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Introduction

The main idea of the project is a E-store management system.

Shoppers ('User') can choose a variety of products ('Product') across multiple product categories ('Category') to generate an order ('Order') that is stored within the database.

These operations done by a client server model using DNS

Interaction between the user and the E-store done by a GUI that made using javafx

This project is based on 4 parts:

- 1- The GUI that interacts and shows the data to the client (user).
- 2- The DNS that handles the requests from clients and searching for the available servers and choose the server that will send its ip to the requester (client).
- 3- Server that handles the requests coming and connects to the database to modify or add into it to be updated for every user tries to get into to this data
- 4- Centralized data Base that contains all users, orders, categories and products

Routes

	Operation Name	Input Parameters	Type
0	addUser	int id String username String pword String Fname String Lname String email	void
1	addAdmin	int id String username String pword String Fname String Lname String email	void
2	addProduct	int product_id String pname int category_id, double price int stock String status	Void
3	addCategory	int category_id String cname String status	Void
4	addToCart	int product_id int cart_id int quantity	Void
5	addOrder	int order_id int product_id int customer_id String date int quantity	Void
6	count_users	Void	int
7	count_products	Void	int
8	count_categories	Void	int
9	get_user_firstName	int id	String
10	get_user_lastName	int id	String

11	get_user_balance	int id	int
12	get_user_password	int id	String
13	get_user_name	int id	string
14	get_user_email	int id	string
15	get_orderID	int customer_id	int[]
16	get_allUsersID	Void	int[]
17	get_allProductsID	Void	int[]
18	get_allCategoriesID	Void	int[]
19	get_allOrdersID	Void	Int[]
20	get_orderDate	int order_id	string
21	get_orderTotalAmount	int order_id	int
22	get_product_name	int product_id	string
23	get_category_name	int category_id	string
24	get_product_price	int product_id	double
25	get_product_quantity	int product_id	int
26	get_product_status	int product_id	String
27	get_category_status	int category_id	String
28	get_order_product_quantity	int order_id int product_id	int
29	get_orderProducts	int order_id	int[]
30	increase_balance	int customer_id int amount	void
31	decrease_balance	int customer_id int amount	void
32	increase_stock	int product_id int amount	void
33	clear_cart	int cart_id	void
34	get_admin_firstName	int id	String
35	get_admin_lastName	int id	String

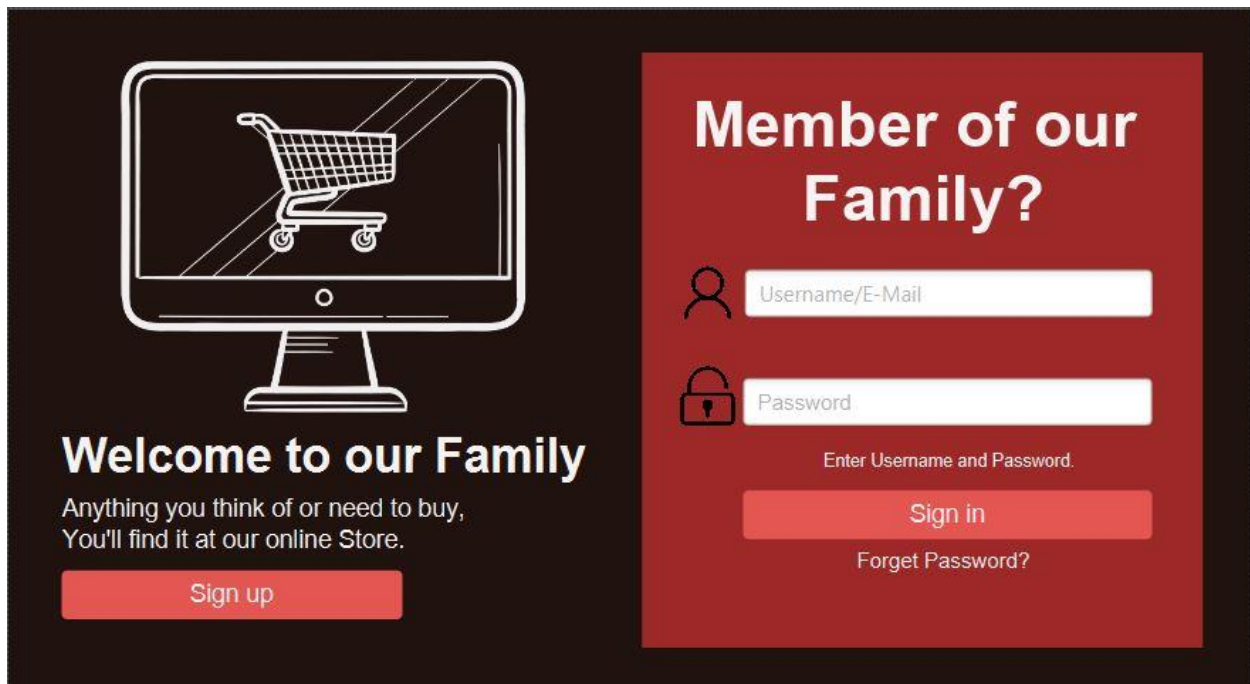
36	get_admin_username	int id	String
37	get_admin_email	int id	String
38	change_password	int id String password	void
39	change_userName	int id String userName	void
40	change_FirstName	int id String FName	void
41	change_LastName	int id String Lname	void
42	change_CategoryName	int id String category_name	void
43	change_CategoryStatus	int id String status	void
44	delete_user	int id	void
45	delete_from_cart	int product_id int customer_id	void
46	searchByCategory	String category	int[]
47	searchByName	String name	int[]
48	change_ProductName	int id String product_name	void
49	change_ProductPrice	int id double price	void
50	change_ProductCategory	int id String category_name	void
51	change_ProductStatus	int id String status	Void
52	set_static_user_id	void	int
53	set_static_admin_id	void	String
54	set_static_product_id	void	int
55	set_static_category_id	void	int


User Guide

All scenes are made by javafx

First scene is the gate to login if you are already signed up and it will verify the email and password with the database before logging in into the next page

If you are new to use the application, you can sign in by the sign-up button







Welcome to our Family

Anything you think of or need to buy,
You'll find it at our online Store.

Sign up

Member of our Family?

 Username/E-Mail

 Password

Enter Username and Password.

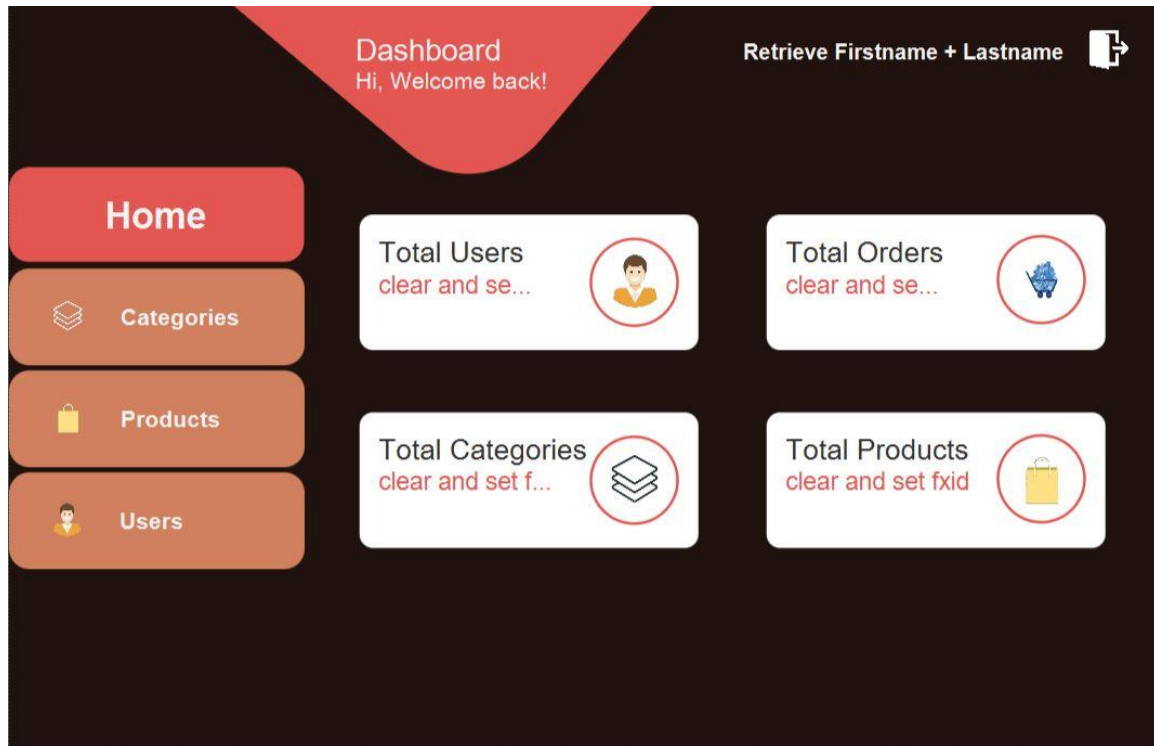
Sign in

Forget Password?

In case of already has an account and signed in:

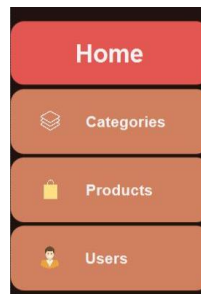
There are two possible ways, first:

Admin



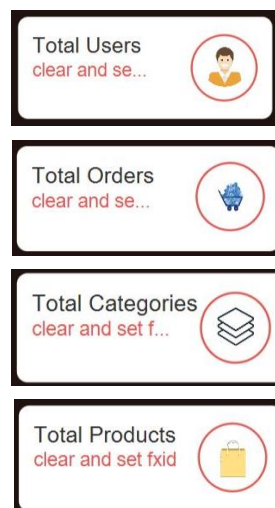
If you are signed in as an admin you can:

- 1- Add product
- 2- Add categories
- 3- Get all users in the system




And can see:


- 1- Show total users
- 2- Show total orders
- 3- Show total categories
- 4- Show total products



Adding a product by the admin:



Products

Total Products
clear and set f... 

Product

Category

Price


Quantity

Status


Add **Edit** **Delete**

id	Product	Category	Qty	Price	Status
No content in table					

Adding a Category by the admin:



Categories

Total Categories
clear and set f... 

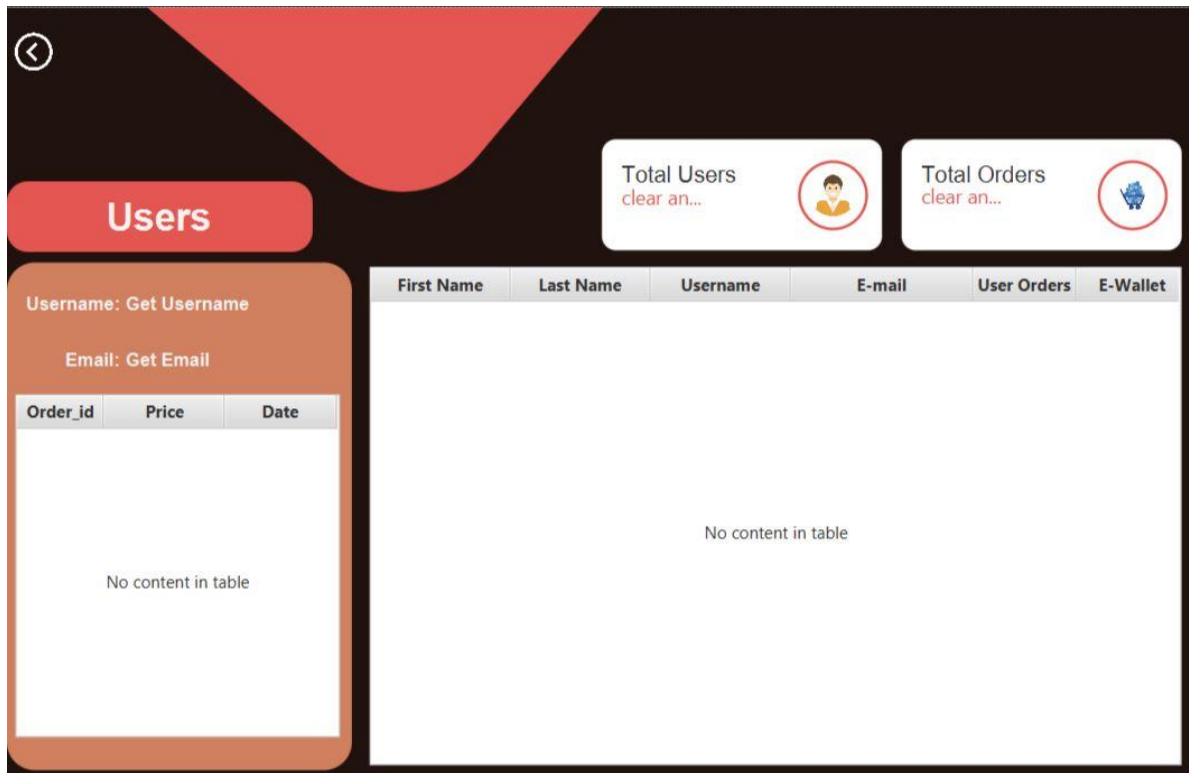
Category

Status

Add **Edit** **Delete**

id	Category	Status
No content in table		

Getting all users in the system:



The dashboard features a dark blue header with a back arrow icon. A red banner at the top left contains the title "Users". On the right, two white summary cards display "Total Users" and "Total Orders", each with a "clear an..." link and a circular icon. The main content area is divided into two sections. The left section, titled "Users", contains two input fields labeled "Username: Get Username" and "Email: Get Email", followed by a table with columns "Order_id", "Price", and "Date". The right section contains a table with columns "First Name", "Last Name", "Username", "E-mail", "User Orders", and "E-Wallet". Both tables currently show "No content in table".

Users

Username: Get Username

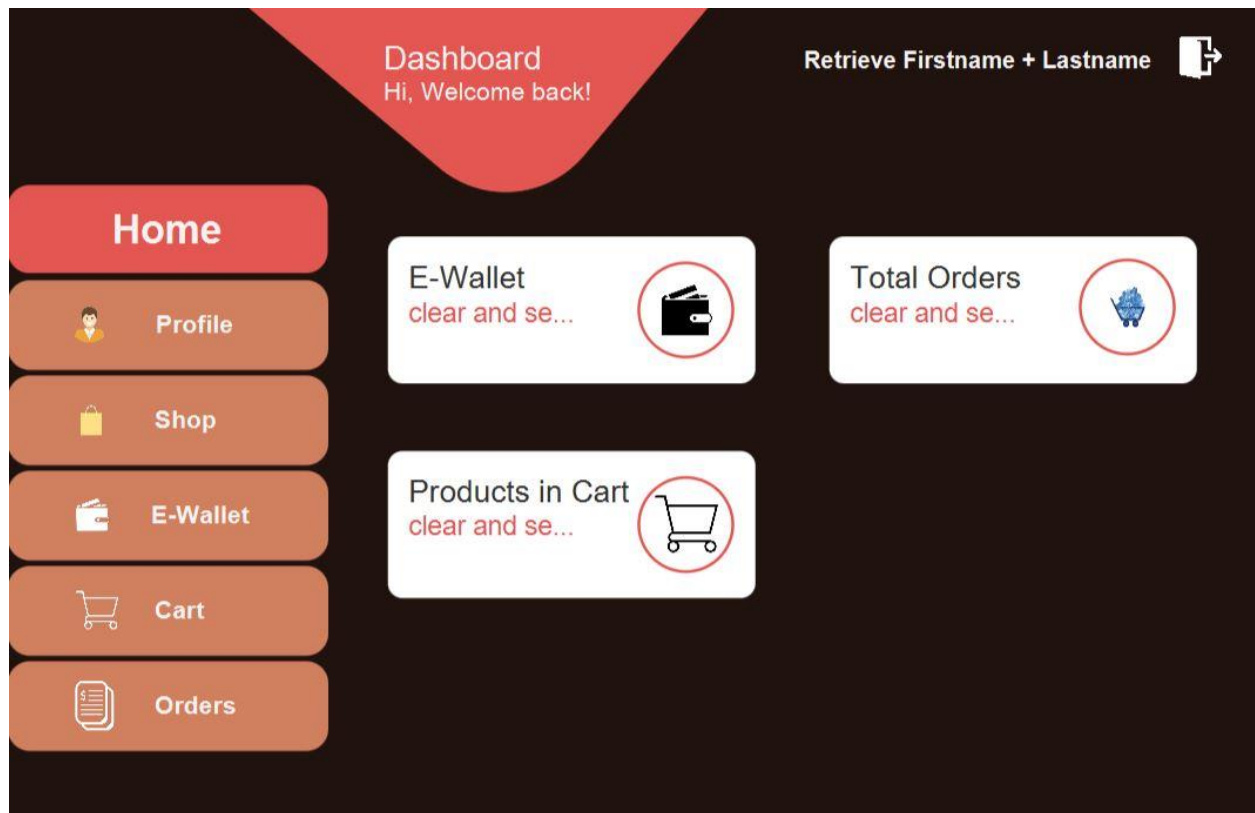
Email: Get Email

Order_id	Price	Date
No content in table		

First Name	Last Name	Username	E-mail	User Orders	E-Wallet
No content in table					

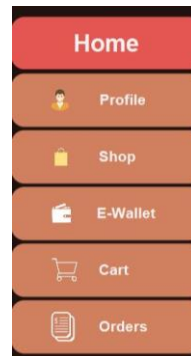
In the second case logging in:

User



The user can:

- 1- Show and edit his profile
- 2- See what is in the shop
- 3- Check on his wallet
- 4- See what he added into his cart
- 5- Get the information of his orders

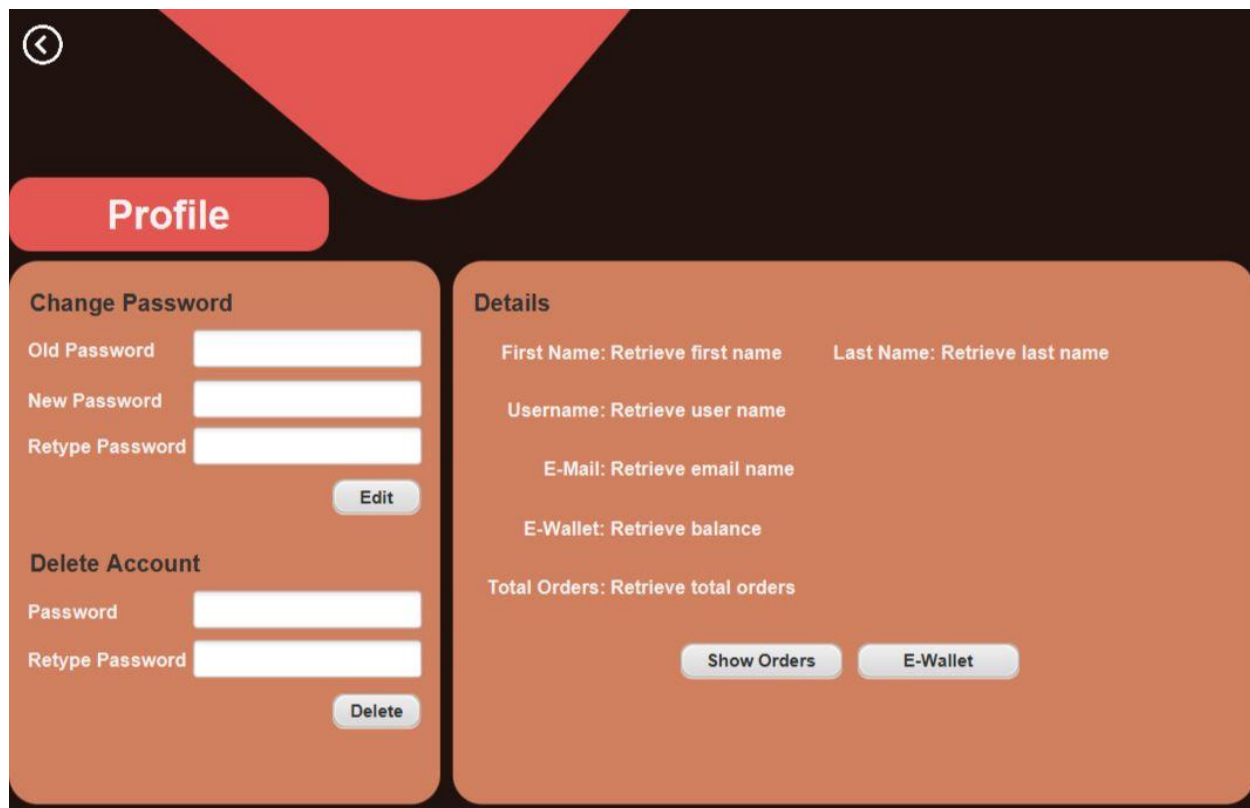


And on his screen he can see:

- 1- His balance in E-Wallet
- 2- Total orders
- 3- Total products in cart



Show and edit Profile



The image shows a user profile interface. At the top left is a back arrow icon. Below it is a red 'Profile' header. The interface is divided into two main sections: 'Change Password' and 'Delete Account' on the left, and 'Details' on the right. The 'Change Password' section has three input fields for 'Old Password', 'New Password', and 'Retype Password', followed by an 'Edit' button. The 'Delete Account' section has two input fields for 'Password' and 'Retype Password', followed by a 'Delete' button. The 'Details' section displays various user information with 'Retrieve' text next to each field: 'First Name', 'Last Name', 'Username', 'E-Mail', 'E-Wallet', and 'Total Orders'. At the bottom of the 'Details' section are two buttons: 'Show Orders' and 'E-Wallet'.

Profile

Change Password

Old Password

New Password

Retype Password

Edit

Delete Account

Password

Retype Password

Delete

Details

First Name: Retrieve first name Last Name: Retrieve last name


Username: Retrieve user name

E-Mail: Retrieve email name

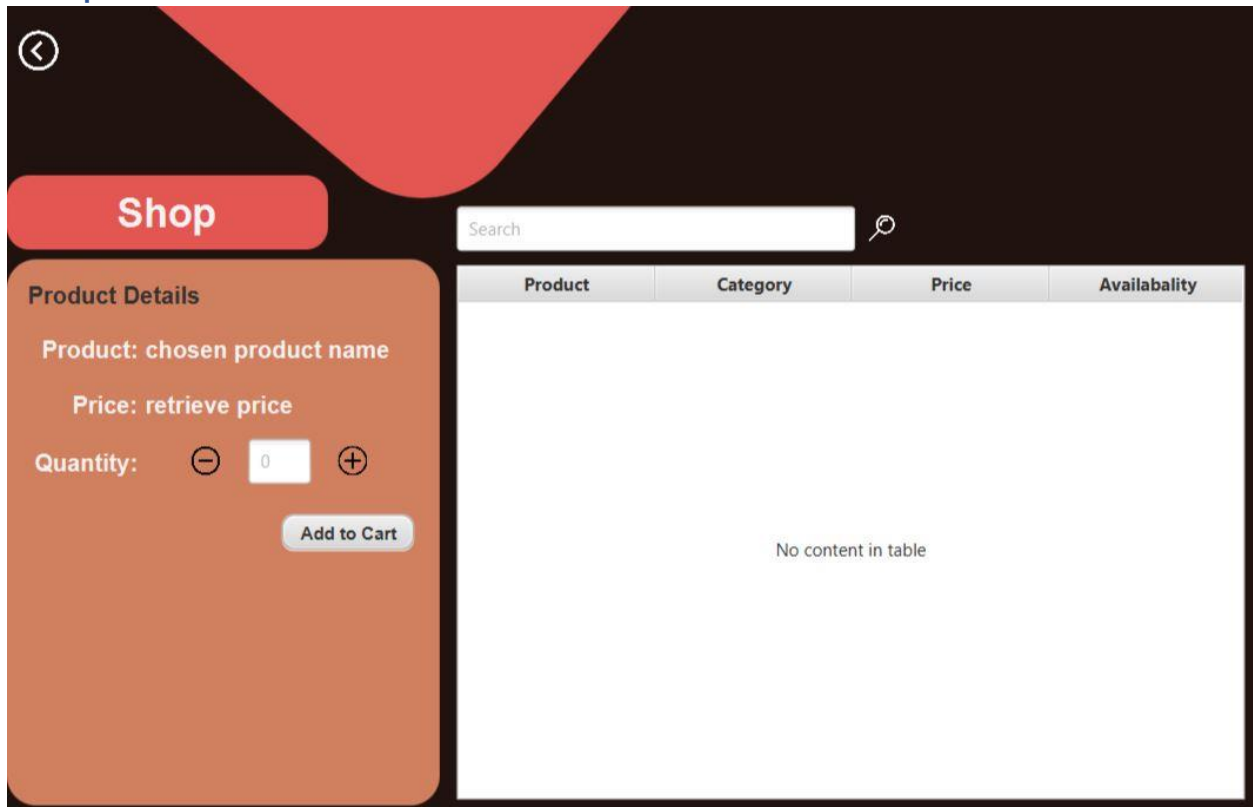
E-Wallet: Retrieve balance

Total Orders: Retrieve total orders

Show Orders E-Wallet

- To change the password, he must write the old one first then type the new one
- User can delete his account but first he must enter the password write first and twice to make sure that the owner didn't choose to delete account by mistake
- In the details part, user can see all his information including the orders and E-wallet
- User can get back from the top left button 

Shop

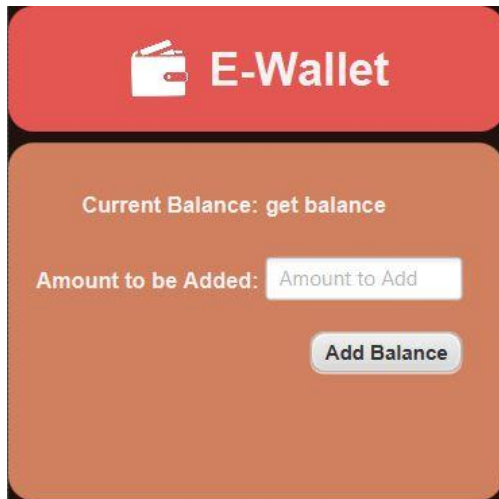


In the shop user can:

- 1- Search on a certain product name
- 2- See its details
- 3- Choose the quantity needed to order
- 4- Finally add it to cart
- 5- Or go back to user screen



E-Wallet

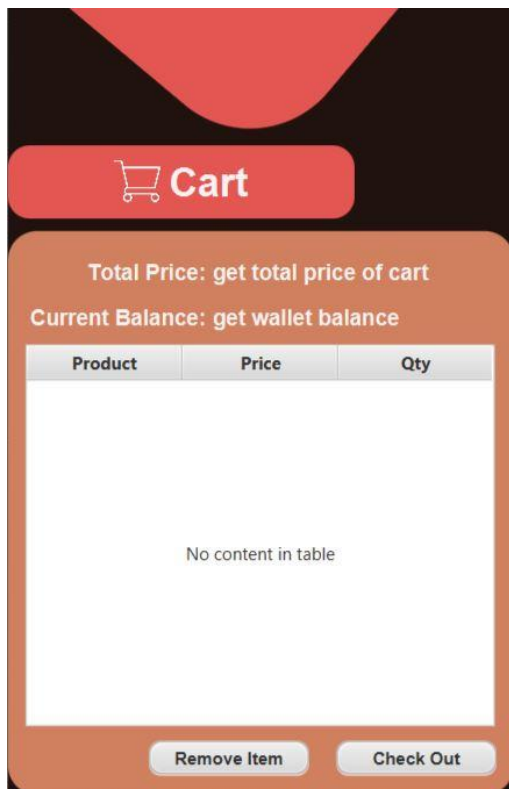


The E-Wallet app interface features a red header with a wallet icon and the text "E-Wallet". Below this, on an orange background, is the text "Current Balance: get balance". A label "Amount to be Added:" is followed by a text input field containing "Amount to Add". At the bottom right is a button labeled "Add Balance".

Where you can see your balance

Or: add amount to your Wallet

Cart



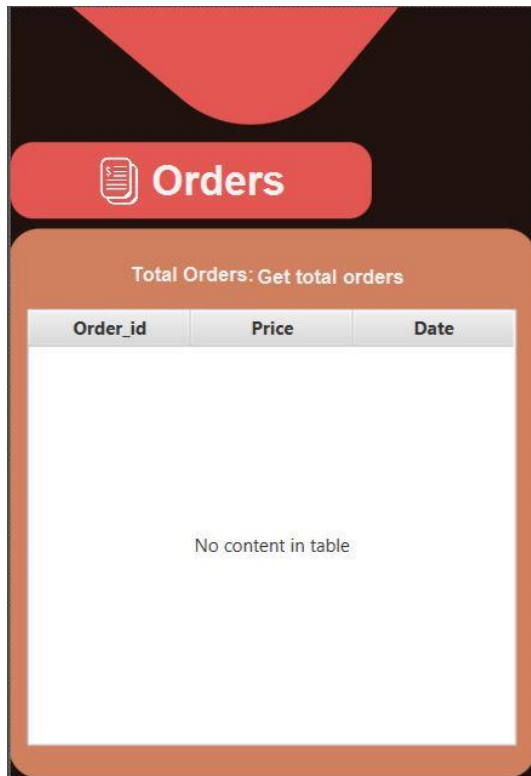
The Cart app interface has a dark red header with a shopping cart icon and the text "Cart". Below, on an orange background, are the labels "Total Price: get total price of cart" and "Current Balance: get wallet balance". A table with three columns is shown:

Product	Price	Qty
No content in table		

At the bottom are two buttons: "Remove Item" and "Check Out".

Where you can remove items or check out and by your balance

Orders

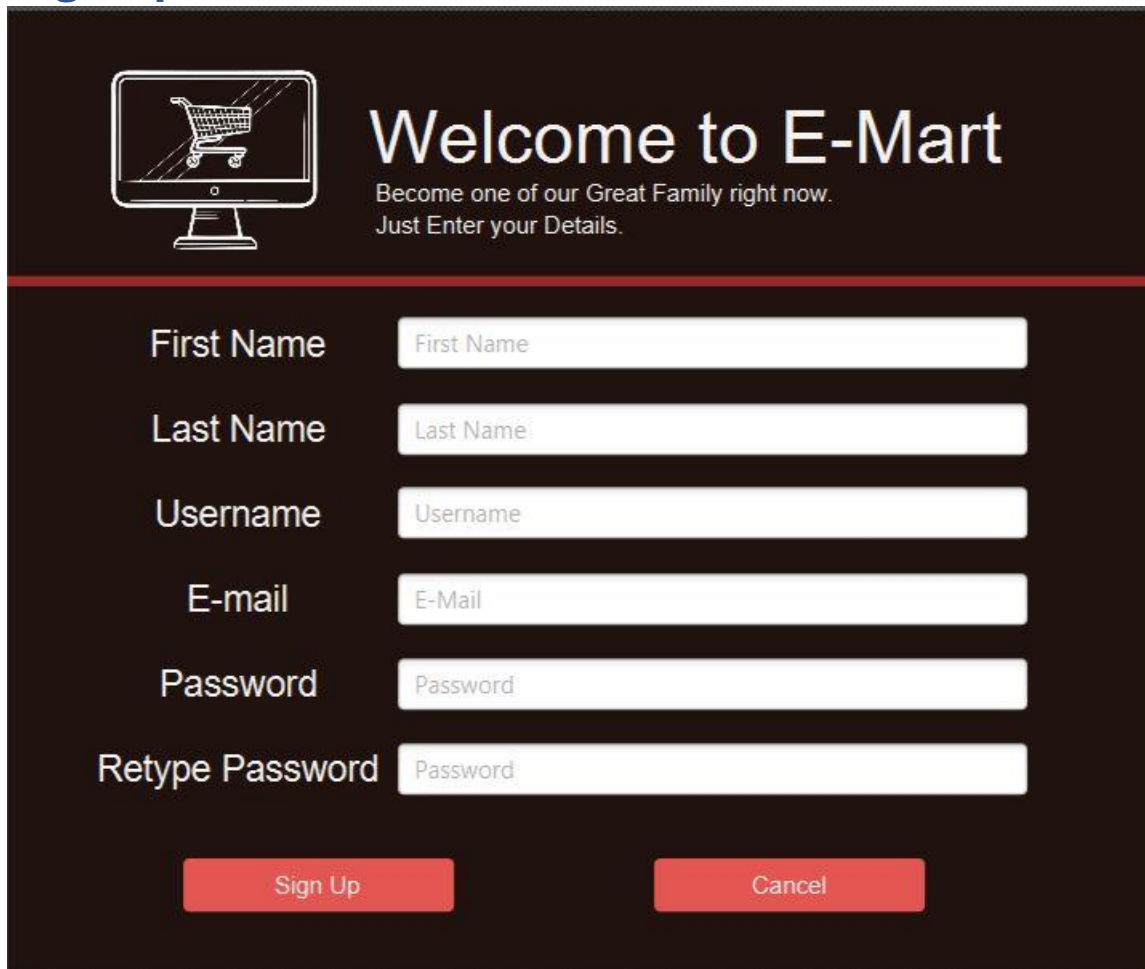


Here you can see your orders history

- 1- Order Id
- 2- Price
- 3- Date

If you are not logged in before you can:

Sign up



The image shows a sign-up form for 'E-Mart'. At the top left is an icon of a computer monitor with a shopping cart on the screen. To the right of the icon, the text reads 'Welcome to E-Mart' in a large, bold font, followed by 'Become one of our Great Family right now. Just Enter your Details.' in a smaller font. Below this header is a horizontal red line. The form consists of six rows of labels and input fields: 'First Name', 'Last Name', 'Username', 'E-mail', 'Password', and 'Retype Password'. Each label is on the left, and the corresponding input field is on the right. The input fields are white with a light gray border and contain placeholder text matching the label. At the bottom of the form are two red buttons: 'Sign Up' on the left and 'Cancel' on the right.

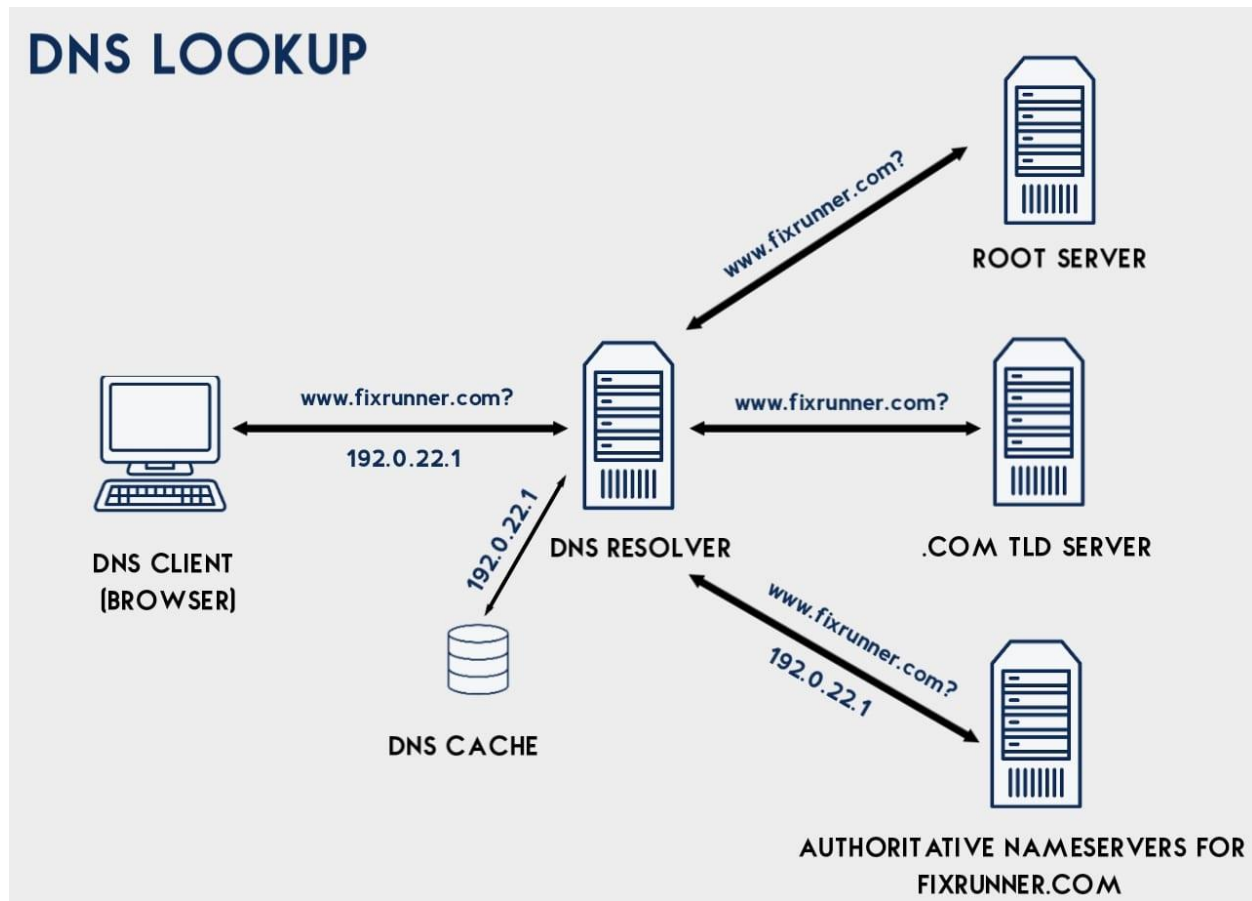
First Name	<input type="text" value="First Name"/>
Last Name	<input type="text" value="Last Name"/>
Username	<input type="text" value="Username"/>
E-mail	<input type="text" value="E-Mail"/>
Password	<input type="password" value="Password"/>
Retype Password	<input type="password" value="Password"/>

Here you have to enter:

- 1- First name
- 2- Last name
- 3- Username
- 4- E-mail
- 5- Password
- 6- Retype Password

Main Concept of DNS :

DNS LOOKUP



If a client sends a request and find that the server is down, it requests another server from DNS, then:

If another server is available, the client connects to the new server and resend the last request

Schema of the data base

