Mobile Store Management Report

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Lớp: PRJ301_3W_04

Môn: RPJ301

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I. Overview

1. Introduction

_User (tbl_User): Users accessing the platform are classified into different roles, differentiated by their role. This allows to differentiate between regular users, employees(staff) and managers.

_ MobileProduct(tbl_Mobile): This table holds comprehensive information about the mobile available for purchase on the website. Each mobile is uniquely identified by an mobileId and includes details such as description, price , mobileName , yearOfProduction , image, quantity, notSale.

_ Bill Order (tbl_Order): Whenever a user completes a purchase, a bill is generated and stored in this table. It records transaction details such as the user, total amount, and purchase date.

_ Bill Order Detail (tbl_OrderDetail): bill orderdetails for large quantity orders. It details for large quantity orders. It records transaction details such as orderID, which items were purchased in what quantity and its total.

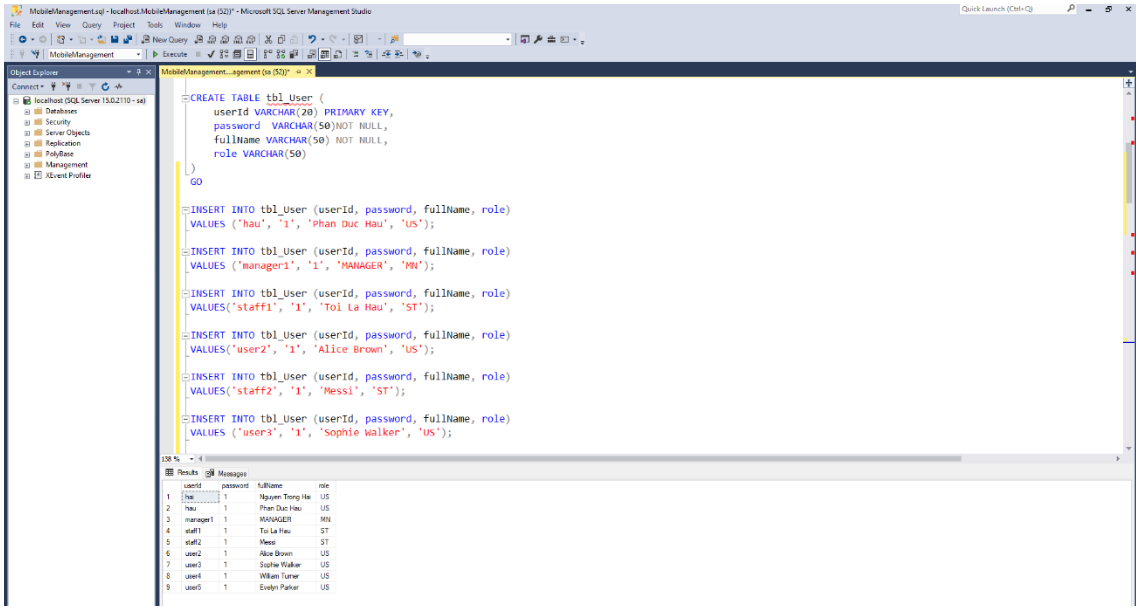
_ Cart (Hash Map): The cart feature enables users to gather selected mobiles for purchase. It acts as a temporary storage space for items a user intends to buy.

The website functionality allows users to seamlessly navigate through available mobiles, add desired items to their cart, and continue the purchasing process. Once a purchase is completed, an invoice will be automatically generated for the transaction. Employees (Staffs) and Managers, in addition to the functions available to regular users, also have advanced privileges such as adding new mobile phones to the store or removing existing ones. Manager can manage users who delete and update information.

2. ***Database***

_Database Name: MobileManagement

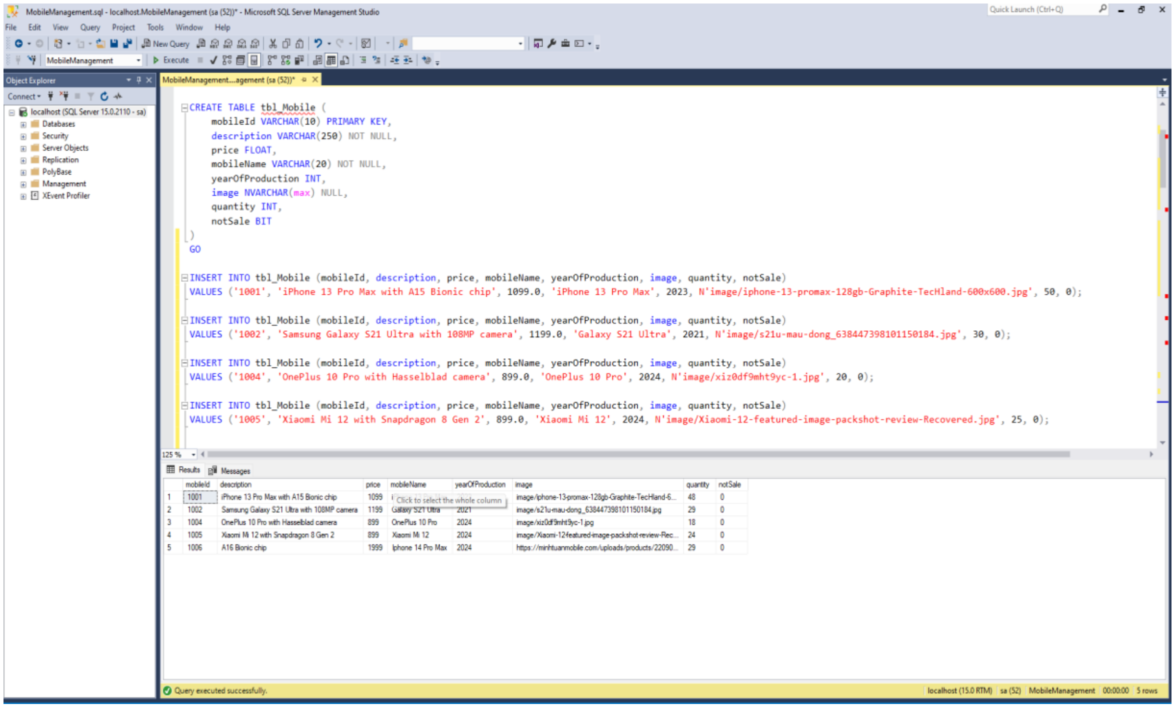
+ tbl_User



```sql
CREATE TABLE tbl_User (
    userId VARCHAR(20) PRIMARY KEY,
    password  VARCHAR(50)NOT NULL,
    fullName VARCHAR(50) NOT NULL,
    role VARCHAR(50)
)
GO

INSERT INTO tbl_User (userId, password, fullName, role)
VALUES ('hau', '1', 'Phan Duc Hau', 'US');

INSERT INTO tbl_User (userId, password, fullName, role)
VALUES ('manager1', '1', 'MANAGER', 'MN');

INSERT INTO tbl_User (userId, password, fullName, role)
VALUES('staff1', '1', 'Toi La Hau', 'ST');

INSERT INTO tbl_User (userId, password, fullName, role)
VALUES('user2', '1', 'Alice Brown', 'US');

INSERT INTO tbl_User (userId, password, fullName, role)
VALUES('staff2', '1', 'Messi', 'ST');

INSERT INTO tbl_User (userId, password, fullName, role)
VALUES ('user3', '1', 'Sophie Walker', 'US');
```

	userId	password	fullName	role
1	hai	1	Nguyen Trong Hai	US
2	hau	1	Phan Duc Hau	US
3	manager1	1	MANAGER	MN
4	staff1	1	Toi La Hau	ST
5	staff2	1	Messi	ST
6	user2	1	Alice Brown	US
7	user3	1	Sophie Walker	US
8	user4	1	William Turner	US
9	user5	1	Evelyn Parker	US

+ tbl_Earring



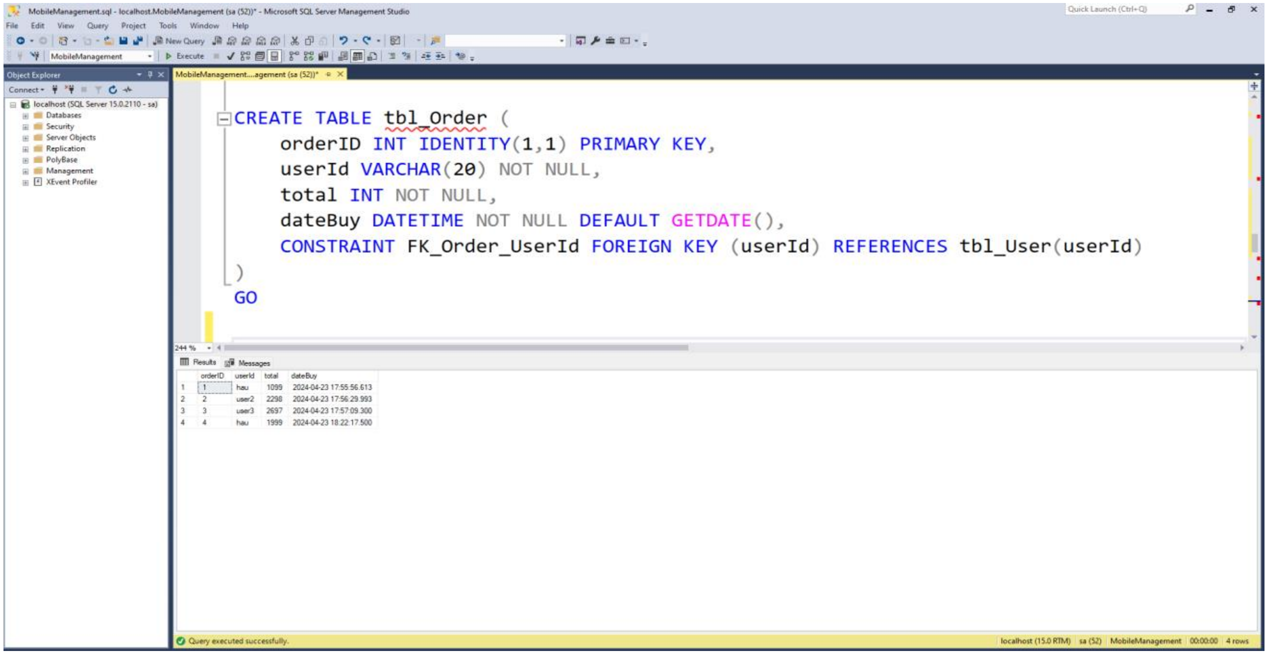
```sql
CREATE TABLE tbl_Mobile (
    mobileId VARCHAR(10) PRIMARY KEY,
    description VARCHAR(250) NOT NULL,
    price FLOAT,
    mobileName VARCHAR(20) NOT NULL,
    yearOfProduction INT,
    image NVARCHAR(max) NULL,
    quantity INT,
    notSale BIT
)
GO

INSERT INTO tbl_Mobile (mobileId, description, price, mobileName, yearOfProduction, image, quantity, notSale)
VALUES ('1001', 'iPhone 13 Pro Max with A15 Bionic chip', 1099.0, 'iPhone 13 Pro Max', 2023, N'image/iphone-13-promax-128gb-Graphite-TecHland-600x600.jpg', 50, 0);

INSERT INTO tbl_Mobile (mobileId, description, price, mobileName, yearOfProduction, image, quantity, notSale)
VALUES ('1002', 'Samsung Galaxy S21 Ultra with 108MP camera', 1199.0, 'Galaxy S21 Ultra', 2021, N'image/s21u-mau-dong_638447398101150184.jpg', 30, 0);

INSERT INTO tbl_Mobile (mobileId, description, price, mobileName, yearOfProduction, image, quantity, notSale)
VALUES ('1004', 'OnePlus 10 Pro with Hasselblad camera', 899.0, 'OnePlus 10 Pro', 2024, N'image/xiz0df9mht9yc-1.jpg', 20, 0);

INSERT INTO tbl_Mobile (mobileId, description, price, mobileName, yearOfProduction, image, quantity, notSale)
VALUES ('1005', 'Xiaomi Mi 12 with Snapdragon 8 Gen 2', 899.0, 'Xiaomi Mi 12', 2024, N'image/Xiaomi-12-featured-image-packshot-review-Recovered.jpg', 25, 0);
```

	mobileId	description	price	mobileName	yearOfProduction	image	quantity	notSale
1	1001	iPhone 13 Pro Max with A15 Bionic chip	1099	i Click to select the whole column	[illegible]	image/iphone-13-promax-128gb-Graphite-TecHland-6...	48	0
2	1002	Samsung Galaxy S21 Ultra with 108MP camera	1199	Galaxy S21 Ultra	2021	image/s21u-mau-dong_638447398101150184.jpg	29	0
3	1004	OnePlus 10 Pro with Hasselblad camera	899	OnePlus 10 Pro	2024	image/xiz0df9mht9yc-1.jpg	18	0
4	1005	Xiaomi Mi 12 with Snapdragon 8 Gen 2	899	Xiaomi Mi 12	2024	image/Xiaomi-12-featured-image-packshot-review-Rec...	24	0
5	1006	A16 Bionic chip	1999	Iphone 14 Pro Max	2024	https://minhtuanmobile.com/uploads/products/22090...	29	0

Query executed successfully.

localhost (15.0 RTM) | sa (52) | MobileManagement | 00:00:00 | 5 rows

+ tbl_Order

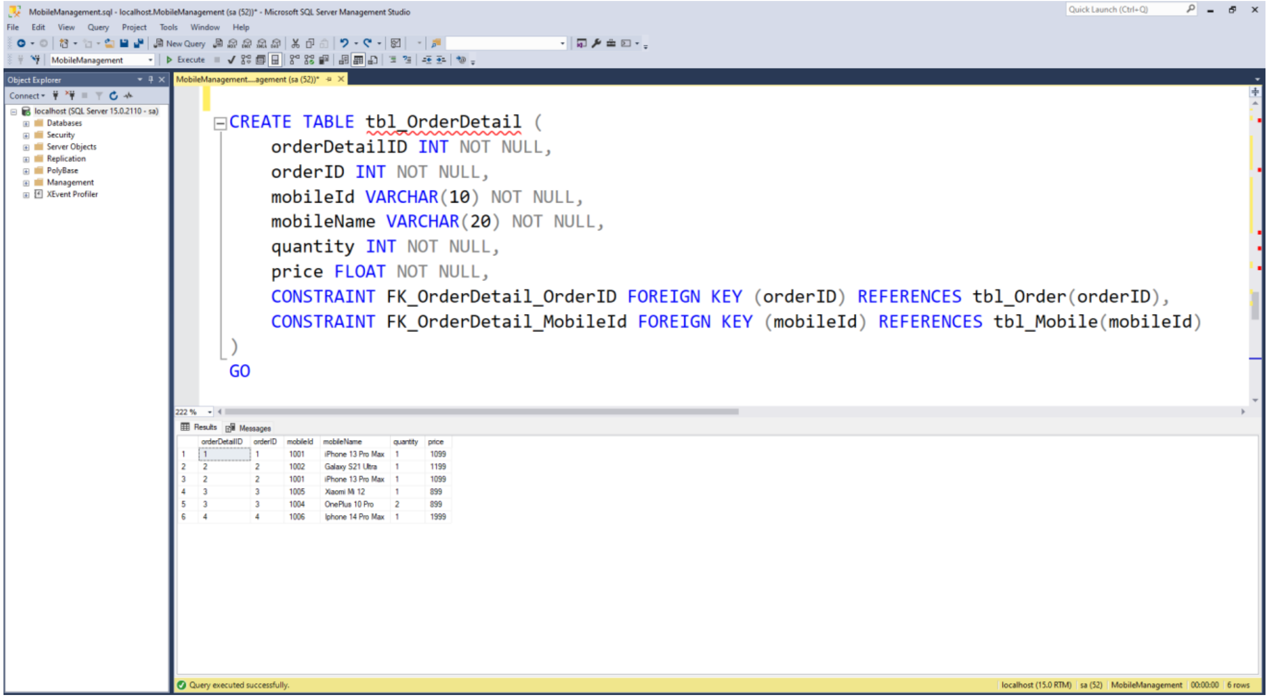


```sql
CREATE TABLE tbl_Order (
    orderID INT IDENTITY(1,1) PRIMARY KEY,
    userId VARCHAR(20) NOT NULL,
    total INT NOT NULL,
    dateBuy DATETIME NOT NULL DEFAULT GETDATE(),
    CONSTRAINT FK_Order_UserId FOREIGN KEY (userId) REFERENCES tbl_User(userId)
)
GO
```

	orderID	userId	total	dateBuy
1	1	hau	1099	2024-04-23 17:55:56.613
2	2	user2	2298	2024-04-23 17:56:29.993
3	3	user3	2697	2024-04-23 17:57:09.300
4	4	hau	1999	2024-04-23 18:22:17.500

Query executed successfully. localhost (15.0 RTM) | sa (52) | MobileManagement | 00:00:00 | 4 rows

+tbl_Bill_Detail



```sql
CREATE TABLE tbl_OrderDetail (
    orderDetailID INT NOT NULL,
    orderID INT NOT NULL,
    mobileId VARCHAR(10) NOT NULL,
    mobileName VARCHAR(20) NOT NULL,
    quantity INT NOT NULL,
    price FLOAT NOT NULL,
    CONSTRAINT FK_OrderDetail_OrderID FOREIGN KEY (orderID) REFERENCES tbl_Order(orderID),
    CONSTRAINT FK_OrderDetail_MobileId FOREIGN KEY (mobileId) REFERENCES tbl_Mobile(mobileId)
)
GO
```

	orderDetailID	orderID	mobileId	mobileName	quantity	price
1	1	1	1001	iPhone 13 Pro Max	1	1099
2	2	2	1002	Galaxy S21 Ultra	1	1199
3	2	2	1001	iPhone 13 Pro Max	1	1099
4	3	3	1005	Xiaomi Mi 12	1	899
5	3	3	1004	OnePlus 10 Pro	2	899
6	4	4	1006	Iphone 14 Pro Max	1	1999

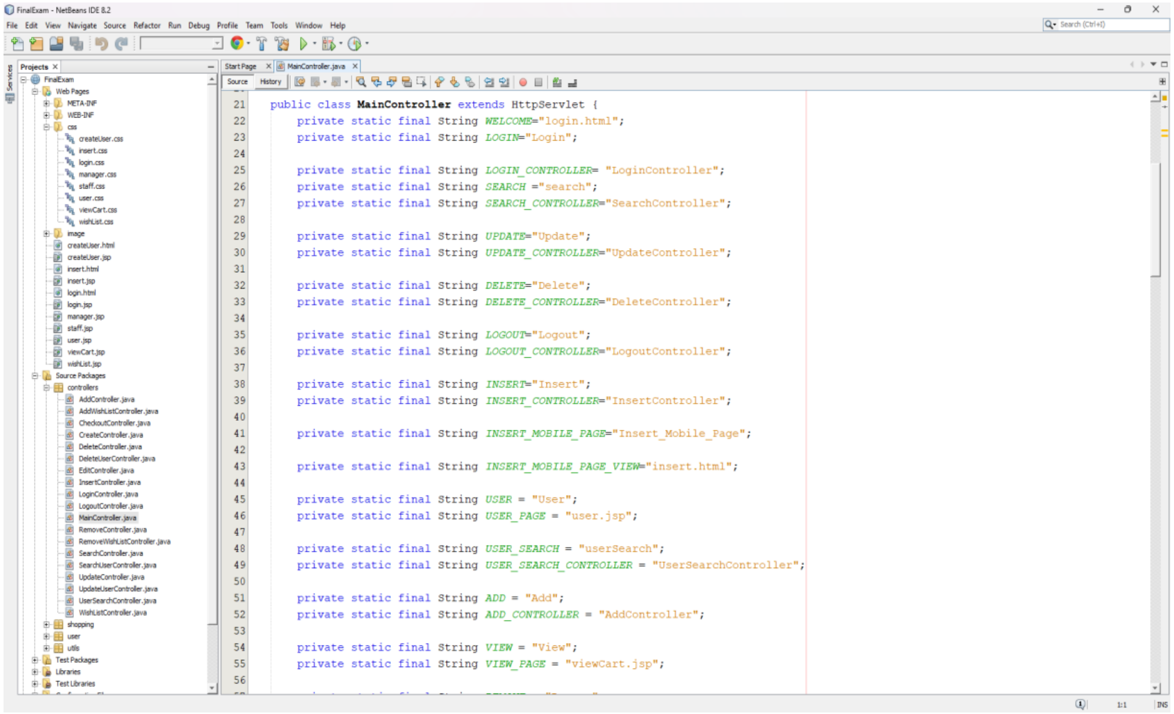
Query executed successfully. localhost (15.0 RTM) | sa (52) | MobileManagement | 00:00:00 | 6 rows

3. ***MVC2 model***

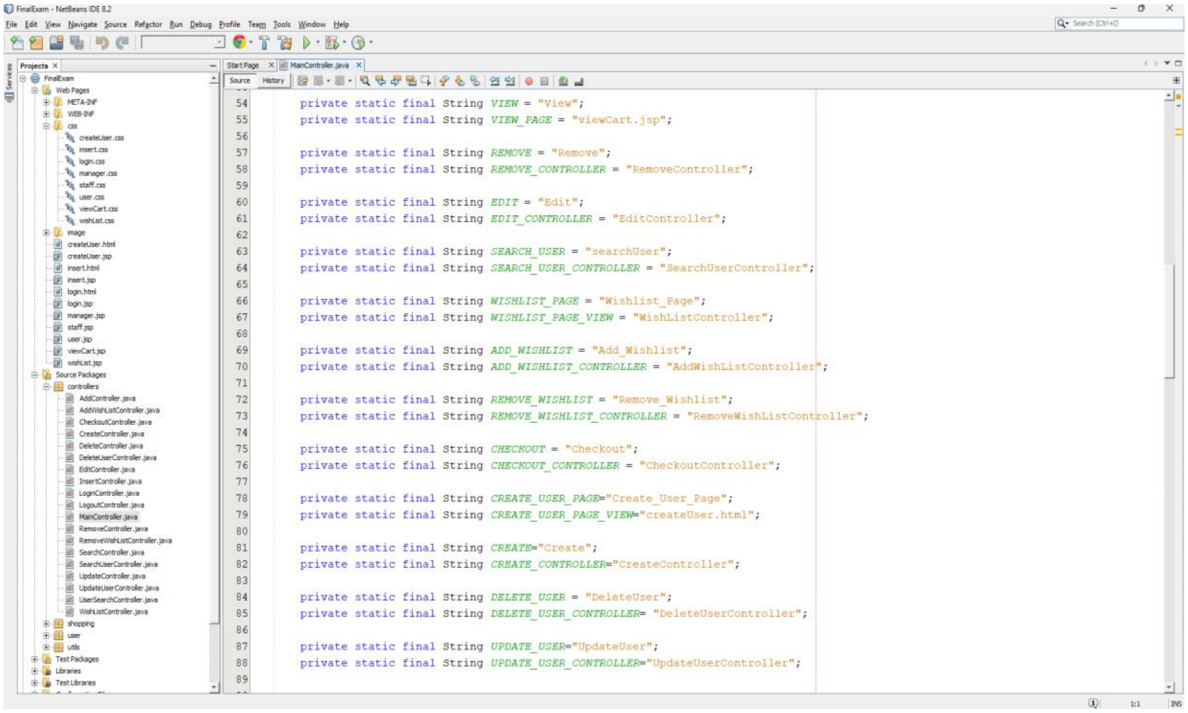
Model: This component represents the data structures and business logic of the application. It includes classes such as UserDTO and EarringsDTO, which correspond to database tables and hold data related to users and mobiles, respectively. Additionally, the model includes Data Access Objects (DAOs) like UserDAO and ProductDAO, which handle database interactions such as querying, updating, and deleting data.

View: The view layer is responsible for presenting the user interface to the user. In your application, this consists of JSP (JavaServer Pages) files such as staff.jsp ,manager.jsp, user.jsp,viewCart.jsp,... These files render data retrieved from the model layer to the user, allowing them to view mobiles, manage their shopping cart, and interact with other features of the application. The view layer also captures user input through forms and other UI elements.

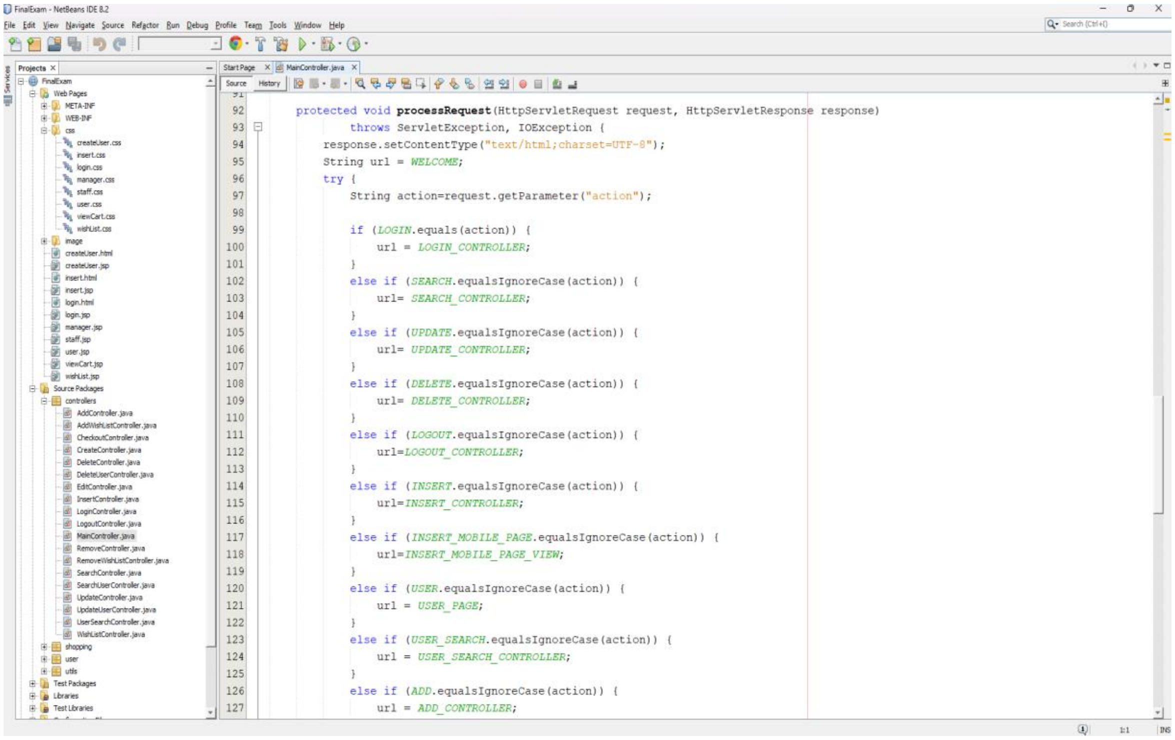
Controller: MainController serves as the core of the MobileManagement application, acting as the first point of contact to receive and coordinate all activities. This is where every user request is handled and shapes the next course of action for the application. The controller acts as an intermediary between the user interface (view) and the data (model). In my application, servlets such as SearchUserController and DeleteController serve as controllers. They receive HTTP requests from the user interface, process the requests by invoking appropriate methods in the model layer (e.g., DAOs), and then determine the appropriate view (JSP) to render the response. Controllers handle user input, perform business logic, and manage the flow of the application.



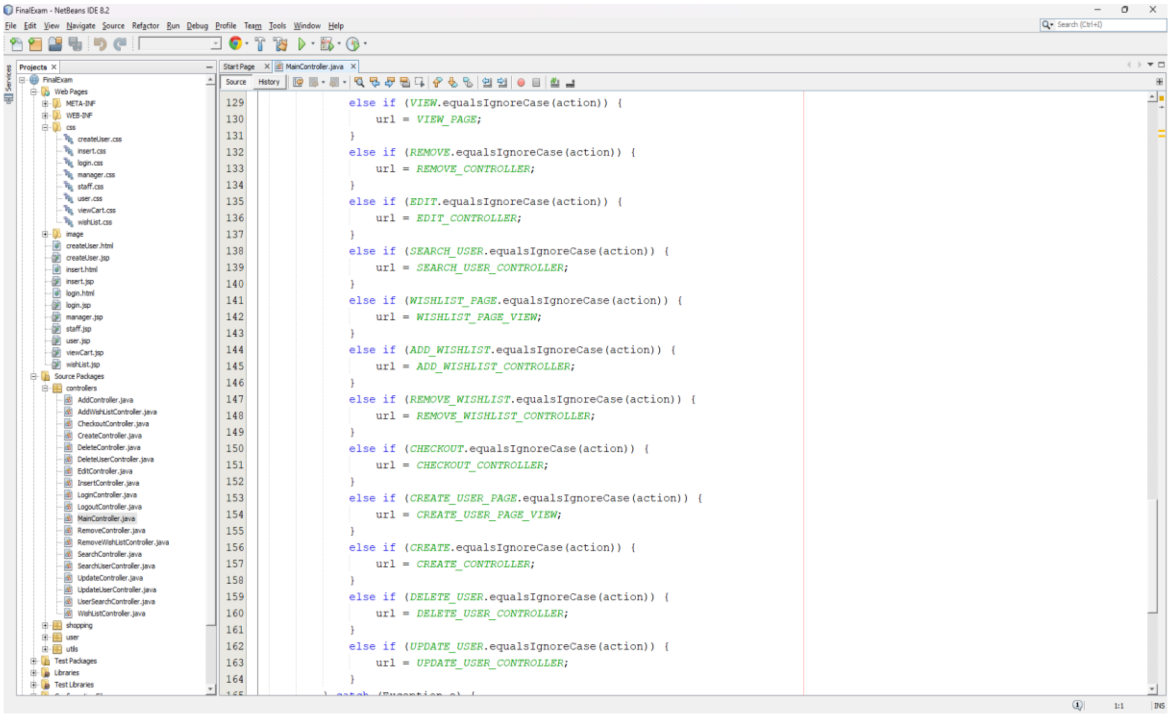
```java
public class MainController extends HttpServlet {
    private static final String WELCOME="login.html";
    private static final String LOGIN="Login";

    private static final String LOGIN_CONTROLLER= "LoginController";
    private static final String SEARCH ="search";
    private static final String SEARCH_CONTROLLER="SearchController";

    private static final String UPDATE="Update";
    private static final String UPDATE_CONTROLLER="UpdateController";

    private static final String DELETE="Delete";
    private static final String DELETE_CONTROLLER="DeleteController";

    private static final String LOGOUT="Logout";
    private static final String LOGOUT_CONTROLLER="LogoutController";

    private static final String INSERT="Insert";
    private static final String INSERT_CONTROLLER="InsertController";

    private static final String INSERT_MOBILE_PAGE="Insert_Mobile_Page";

    private static final String INSERT_MOBILE_PAGE_VIEW="insert.html";

    private static final String USER = "User";
    private static final String USER_PAGE = "user.jsp";

    private static final String USER_SEARCH = "userSearch";
    private static final String USER_SEARCH_CONTROLLER = "UserSearchController";

    private static final String ADD = "Add";
    private static final String ADD_CONTROLLER = "AddController";

    private static final String VIEW = "View";
    private static final String VIEW_PAGE = "viewCart.jsp";

```



```java
    private static final String VIEW = "View";
    private static final String VIEW_PAGE = "viewCart.jsp";

    private static final String REMOVE = "Remove";
    private static final String REMOVE_CONTROLLER = "RemoveController";

    private static final String EDIT = "Edit";
    private static final String EDIT_CONTROLLER = "EditController";

    private static final String SEARCH_USER = "searchUser";
    private static final String SEARCH_USER_CONTROLLER = "SearchUserController";

    private static final String WISHLIST_PAGE = "Wishlist_Page";
    private static final String WISHLIST_PAGE_VIEW = "WishListController";

    private static final String ADD_WISHLIST = "Add_Wishlist";
    private static final String ADD_WISHLIST_CONTROLLER = "AddWishListController";

    private static final String REMOVE_WISHLIST = "Remove_Wishlist";
    private static final String REMOVE_WISHLIST_CONTROLLER = "RemoveWishListController";

    private static final String CHECKOUT = "Checkout";
    private static final String CHECKOUT_CONTROLLER = "CheckoutController";

    private static final String CREATE_USER_PAGE="Create_User_Page";
    private static final String CREATE_USER_PAGE_VIEW="createUser.html";

    private static final String CREATE="Create";
    private static final String CREATE_CONTROLLER="CreateController";

    private static final String DELETE_USER = "DeleteUser";
    private static final String DELETE_USER_CONTROLLER= "DeleteUserController";

    private static final String UPDATE_USER="UpdateUser";
    private static final String UPDATE_USER_CONTROLLER="UpdateUserController";

```



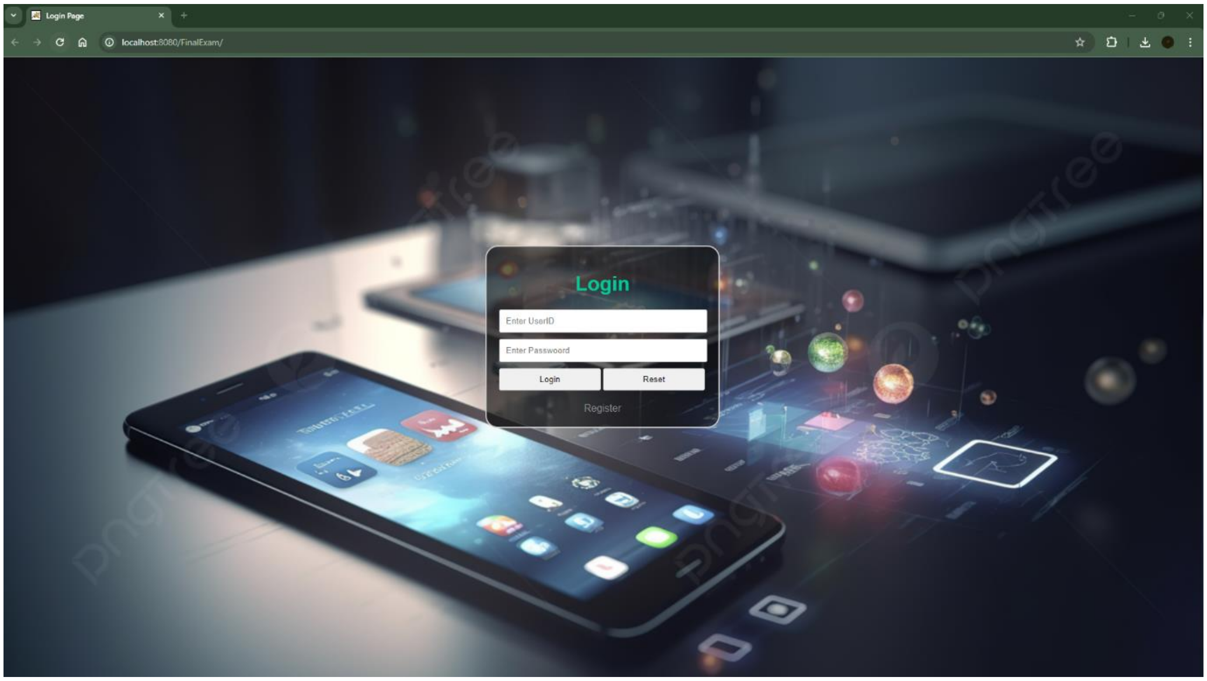
```java
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        String url = WELCOME;
        try {
            String action=request.getParameter("action");

            if (LOGIN.equals(action)) {
                url = LOGIN_CONTROLLER;
            }
            else if (SEARCH.equalsIgnoreCase(action)) {
                url= SEARCH_CONTROLLER;
            }
            else if (UPDATE.equalsIgnoreCase(action)) {
                url= UPDATE_CONTROLLER;
            }
            else if (DELETE.equalsIgnoreCase(action)) {
                url= DELETE_CONTROLLER;
            }
            else if (LOGOUT.equalsIgnoreCase(action)) {
                url=LOGOUT_CONTROLLER;
            }
            else if (INSERT.equalsIgnoreCase(action)) {
                url=INSERT_CONTROLLER;
            }
            else if (INSERT_MOBILE_PAGE.equalsIgnoreCase(action)) {
                url=INSERT_MOBILE_PAGE_VIEW;
            }
            else if (USER.equalsIgnoreCase(action)) {
                url = USER_PAGE;
            }
            else if (USER_SEARCH.equalsIgnoreCase(action)) {
                url = USER_SEARCH_CONTROLLER;
            }
            else if (ADD.equalsIgnoreCase(action)) {
                url = ADD_CONTROLLER;
```



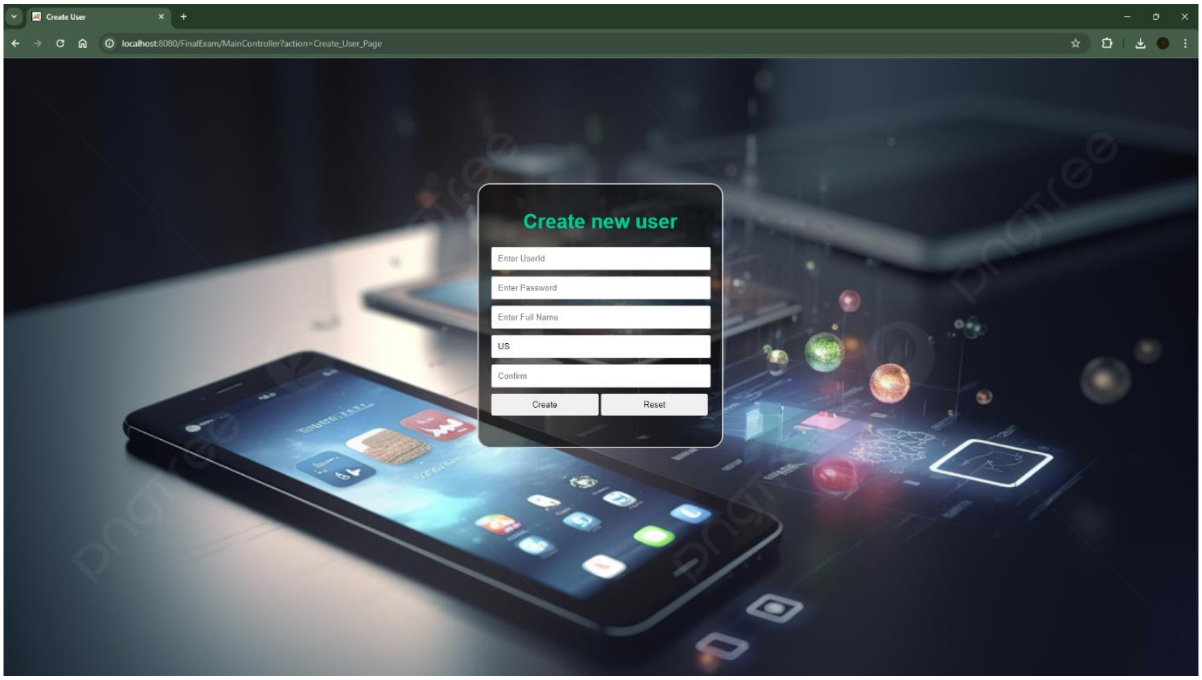
```java
            else if (VIEW.equalsIgnoreCase(action)) {
                url = VIEW_PAGE;
            }
            else if (REMOVE.equalsIgnoreCase(action)) {
                url = REMOVE_CONTROLLER;
            }
            else if (EDIT.equalsIgnoreCase(action)) {
                url = EDIT_CONTROLLER;
            }
            else if (SEARCH_USER.equalsIgnoreCase(action)) {
                url = SEARCH_USER_CONTROLLER;
            }
            else if (WISHLIST_PAGE.equalsIgnoreCase(action)) {
                url = WISHLIST_PAGE_VIEW;
            }
            else if (ADD_WISHLIST.equalsIgnoreCase(action)) {
                url = ADD_WISHLIST_CONTROLLER;
            }
            else if (REMOVE_WISHLIST.equalsIgnoreCase(action)) {
                url = REMOVE_WISHLIST_CONTROLLER;
            }
            else if (CHECKOUT.equalsIgnoreCase(action)) {
                url = CHECKOUT_CONTROLLER;
            }
            else if (CREATE_USER_PAGE.equalsIgnoreCase(action)) {
                url = CREATE_USER_PAGE_VIEW;
            }
            else if (CREATE.equalsIgnoreCase(action)) {
                url = CREATE_CONTROLLER;
            }
            else if (DELETE_USER.equalsIgnoreCase(action)) {
                url = DELETE_USER_CONTROLLER;
            }
            else if (UPDATE_USER.equalsIgnoreCase(action)) {
                url = UPDATE_USER_CONTROLLER;
            }
        } catch (Exception e) {
```

II. Functional

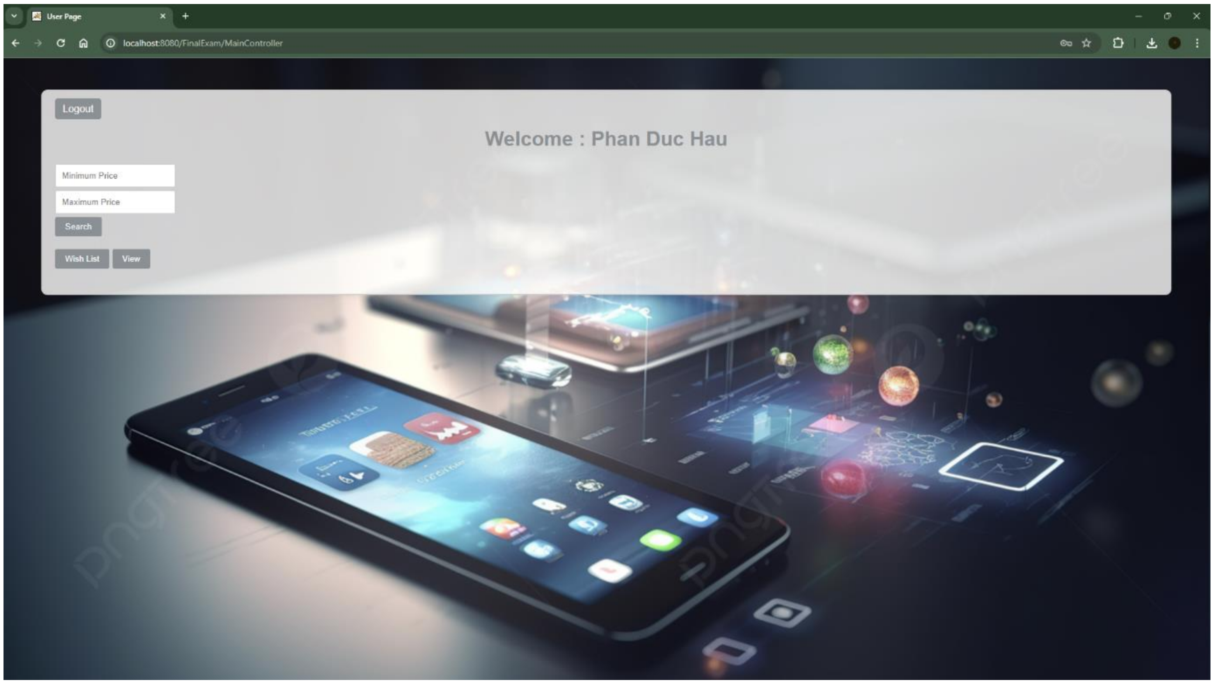
1. Login

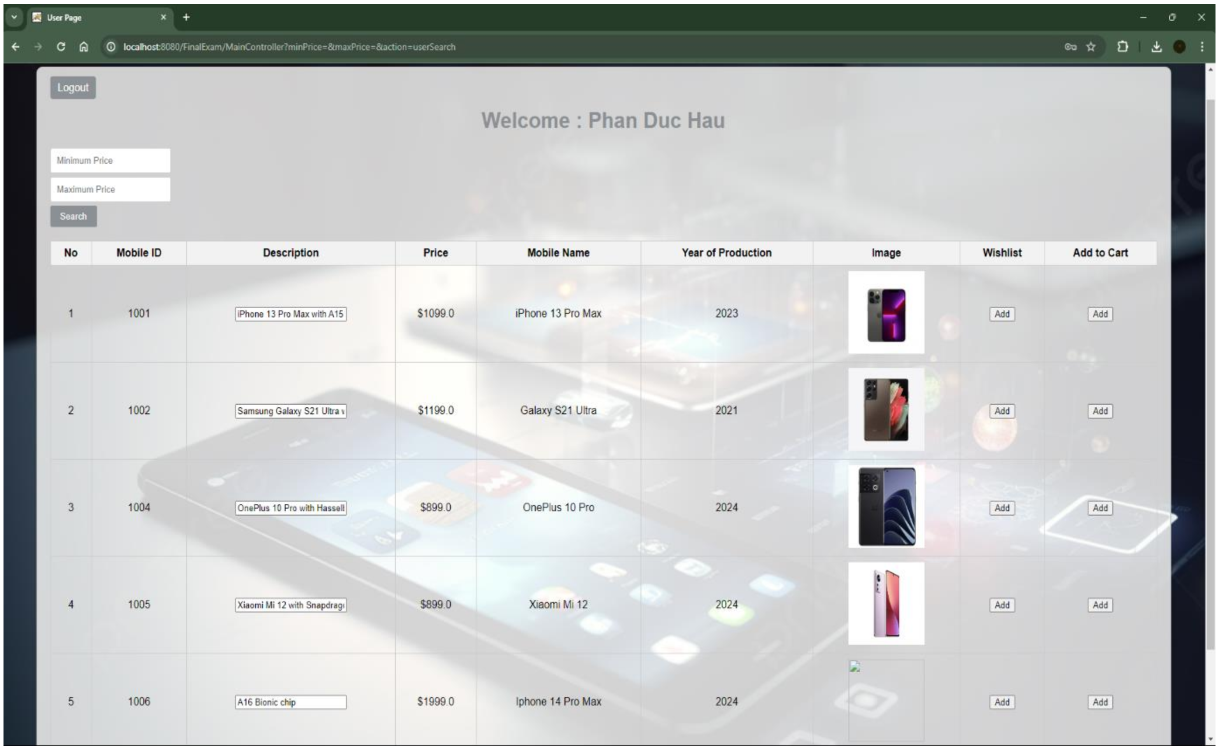


2. Register

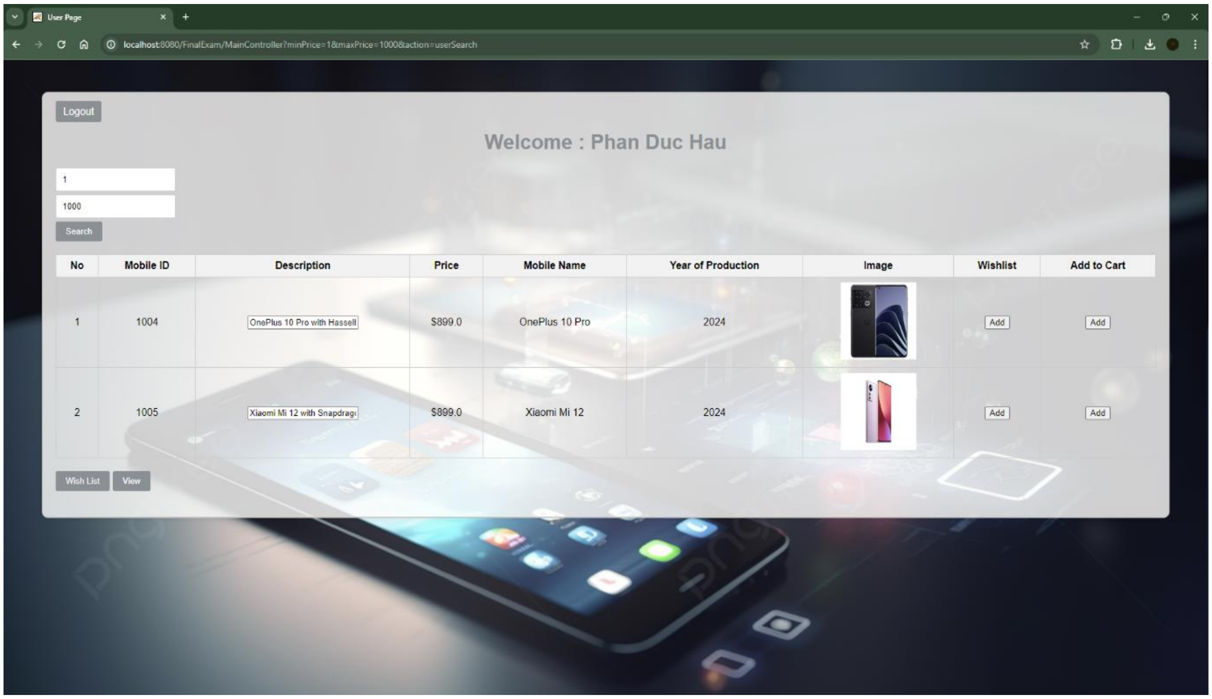


3. User




User Page
localhost:8080/FinalExam/MainController?minPrice=&maxPrice=&action=userSearch
Logout
Welcome : Phan Duc Hau
Minimum Price
Maximum Price
Search

No	Mobile ID	Description	Price	Mobile Name	Year of Production	Image	Wishlist	Add to Cart
1	1001	iPhone 13 Pro Max with A15	$1099.0	iPhone 13 Pro Max	2023		Add	Add
2	1002	Samsung Galaxy S21 Ultra v	$1199.0	Galaxy S21 Ultra	2021		Add	Add
3	1004	OnePlus 10 Pro with Hassell	$899.0	OnePlus 10 Pro	2024		Add	Add
4	1005	Xiaomi Mi 12 with Snapdrag	$899.0	Xiaomi Mi 12	2024		Add	Add
5	1006	A16 Bionic chip	$1999.0	Iphone 14 Pro Max	2024		Add	Add


User Page
localhost:8080/FinalExam/MainController?minPrice=1&maxPrice=1000&action=userSearch
Logout

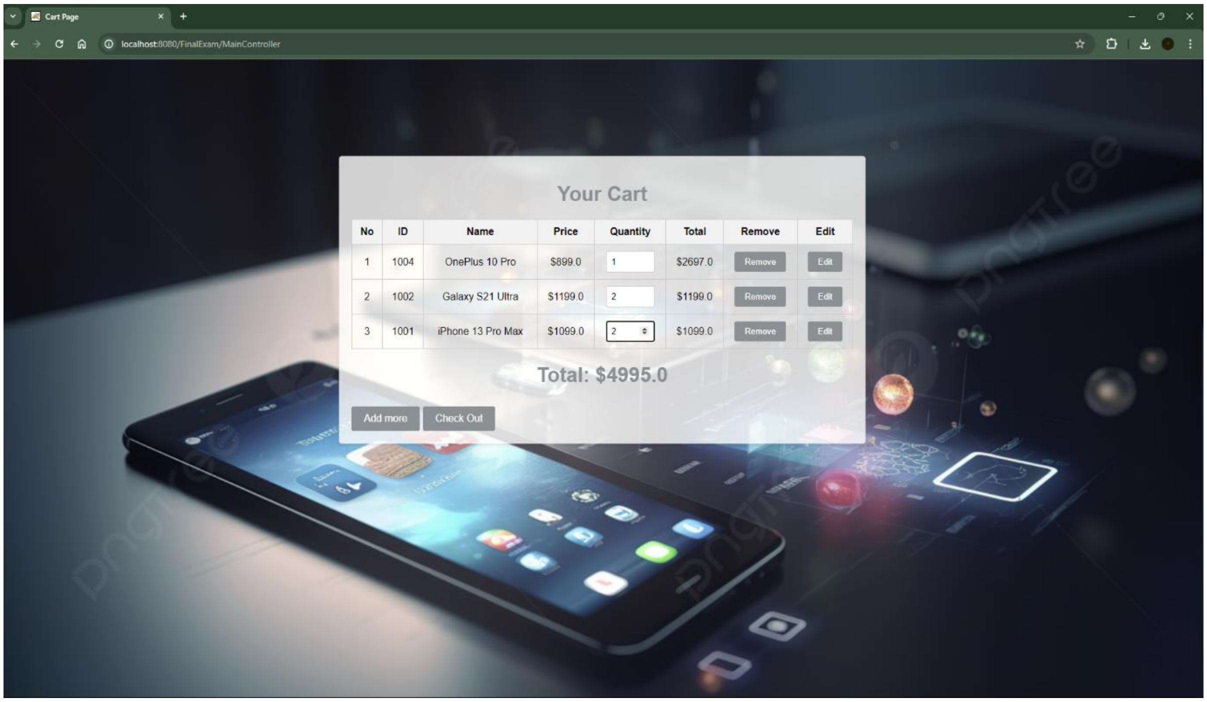
Welcome : Phan Duc Hau

1

1000

No	Mobile ID	Description	Price	Mobile Name	Year of Production	Image	Wishlist	Add to Cart
1	1004	OnePlus 10 Pro with Hassell	$899.0	OnePlus 10 Pro	2024		Add	Add
2	1005	Xiaomi Mi 12 with Snapdrag	$899.0	Xiaomi Mi 12	2024		Add	Add

4. Cart

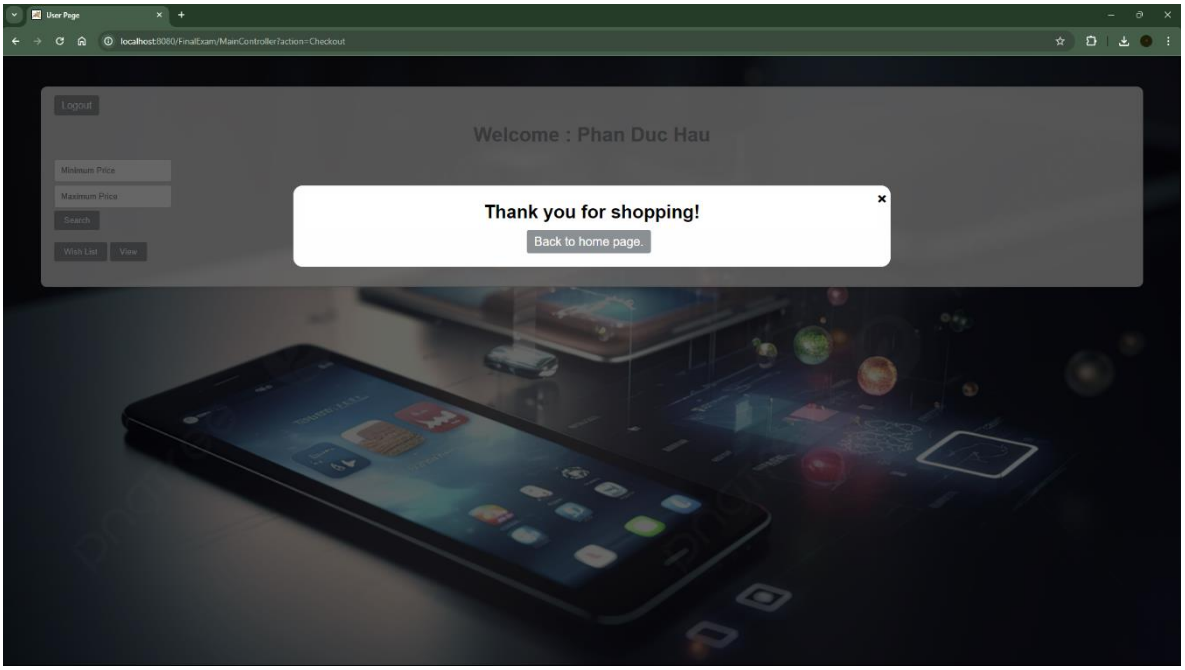


Your Cart

No	ID	Name	Price	Quantity	Total	Remove	Edit
1	1004	OnePlus 10 Pro	$899.0	1	$2697.0	Remove	Edit
2	1002	Galaxy S21 Ultra	$1199.0	2	$1199.0	Remove	Edit
3	1001	iPhone 13 Pro Max	$1099.0	2	$1099.0	Remove	Edit

Total: $4995.0

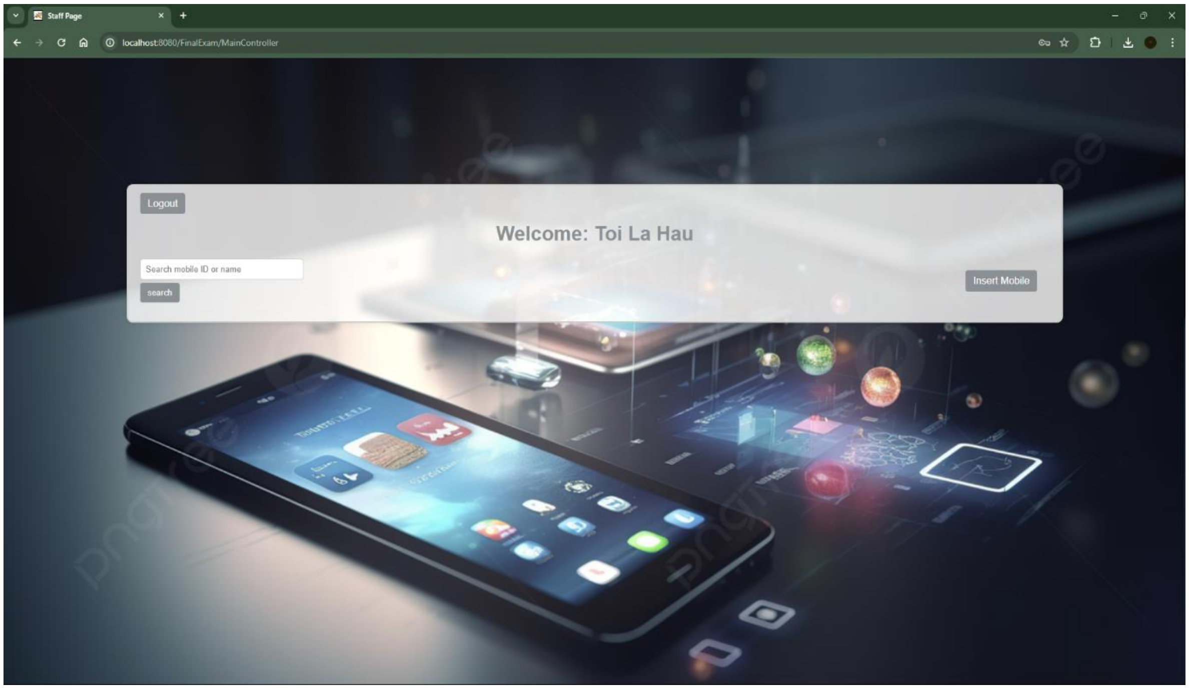
5. Thank you



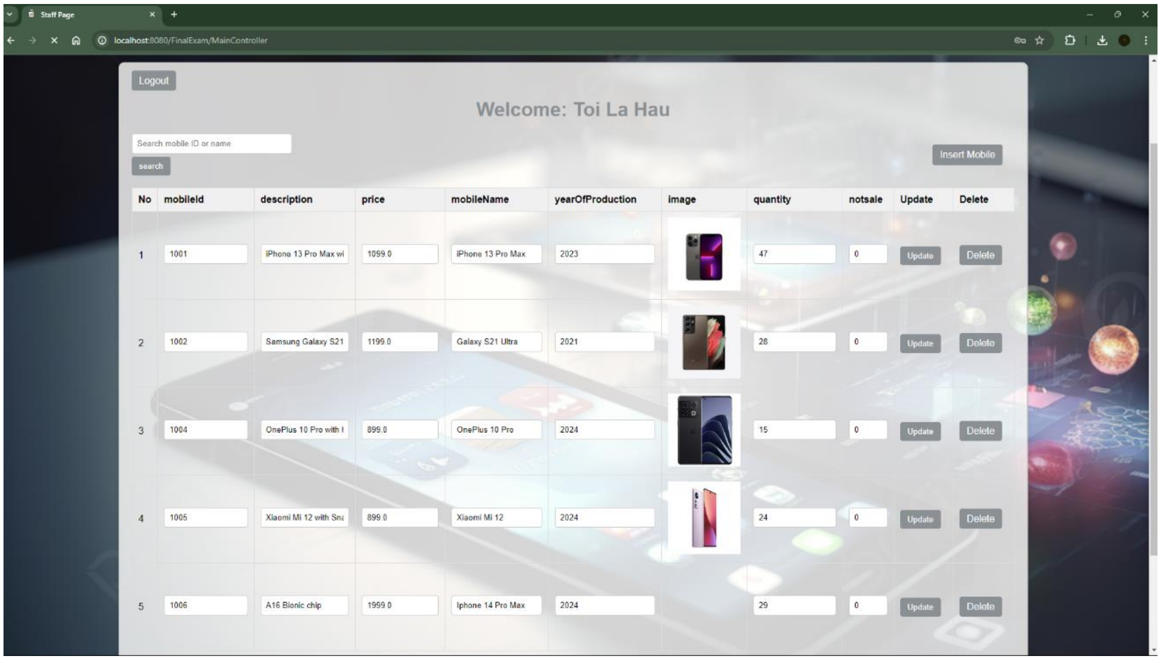
Welcome : Phan Duc Hau

Thank you for shopping!

6. Staff Search, Update and Delete



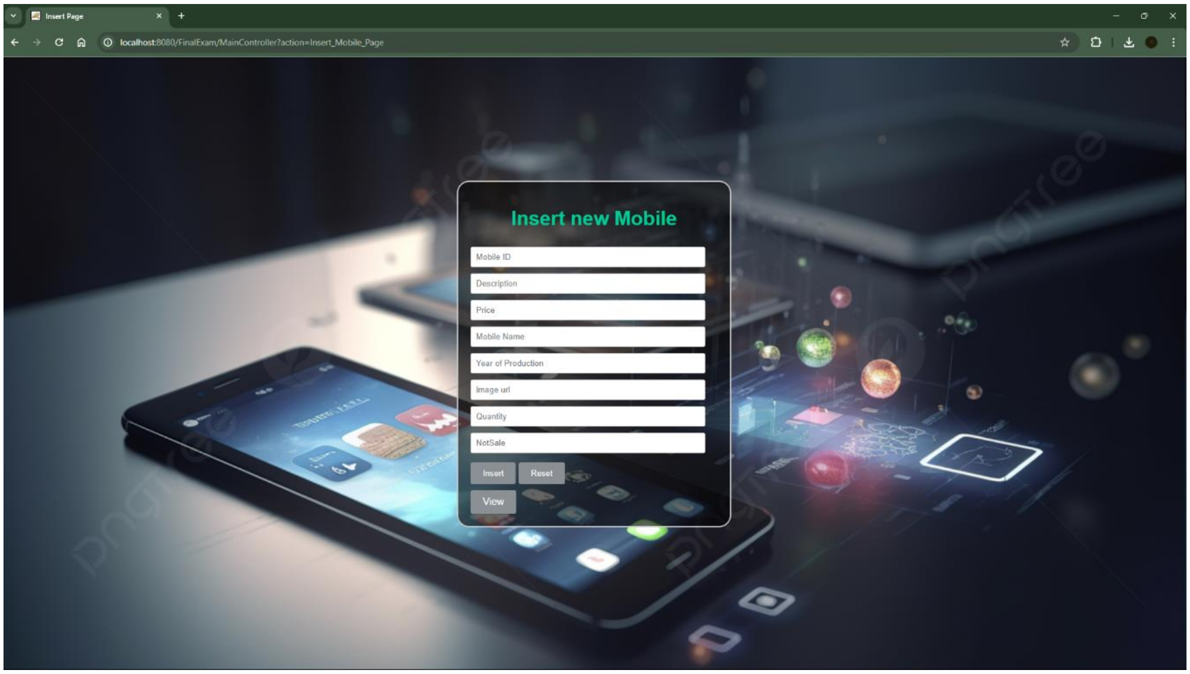
Welcome: Toi La Hau



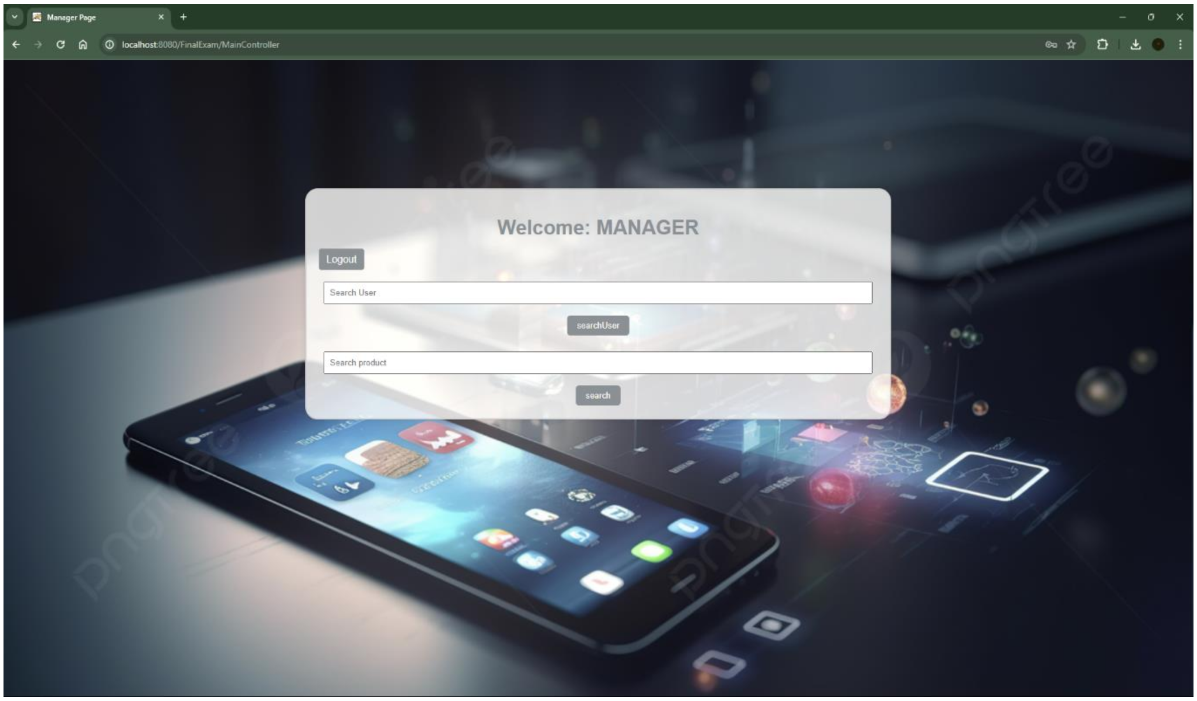
Welcome: Toi La Hau

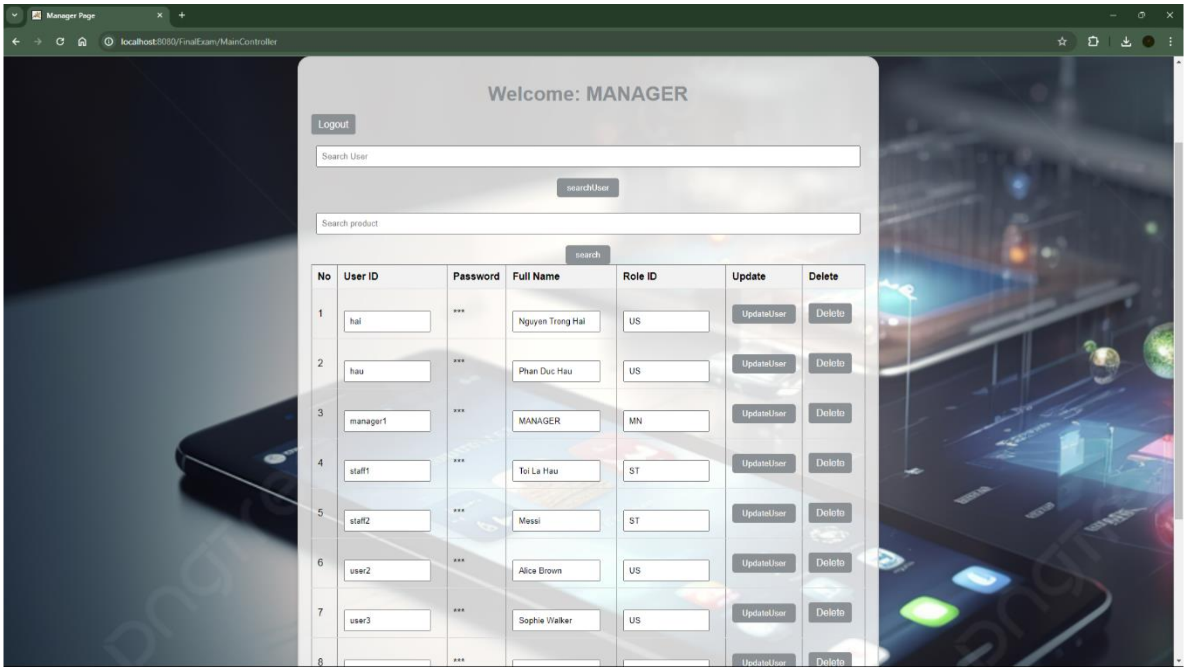
No	mobileId	description	price	mobileName	yearOfProduction	image	quantity	notsale	Update	Delete
1	1001	iPhone 13 Pro Max wi	1099.0	iPhone 13 Pro Max	2023		47	0	Update	Delete
2	1002	Samsung Galaxy S21	1199.0	Galaxy S21 Ultra	2021		28	0	Update	Delete
3	1004	OnePlus 10 Pro with I	899.0	OnePlus 10 Pro	2024		15	0	Update	Delete
4	1005	Xiaomi Mi 12 with Sna	899.0	Xiaomi Mi 12	2024		24	0	Update	Delete
5	1006	A16 Bionic chip	1999.0	Iphone 14 Pro Max	2024		29	0	Update	Delete

7. Insert new mobile

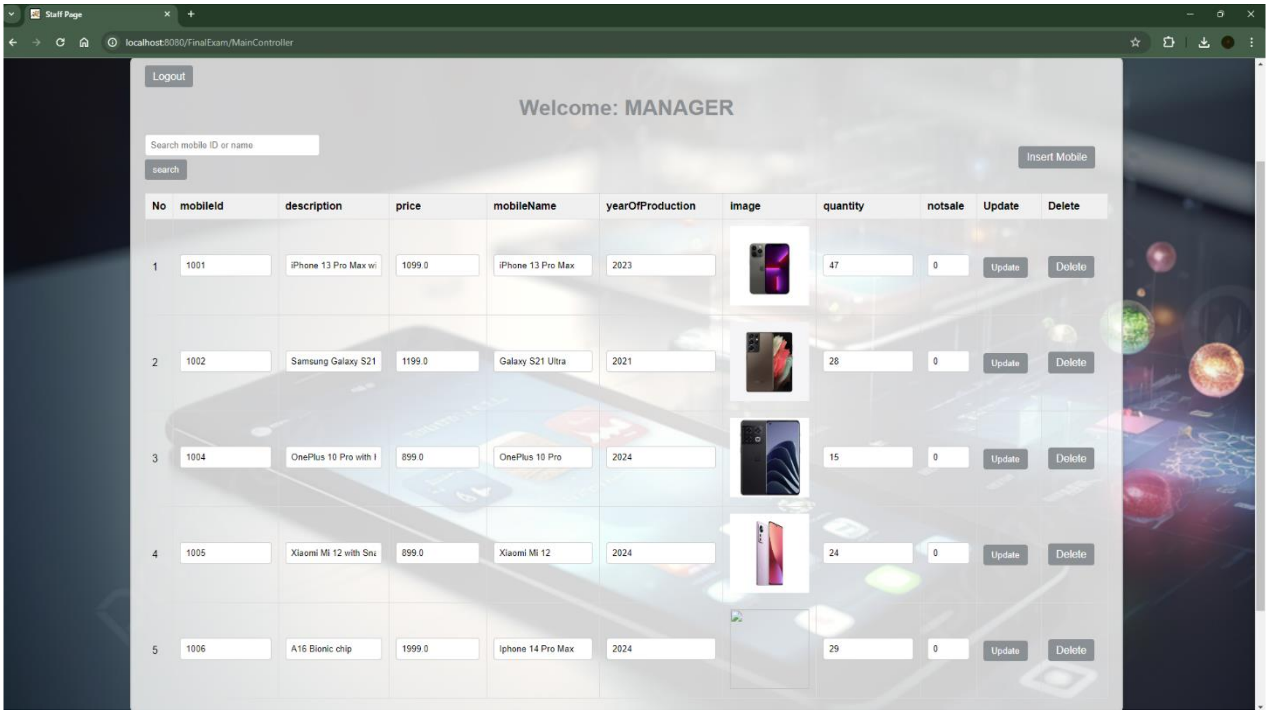


8. Manager SearchUser, UpdateUser,DeleteUser and Search mobile





No	User ID	Password	Full Name	Role ID	Update	Delete
1	hai	***	Nguyen Trong Hai	US	UpdateUser	Delete
2	hau	***	Phan Duc Hau	US	UpdateUser	Delete
3	manager1	***	MANAGER	MN	UpdateUser	Delete
4	staff1	***	Toi La Hau	ST	UpdateUser	Delete
5	staff2	***	Messi	ST	UpdateUser	Delete
6	user2	***	Alice Brown	US	UpdateUser	Delete
7	user3	***	Sophie Walker	US	UpdateUser	Delete
8		***			UpdateUser	Delete



Welcome: MANAGER

No	mobileId	description	price	mobileName	yearOfProduction	image	quantity	notsale	Update	Delete
1	1001	iPhone 13 Pro Max wi	1099.0	iPhone 13 Pro Max	2023		47	0	Update	Delete
2	1002	Samsung Galaxy S21	1199.0	Galaxy S21 Ultra	2021		28	0	Update	Delete
3	1004	OnePlus 10 Pro with I	899.0	OnePlus 10 Pro	2024		15	0	Update	Delete
4	1005	Xiaomi Mi 12 with Sna	899.0	Xiaomi Mi 12	2024		24	0	Update	Delete
5	1006	A16 Bionic chip	1999.0	Iphone 14 Pro Max	2024		29	0	Update	Delete