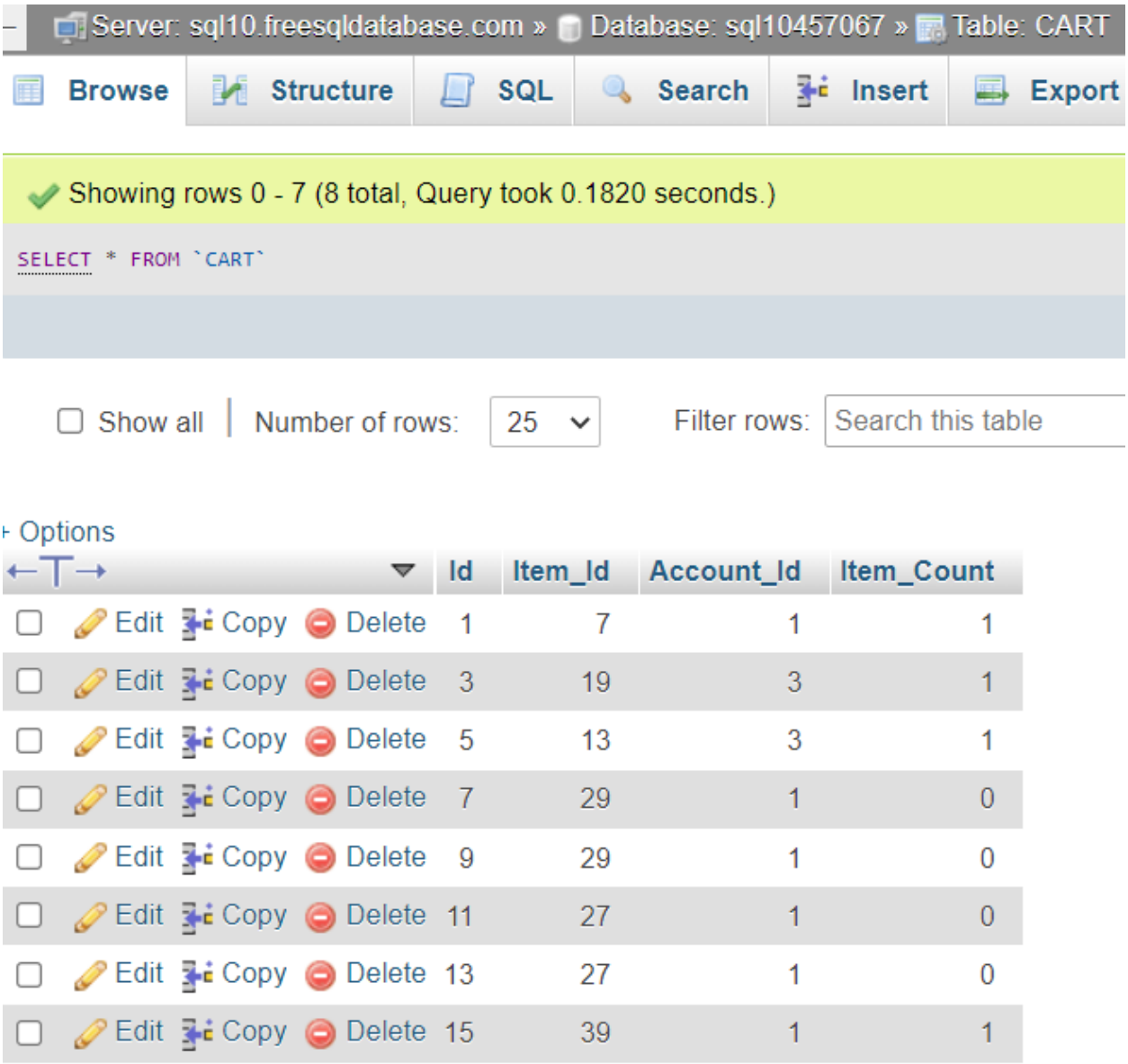


	Id	Name	Phone	Address
Edit Copy Delete	1	ahmed	1018952331	el shrouk
Edit Copy Delete	3	nermeen	1018952321	cairo
Edit Copy Delete	13	nour	1018952322	cairo
Edit Copy Delete	15	mariam	1018952333	shobra
Edit Copy Delete	17	omar	1018952111	cairo
Edit Copy Delete	19	mary	1018952111	alex
Edit Copy Delete	21	nehal	1018952156	4 italy street
Edit Copy Delete	23	nehaltany	1018852111	4 italy street
Edit Copy Delete	25	nehall	1017952111	4 italy street
Edit Copy Delete	27	mohamed	1010555	Cairo Egypt
Edit Copy Delete	29	mai	1550152668	egypt

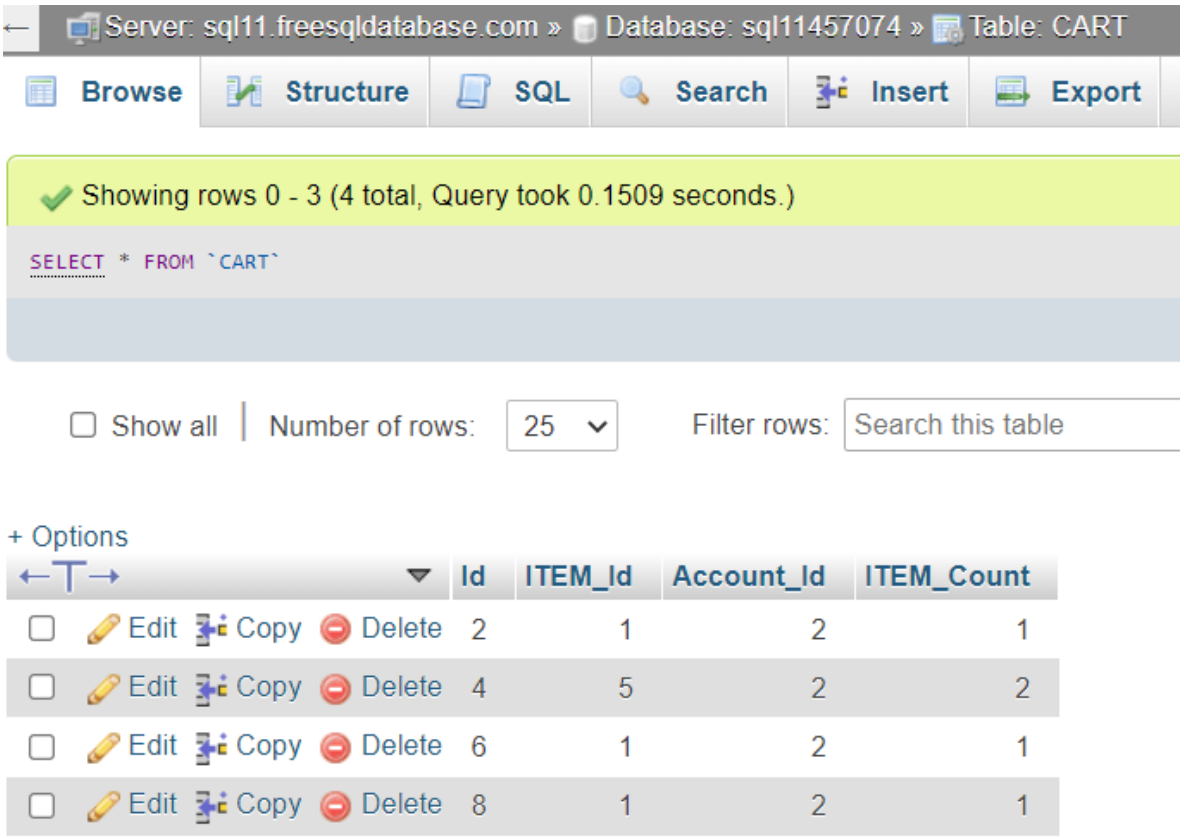

Server: sql11.freesqldatabase.com » Database: sql11457074 » Table: USER
Browse
Structure
SQL
Search
Insert
Export
Showing rows 0 - 2 (3 total, Query took 0.1505 seconds.)
SELECT * FROM `USER`
Show all
Number of rows:
25
Filter rows:
Search this table
+ Options
Id
Name
Phone
Address
Edit Copy Delete 2 Darin 0 italy street
Edit Copy Delete 4 Asmaa 0 omar zaafan
Edit Copy Delete 6 Ellen 10105522 Cairo Egypt

3- Cart schema:

We used horizontal fragmentation in the cart schema as shown in the following figures:



	Id	Item_Id	Account_Id	Item_Count
Edit Copy Delete	1	7	1	1
Edit Copy Delete	3	19	3	1
Edit Copy Delete	5	13	3	1
Edit Copy Delete	7	29	1	0
Edit Copy Delete	9	29	1	0
Edit Copy Delete	11	27	1	0
Edit Copy Delete	13	27	1	0
Edit Copy Delete	15	39	1	1

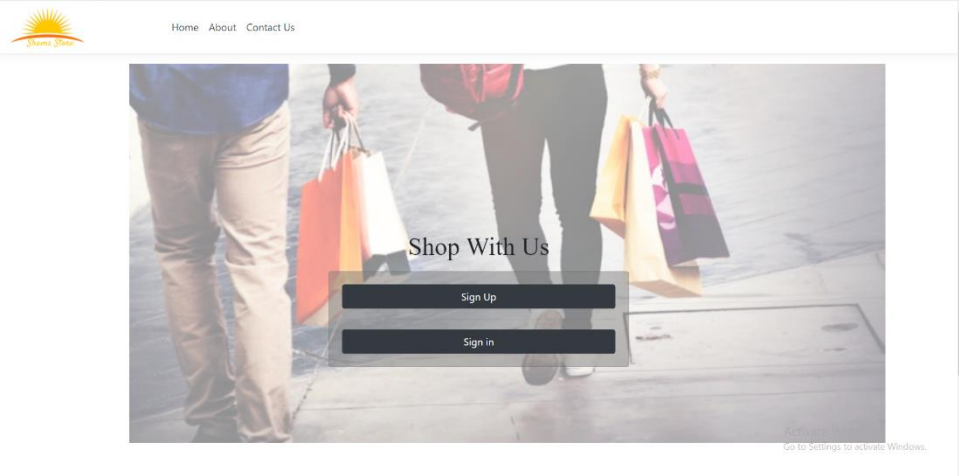

Server: sql11.freesqldatabase.com » Database: sql11457074 » Table: CART
Browse
Structure
SQL
Search
Insert
Export
Showing rows 0 - 3 (4 total, Query took 0.1509 seconds.)
SELECT * FROM `CART`
Show all
Number of rows:
25
Filter rows:
Search this table
+ Options
Id
ITEM_Id
Account_Id
ITEM_Count
Edit Copy Delete 2 1 2 1
Edit Copy Delete 4 5 2 2
Edit Copy Delete 6 1 2 1
Edit Copy Delete 8 1 2 1

Time Plane

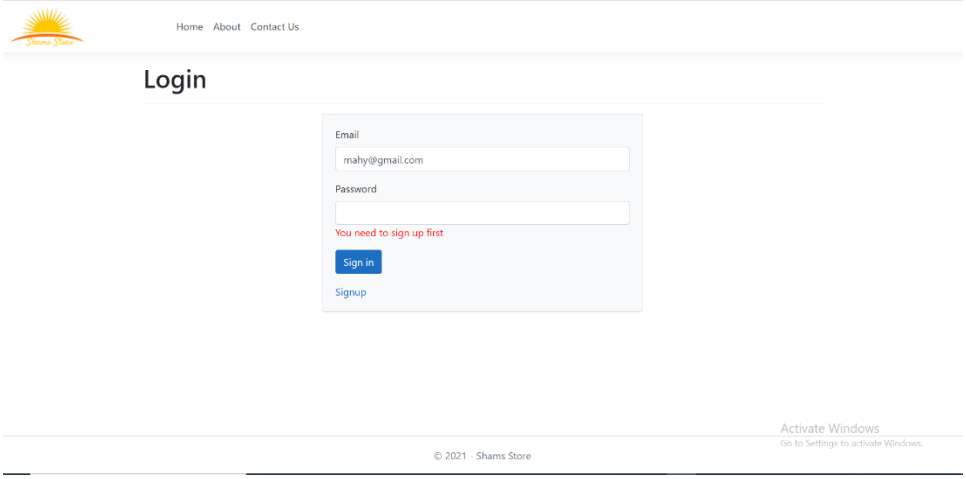
Task	From	To
Searching phase	30/10/2021	5/11/2021
Designing the ER diagram	6/11/2021	10/11/2021
Designing the database	11/11/2021	13/11/2021
Designing the website	14/112021	17/112021
Midterm break	18/11/2021	27/11/2021
Learning phase (to deal with distributed database)	28/11/2021	30/11/2021
Learning phase (ASP.NET)	28/11/2021	30/11/2021
Making online servers and making distributed database tables	1/12/2021	3/12/2021
Making the front end for all the pages in our website	1/12/2021	3/12/2021
Making the functions that can deal with the distributed database	1/12/2021	7/12/2021
Working on our backend of the website	5/12/2021	9/12/2021
Making report and taking screenshots	8/12/2021	10/12/2021

Testing

1-First the official page will open to the user

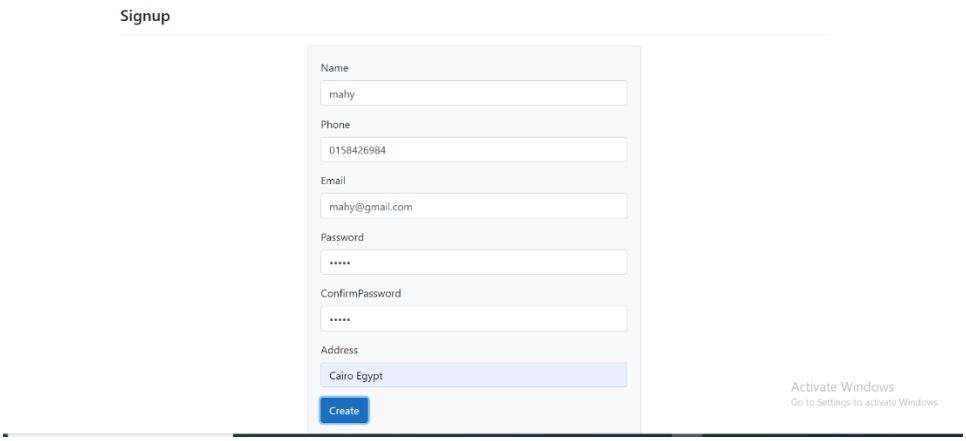


2-The user will click on login button

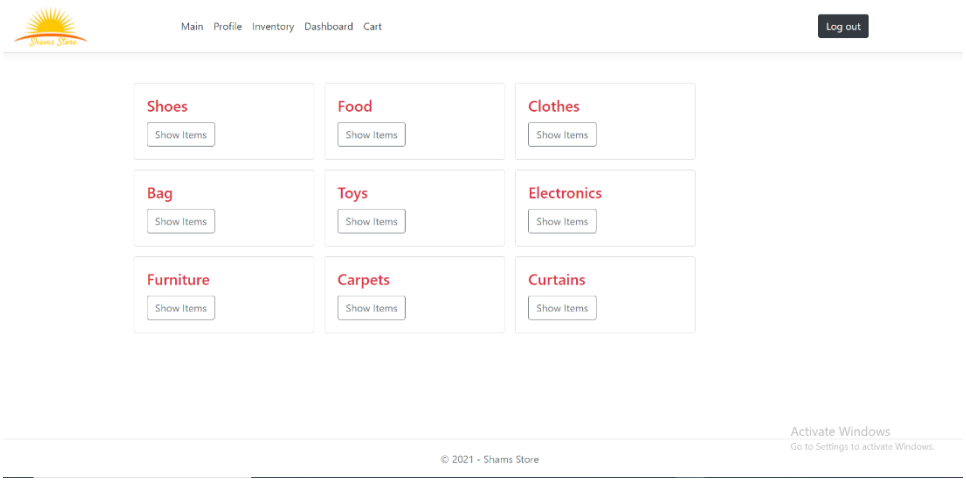


An error will occurs due to that this user did not sign up first

2-The user will click on sign in

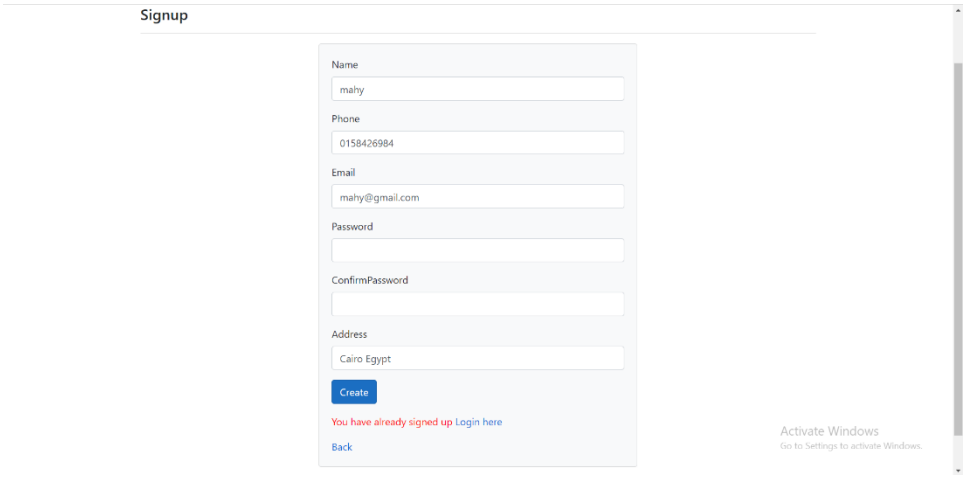


3-After signup the main page will open

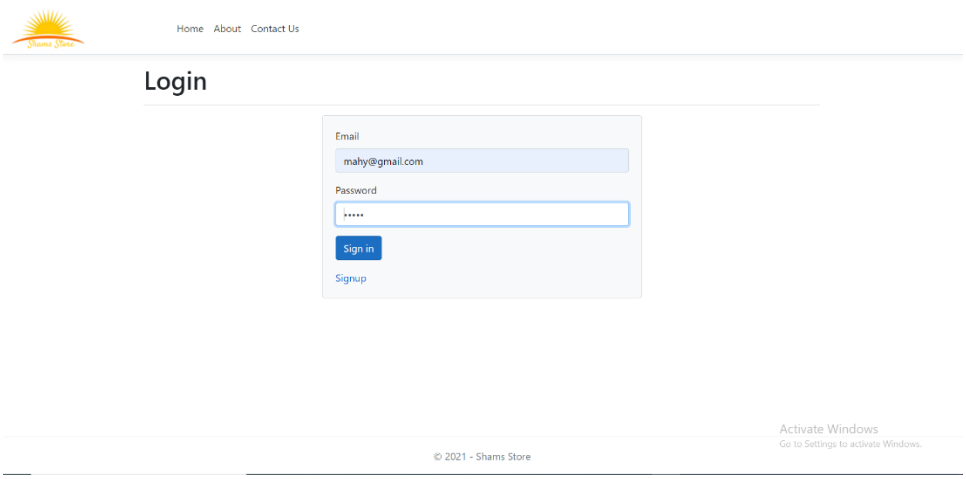


If the user is already sign up and try to sign up again

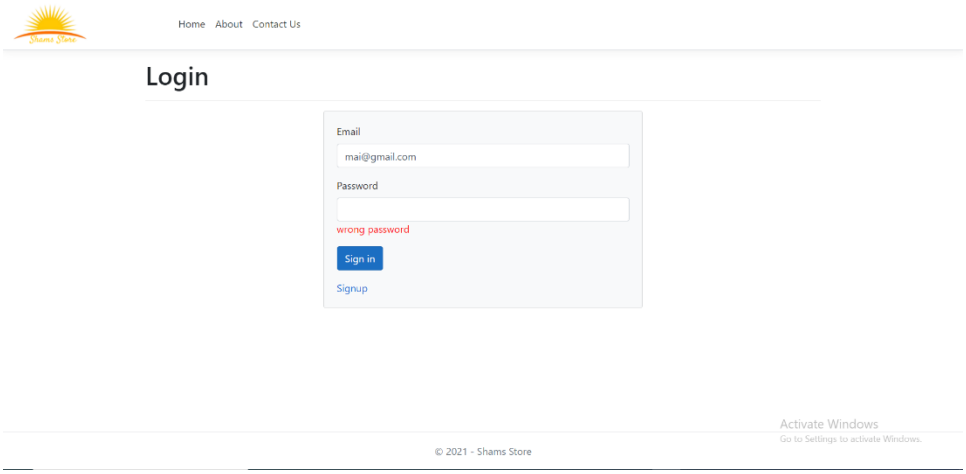
1-An error will occurs and the user will click on login



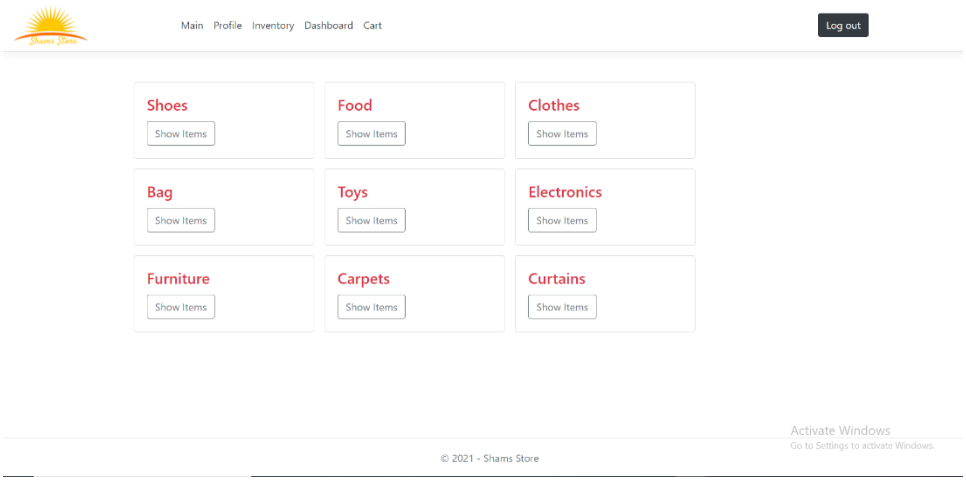
2-the user enters his email and password to login



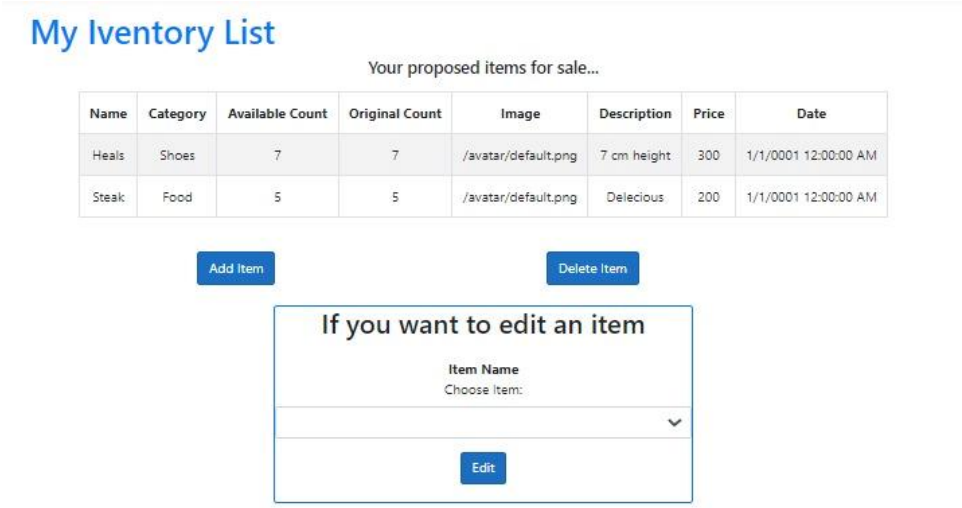
3-the user enters wrong password an error will occurs



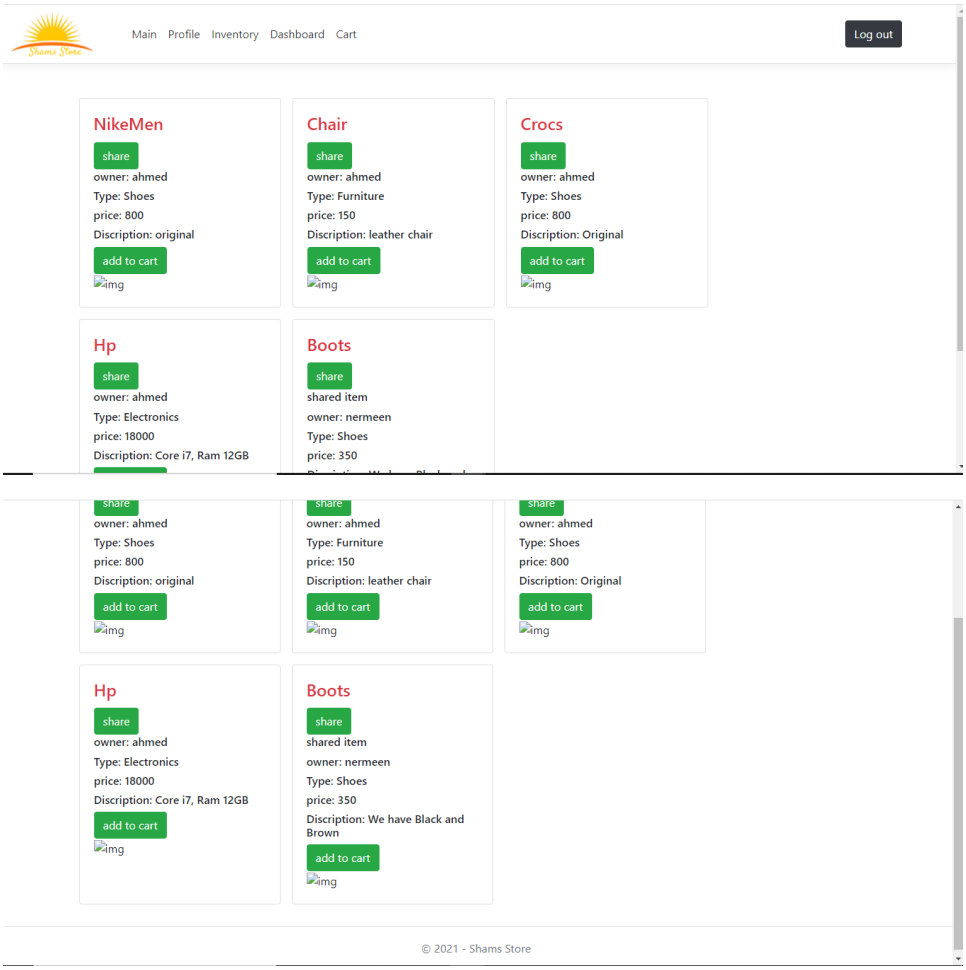
4-the user enters the correct password will be directed to the main page



The Inventory list after the user edited the price of item "heals" and deleted the first item which was Nike



1.owner page



2.Deposit page

Main Profile Inventory Dashboard Cart

Log out

Current Balance: 560 $

How much money?

Haven't added visa/credit card?

Deposit

© 2021 - Shams Store

Main Profile Inventory Dashboard Cart

Log out

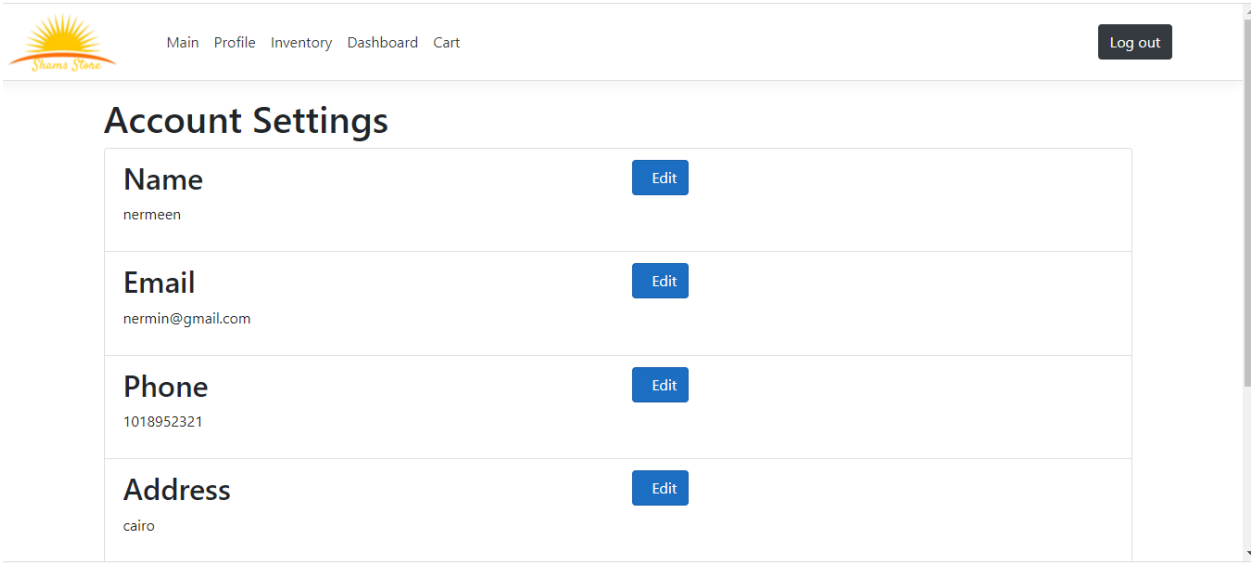
Current Balance: 600 $

How much money?

Haven't added visa/credit card?

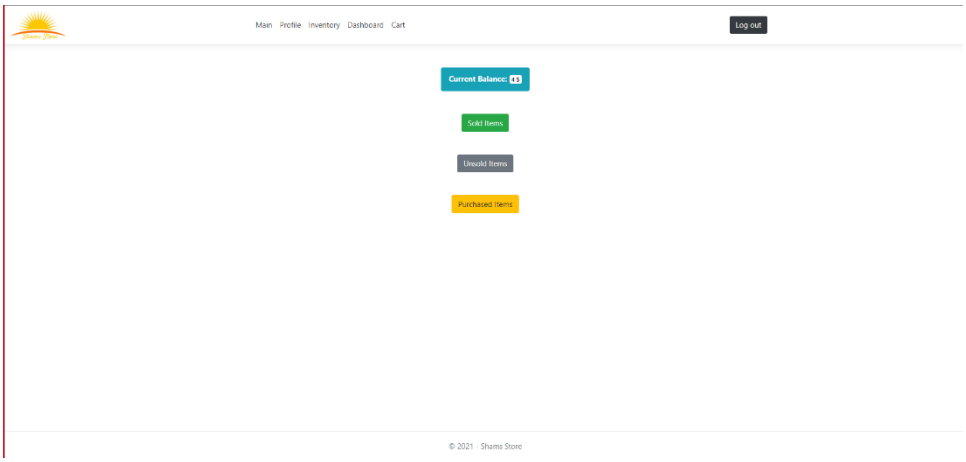
Deposit

© 2021 - Shams Store

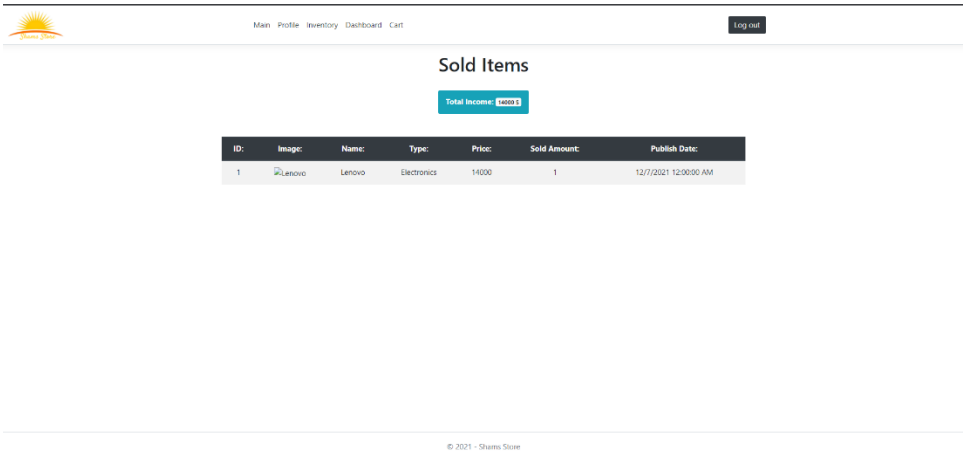

Shams Store
Main
Profile
Inventory
Dashboard
Cart
Log out
Account Settings
Name
nermeen
Edit
Email
nermin@gmail.com
Edit
Phone
1018952321
Edit
Address
cairo
Edit

Heba

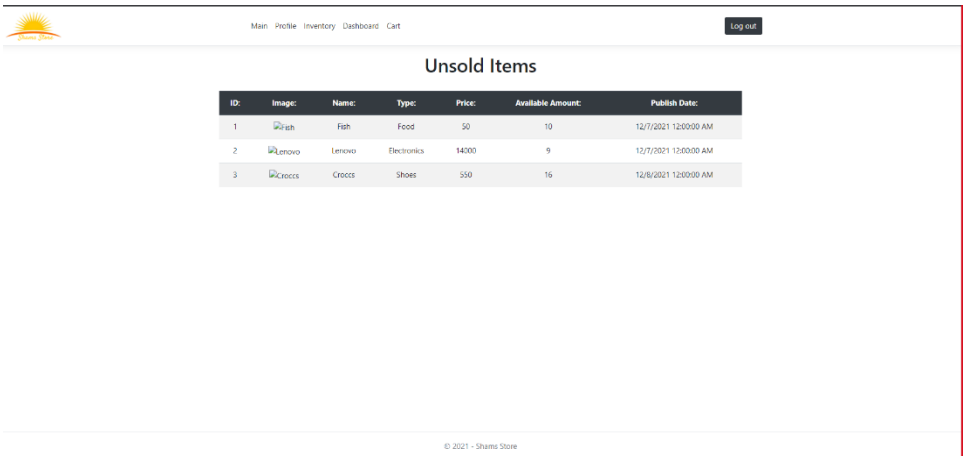
When clicking Dashboard in the nav bar this is the view to the user from which he can go to sold items page, unsold items page, and purchased items page



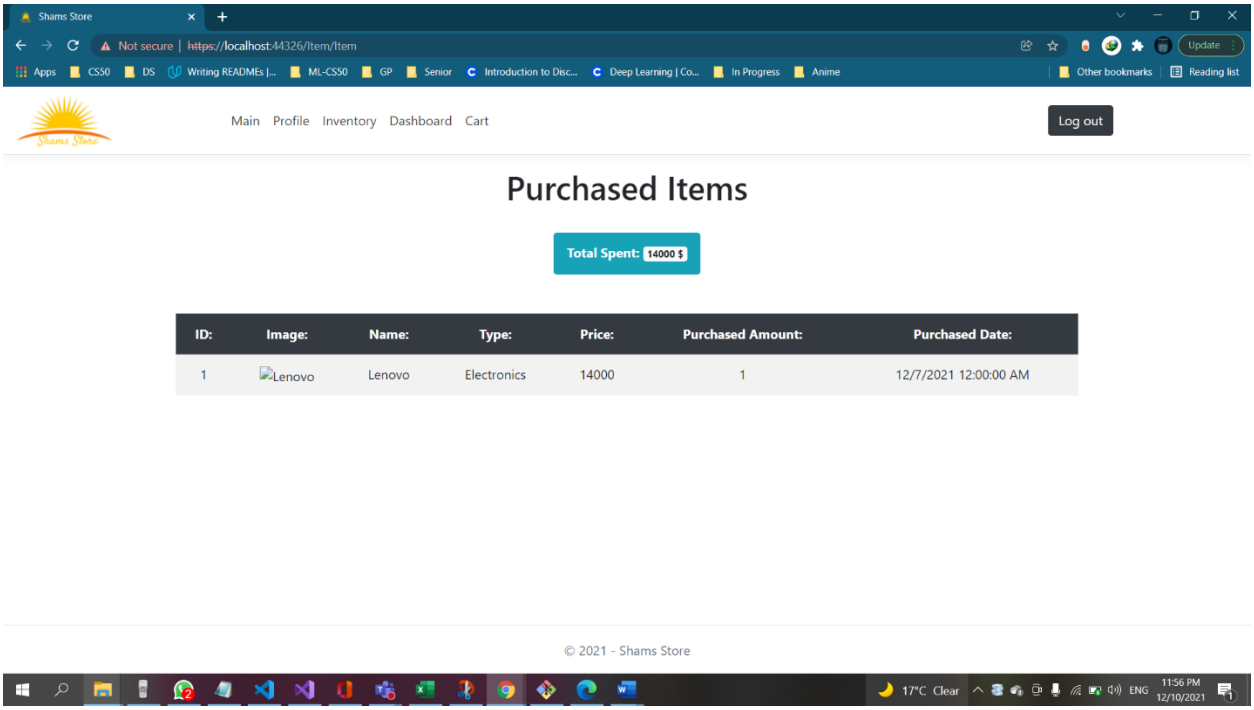
Show the sold items that he has sold using the website and total benefit



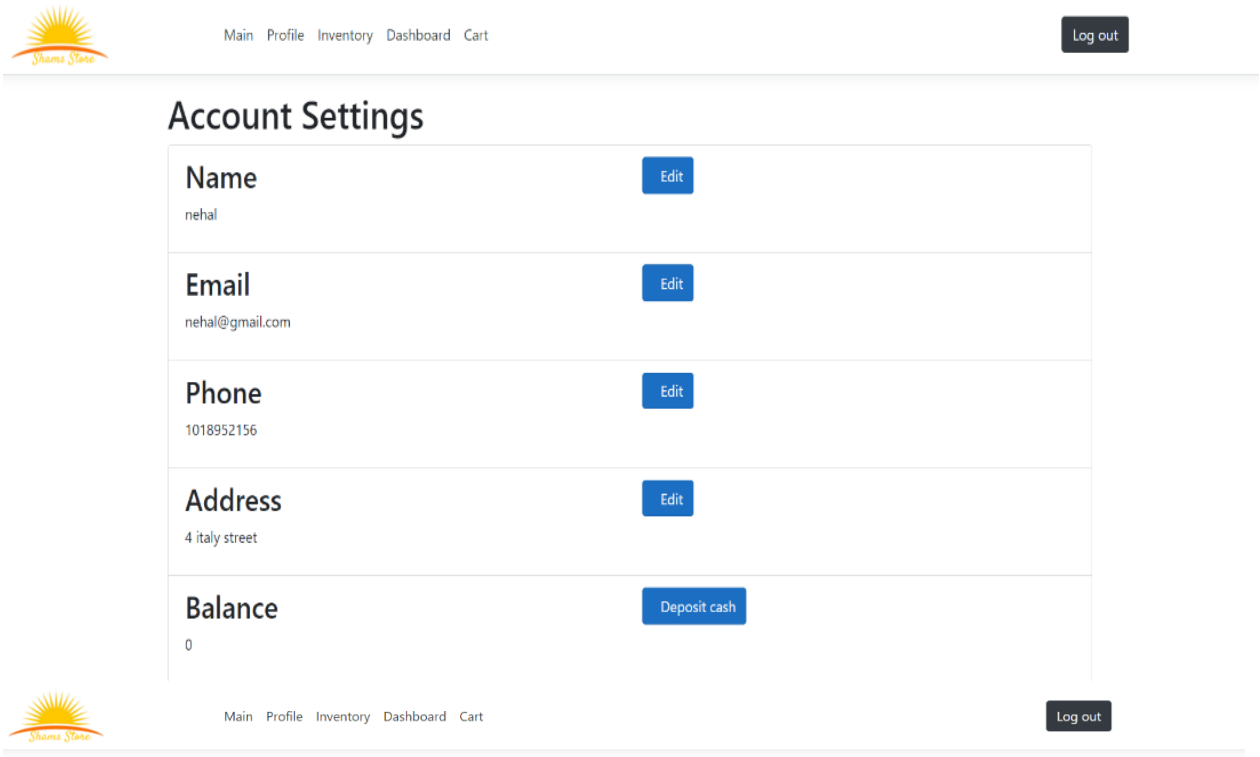
Show unsold items of the items that the user has added to the website

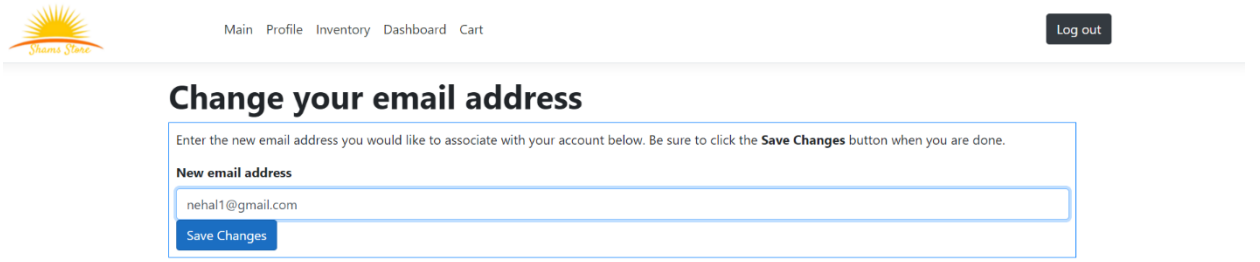


User shows his purchased items with the total spent money



Salma





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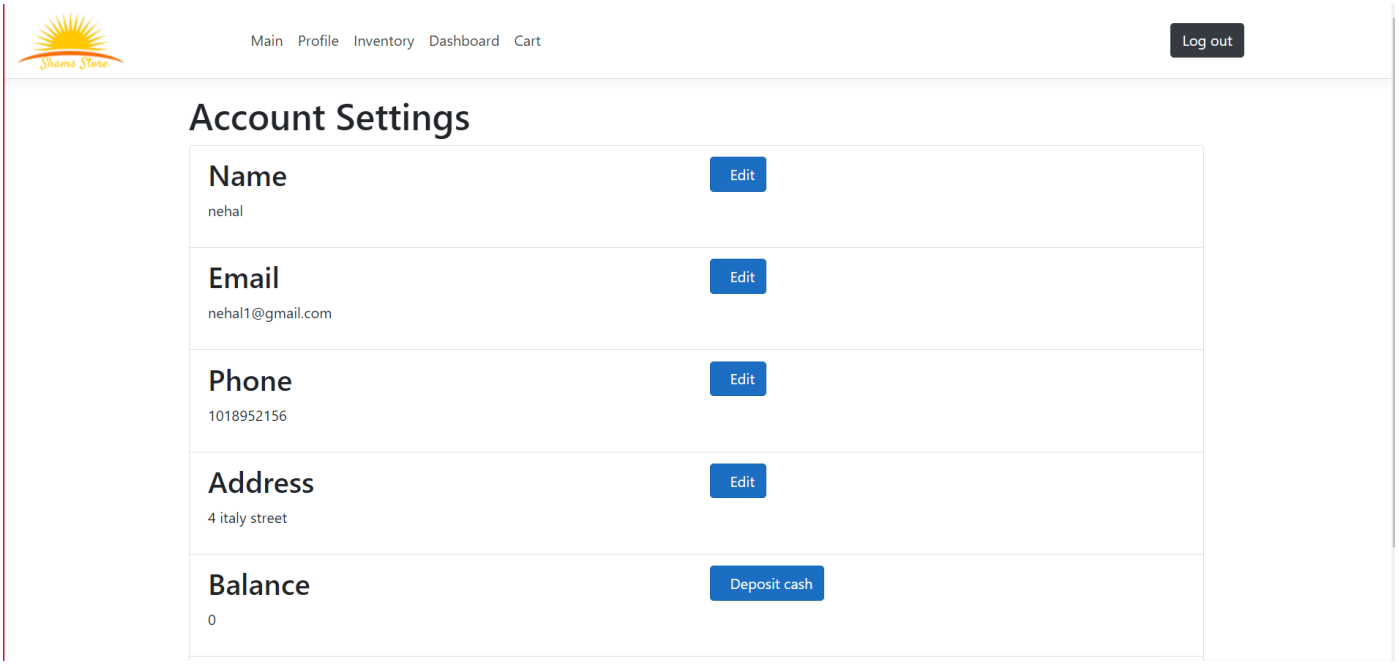
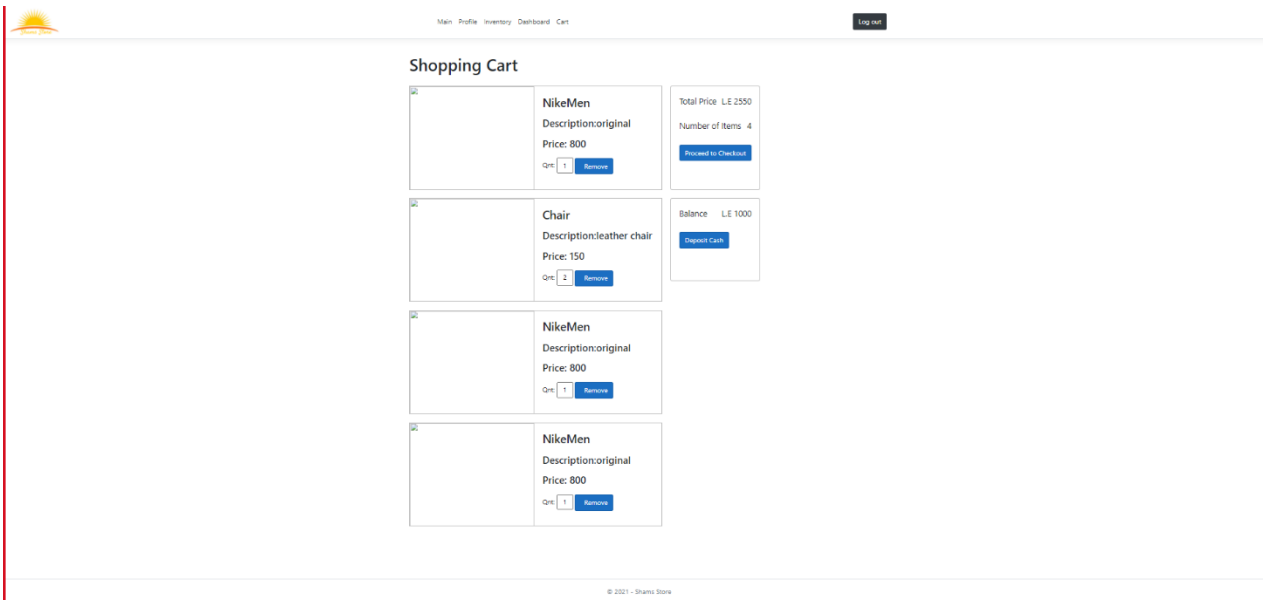

Shams Store
Main Profile Inventory Dashboard Cart
Log out
Account Settings
Name
nehal
Edit
Email
nehal1@gmail.com
Edit
Phone
1018952156
Edit
Address
4 italy street
Edit
Balance
0
Deposit cash


Main Profile Inventory Dashboard Cart
Log out
Shopping Cart
NikeMen
Description:original
Price: 800
Qnt: 1
Remove
Chair
Description:leather chair
Price: 150
Qnt: 2
Remove
NikeMen
Description:original
Price: 800
Qnt: 1
Remove
NikeMen
Description:original
Price: 800
Qnt: 1
Remove
Total Price L.E 2550
Number of Items 4
Proceed to Checkout
Balance L.E 1000
Deposit Cash
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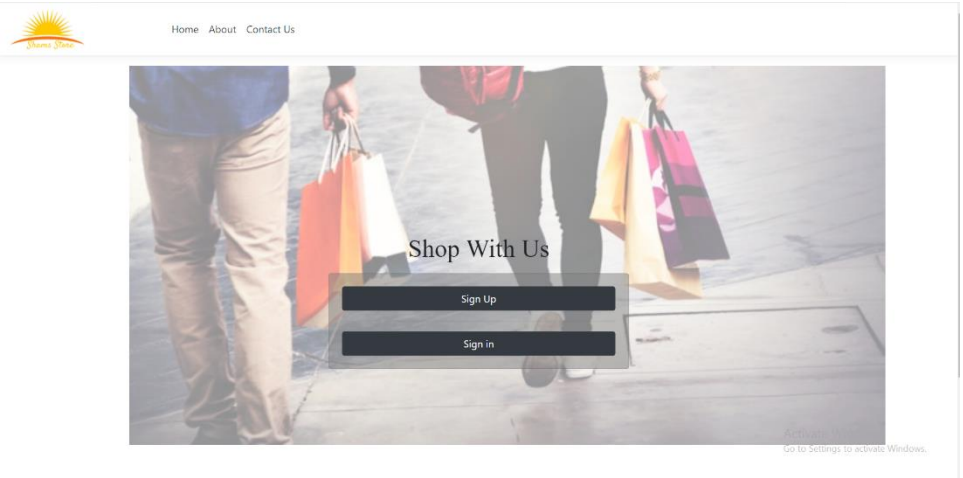
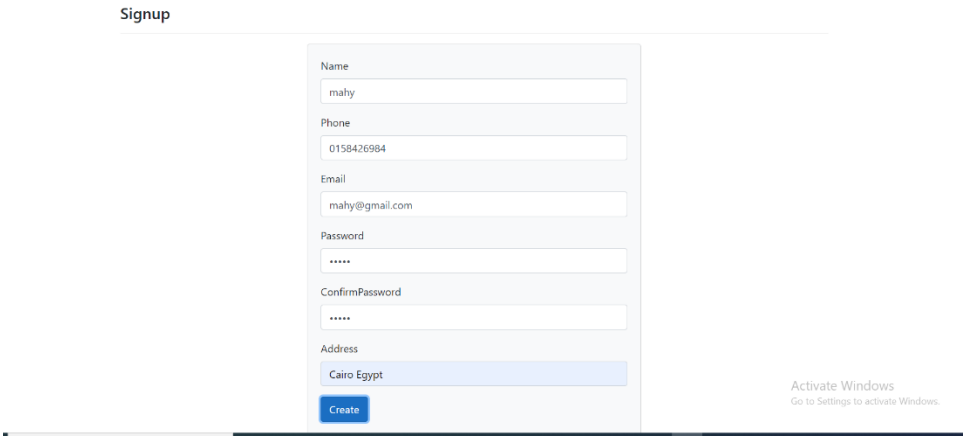
End User Guide

1-Homepage



2-Click on signup to signup

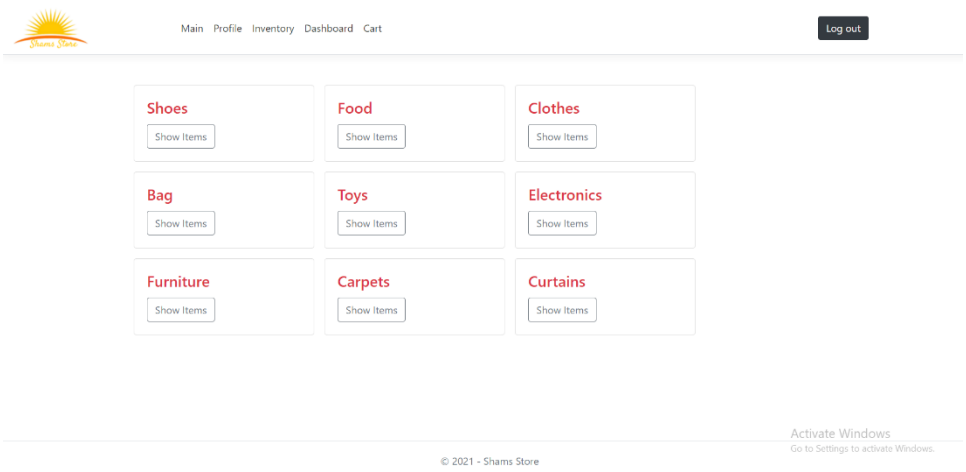


3-fill this form then click create

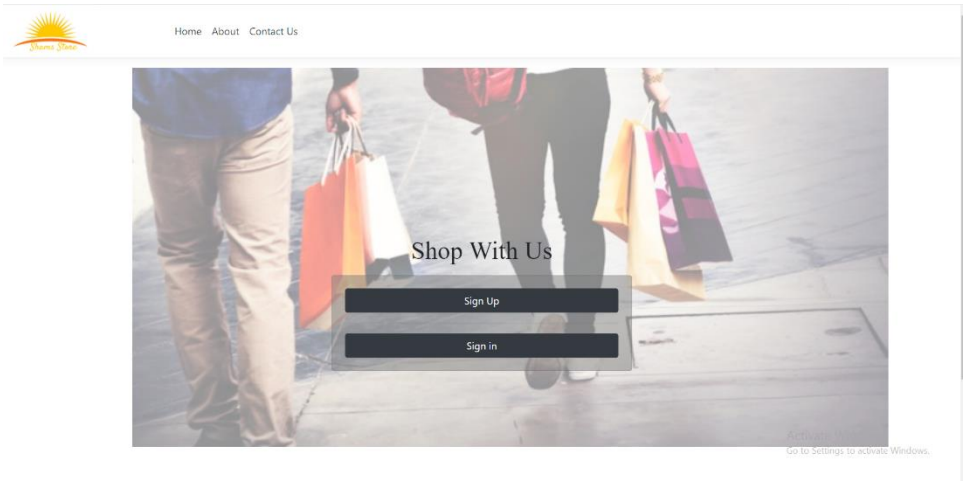
4- To login clock login

Insert your email and password then click sign in

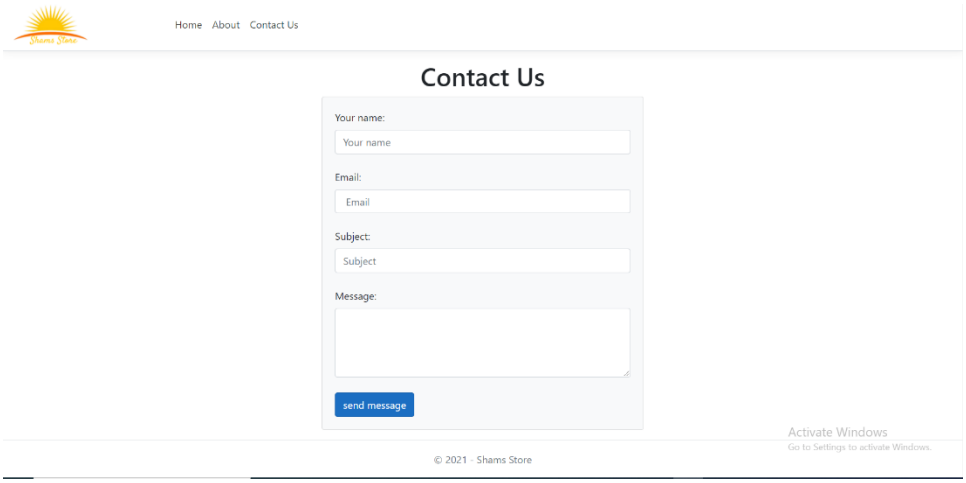
5-in both cases the main page will open



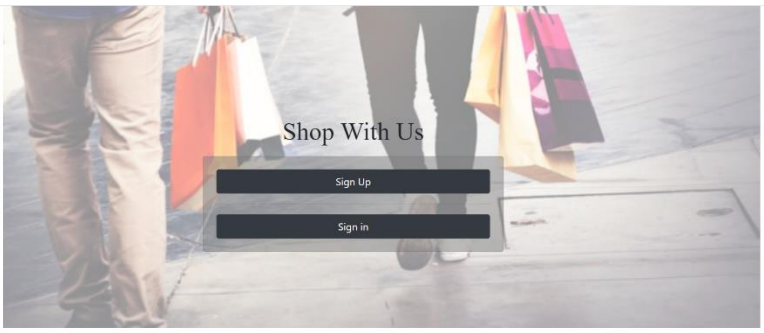
6-if you want to contact us click on contact us in the navigation bar from this page



7-fill this form



8- if you want to know about us click on about us in the navigation bar from this page

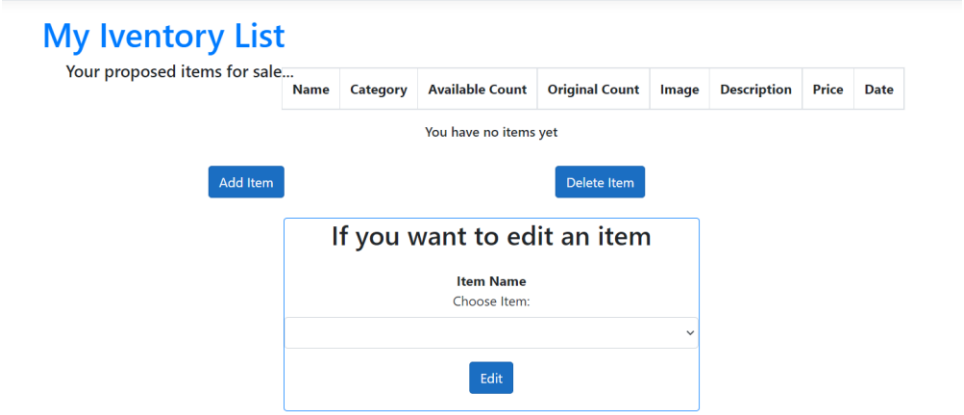


About us

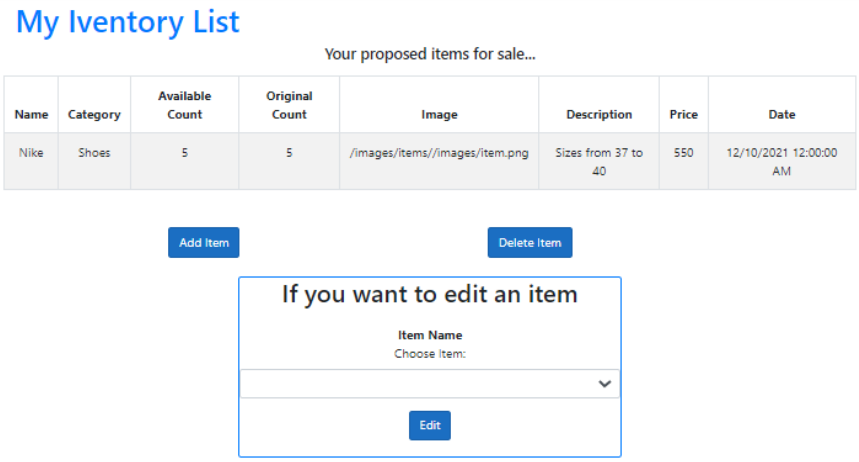
We are an online marketplace existing since 2012. Either you want to buy or sell your products, your experience with us will be better. Our goal is to your energy. Just click and let us do the rest.

Activate Windows
Go to Settings to activate Windows.

1- Inventory list of a user after he adds 1 item

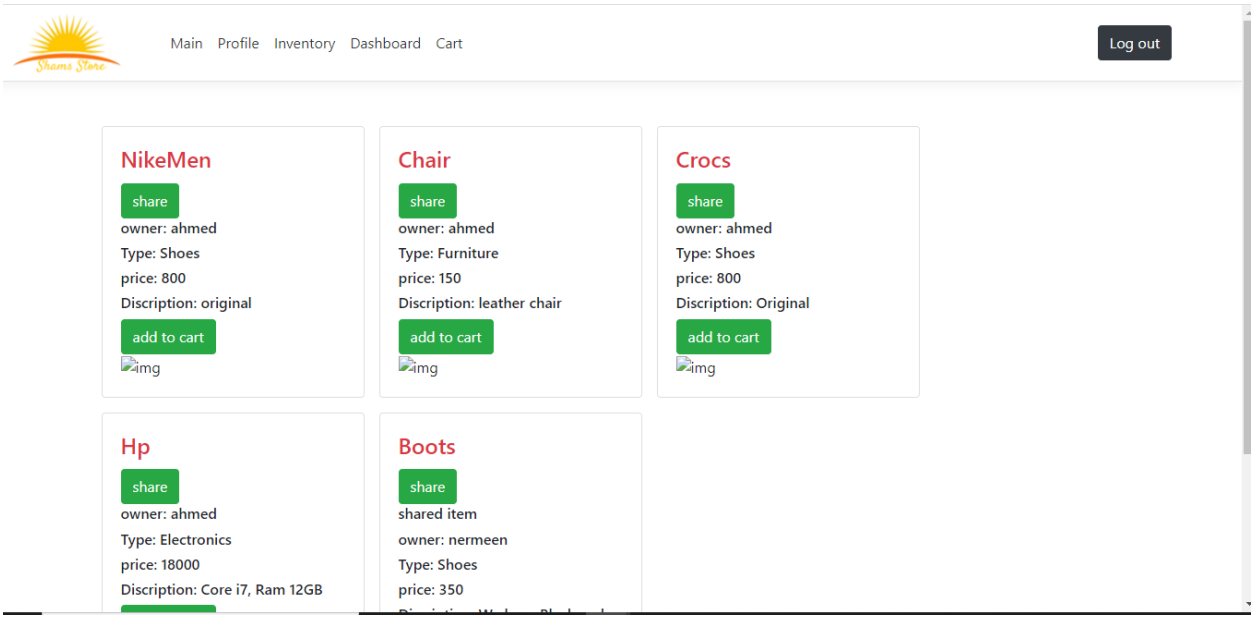


2- When the user clicks on Add Item button in Inventory he gets this form to fill



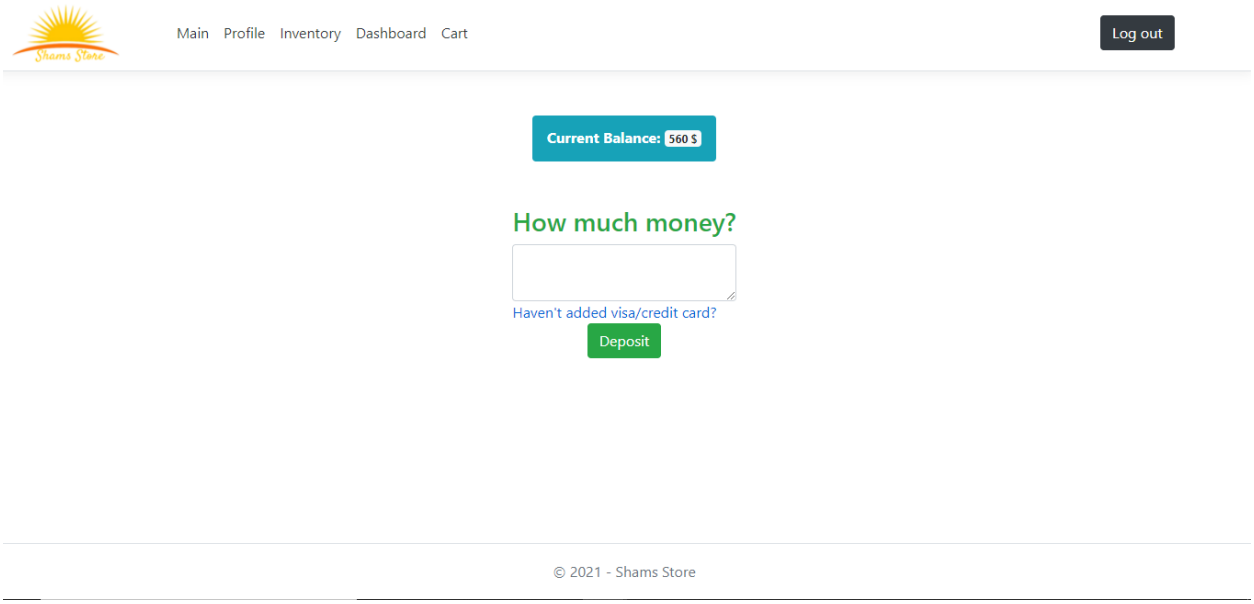
3- When the user clicks on Add Item button in Inventory he gets this form to fill

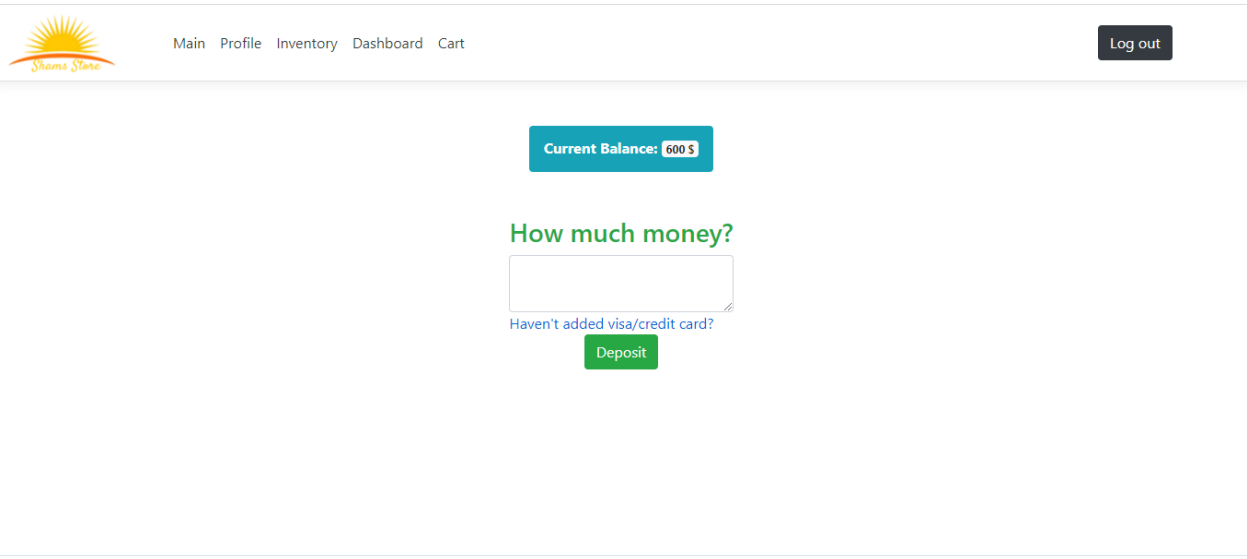
1.owner page

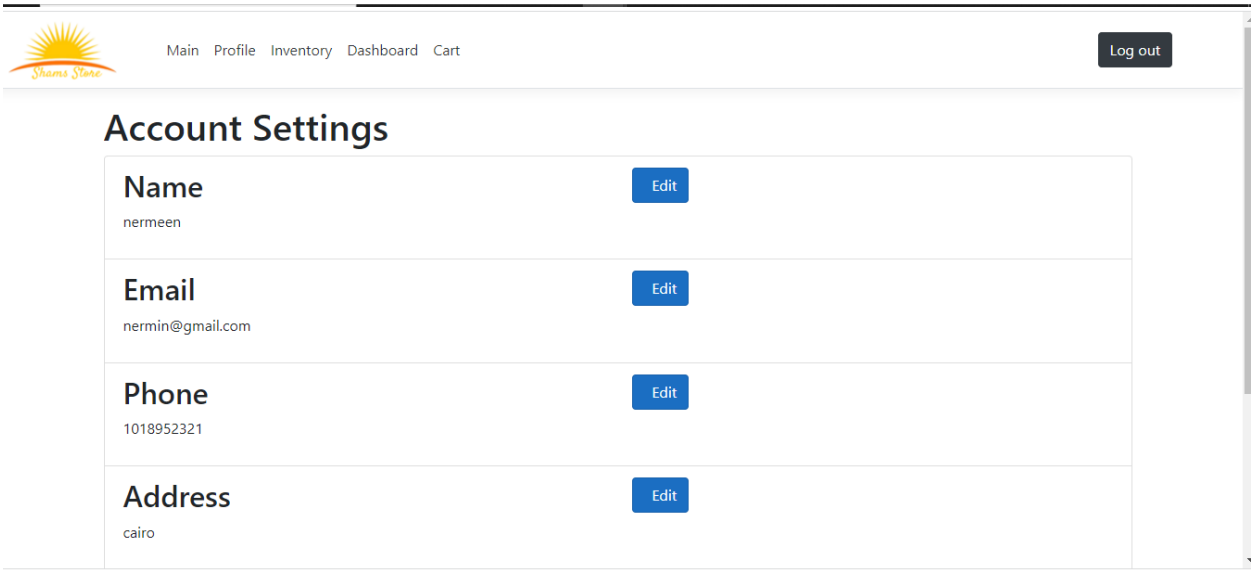


- In this page we show item for specific owner, which user click on his items.
- So, it you want to share his item in your store you can click on share button.
- So, it you want to add his item in your cart you can click on share add to cart.\

2. Deposit page



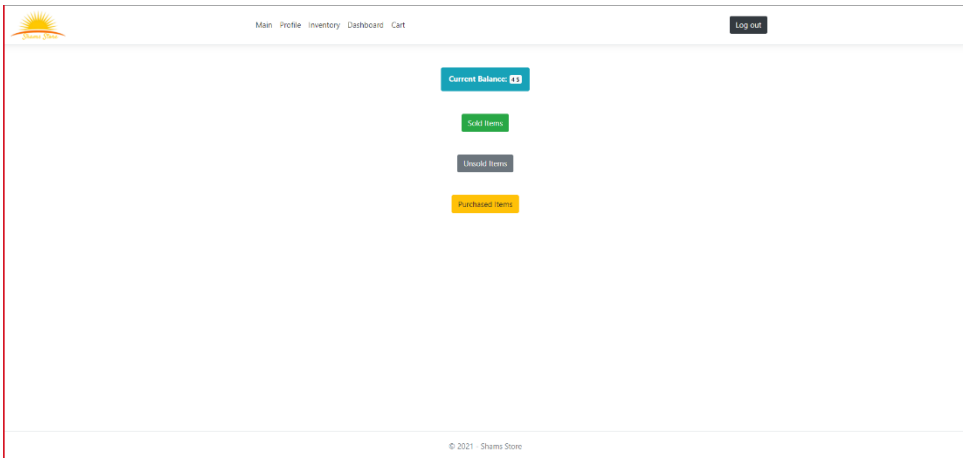




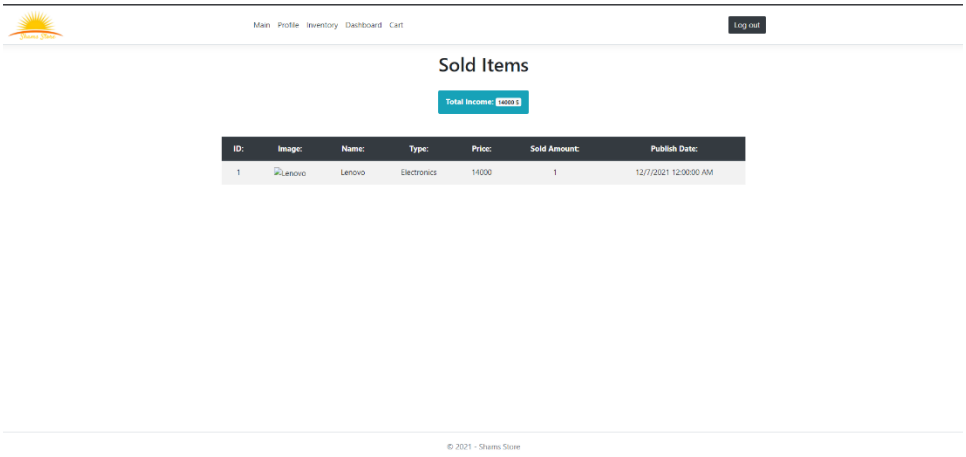
- In this page if you need to add money to your account from credit card.
- If you don’t have credit card you can add one by, click on edit credit card to go to profile.
- If you have credit card you can add money by, put number and click deposit.

Heba

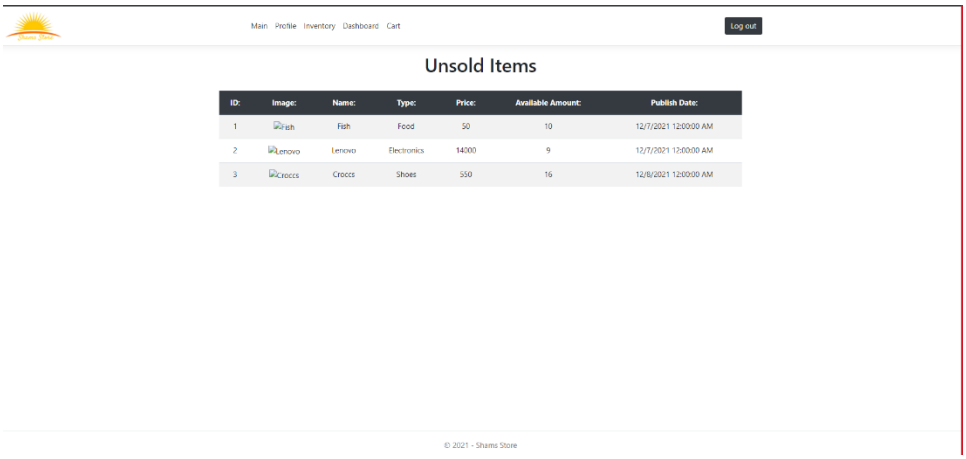
When clicking Dashboard in the nav bar this is the view to the user from which he can go to sold items page, unsold items page, and purchased items page



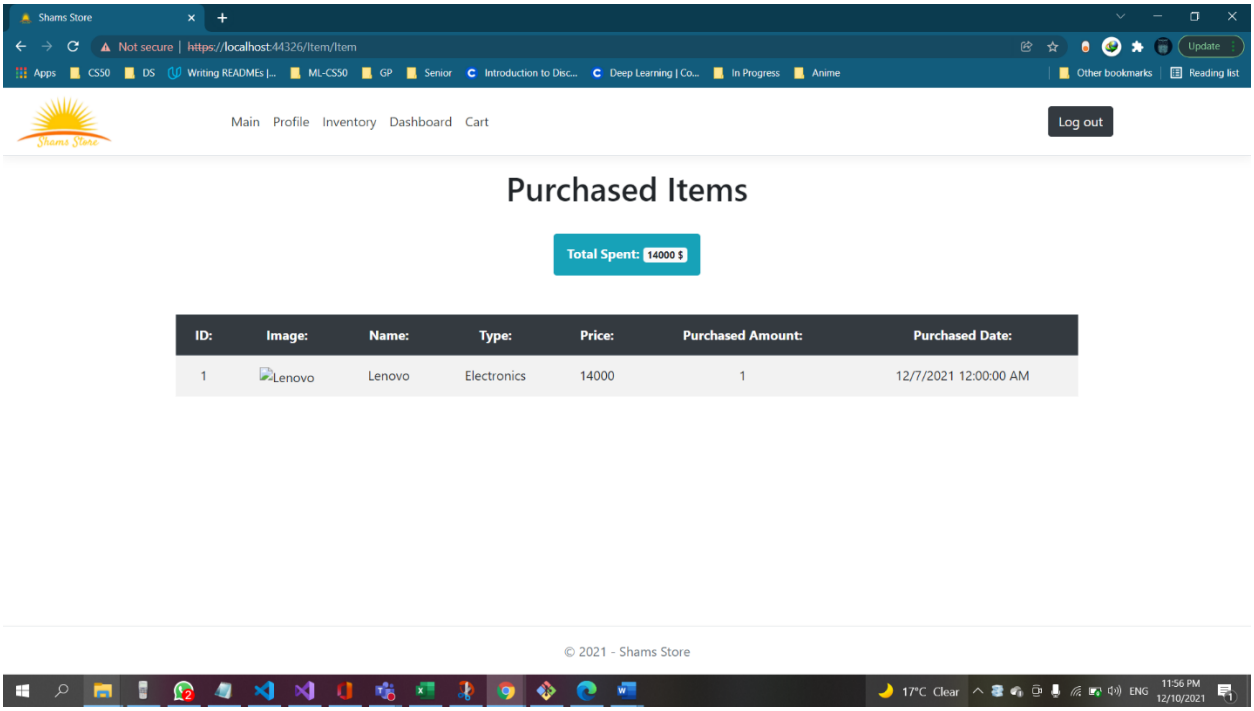
Show the sold items that he has sold using the website and total benefit



Show unsold items of the items that the user has added to the website



User shows his purchased items with the total spent money



Main Profile Inventory Dashboard Cart

Log out

Account Settings

Name

nehal

Edit

Email

nehal@gmail.com

Edit

Phone

1018952156

Edit

Address

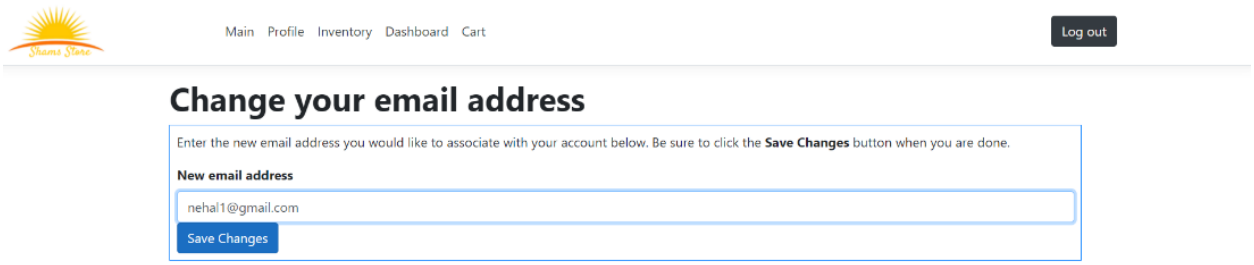
4 italy street

Edit

Balance

0

Deposit cash



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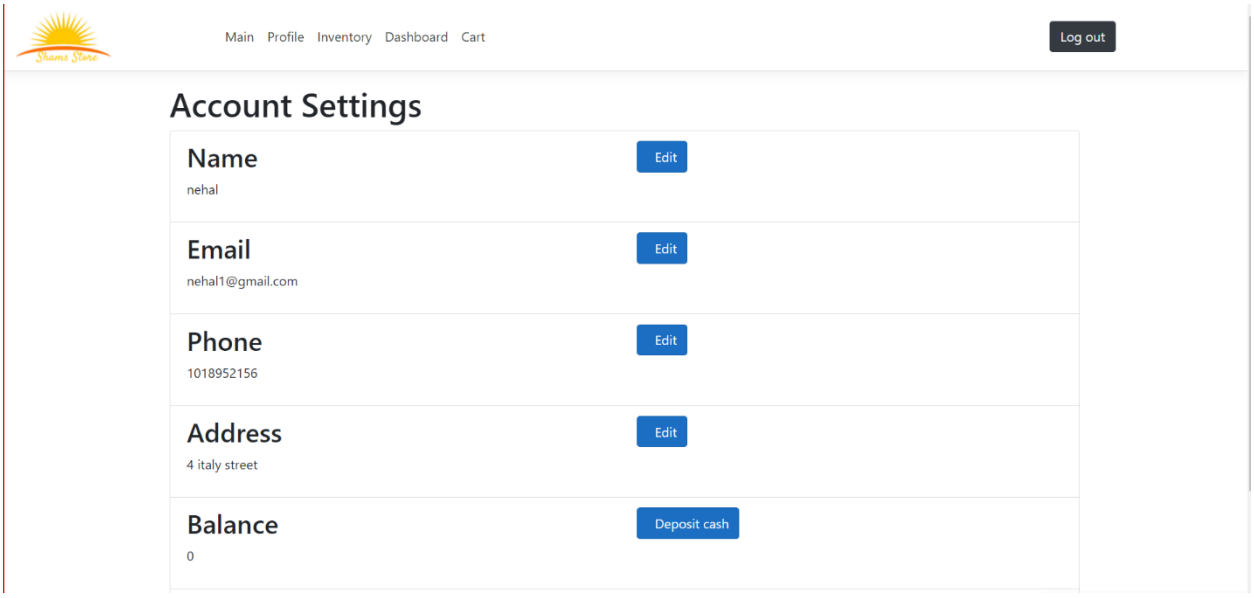

Main Profile Inventory Dashboard Cart

Log out

Shopping Cart

NikeMen

Description:original

Price: 800

Qnt: 1 Remove

Total Price L.E 2550

Number of Items 4

Proceed to Checkout

Chair

Description:leather chair

Price: 150

Qnt: 2 Remove

Balance L.E 1000

Deposit Cash

NikeMen

Description:original

Price: 800

Qnt: 1 Remove

NikeMen

Description:original

Price: 800

Qnt: 1 Remove

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Resources needed:

We used Asp.Net Core framework and used NuGet packages as :

1) BCrypt.Net-Next
2) Microsoft.EntityFrameworkCore
3) Microsoft.AspNetCore.Session
4) Promelo.EntityFrameworkCore.Mysql

Role of Each Member

Name	Role
Noura Nabil	Login system Signup system Alp diagram Testing Time plan
Nermeen Atef	Create data base ownerp age &deposit page
Nehal Yasser Abd El-Wahab	Inventory page, Add item,edit item, Delete item and Main pages
Heba Atef	Repositories for controlling the database, dashboard views and item views
Mahinour Amr	Home Page, Contact, About, CatItemsPage, Layout, Introduction
Salma Ali Abd elhalim Awadallah	Profile,Cart

References

ASP.Net documentations