# Software Design Description for Smart Shop

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August 12, 2022

Table 1: Document version history

| Version | Date | Reason for Change |
|---|---|---|
| 1.0 | 7-Aug-2022 | SDD first version's description are defined. |
| 1.1 | 9-Aug-2022 | Added Sequence Diagram. |
| 1.2 | 10-Aug-2022 | Requirement Matrix updated and other points. |

**GitHub:** https://github.com/Sherif66/Smart-Shop

# Contents

**Abstract**

E-commerce is fast gaining ground as an accepted and used business paradigm. More and more business houses are implementing web sites providing functionality for performing commercial transactions over the web. it is reasonable to say that the process of shopping on the web is becoming common place. sports online store is an online application where customers can purchase sport equipment .Through a web browser the customers can search for sports tool by it's brand and add through shopping cart the user can login using his account details or new customers can set up an account very quickly. They should give the details of their full name, email account , username , password..

# 1 Introduction

## 1.1 Purpose

This software design description (SDD) describes the architecture and system design of Smart Shop.This document will explain in details the features of the smart shop to sell smart gadgets for sports enthusiasts to improve their fitness levels and keep them active and motivated during their fitness training sessions.our web application is intended to provide complete solutions for customers through a single access point using the internet. It will enable enthusiasts to setup their sport essentials and allow customers to make their needed purchase online without having to visit the shop physically.

## 1.2 Scope

This software design description (SDD) describe smart shop system design to provide quality service to the customers and to make it possible. This provides new online store owners with a quick and simple way to set up and manage their stores. perform sales and other core business over the internet. The system requires an Internet connection and has to be designed with a database capable of maintaining inventory details. up-to-date All payments will be made in cash during the delivery or shipping of items over the internet.

## 1.3 Intended audience

The intended audience for this document will be enthusiasts,coaches.

## 1.4 Reference Material

- DECATHLON

- SPORT DIRECT

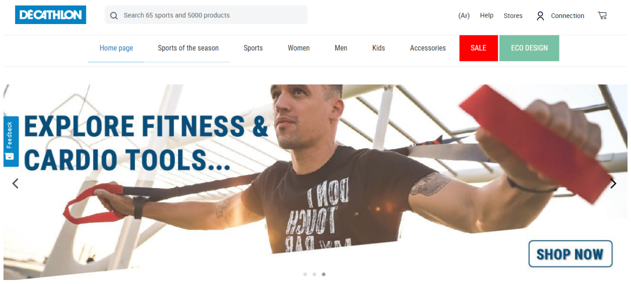
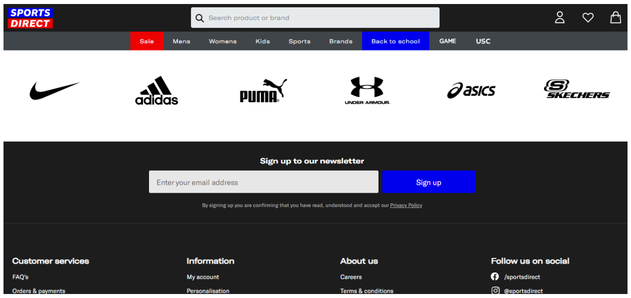


Figure 1: Home page of DECATHLON website



By signing up you are confirming that you have read, understood and accept our Privacy Policy

Figure 2: Home page of SPORT DIRECT website

## 1.5 Definitions and Acronyms

Provide definitions of all terms, acronyms, and abbreviations that might exist to properly interpret the SDD. These definitions should be items used in the SDD that are most likely not known to the audience.

| Term | Definition |
|---|---|
| Software Design Document (SDD) | Used as the primary medium for communicating software design information. |
| Design Entity | An element of a design that is structurally and functionally distinct from other elements. |
| Design rationale | Information capturing the reasoning of the designer that led to the system as designed, including design options, trade-offs considered, decisions made, and the justifications of those decisions. . |

# 2 System Overview

## 2.1 System Scope

The scope of the project is to provide quality service to the customers and to make it possible. This provides new online store owners with a quick and simple way to set up and manage their stores. perform sales and other core business over the internet. The system requires an Internet connection and has to be designed with a database capable of maintaining inventory details. up-to-date All payments will be made in cash during the delivery or shipping of items over the internet.

## 2.2 System objectives

- sell smart gadgets for sports enthusiasts to improve their fitness levels.
- keep them active and motivated during their fitness training sessions.

## 2.3 System Timeline

Team members will be assigned numbers to be used in time plan

1. John Amir
2. Sherif Hany
3. Ashraf salah
4. Yara Hossam

Table 2: Project time plan

| Id | Task | Start Date | Number of hours | Team Member |
|---|---|---|---|---|
| 1 | Registration page | 1/8/2022 | 3 | 2,4 |
| 2 | Login page | 2/8/2022 | 7 | 1,2 |
| 3 | about us | 3/8/2022 | 7 | 3 |
| 4 | cart | 4/8/2022 | 4 | 2,4,3,1 |
| 5 | view profile | 5/8/2022 | 6 | 1,4 |
| 6 | edit profile ,contact us | 6/8/2022 | 6 | 1,2,3,4 |
| 7 | contact us | 6/8/2022 | 5 | 2,3 |

# 3 Design viewpoints

## 3.1 Context viewpoint

Our System is an e-commerce platform, which provides an easy way for customers to buy products. It allows the users to view/buy products. Users shall be able to register to the website to be given access to enter the check-out process. The admin first should add the products to the database of the project.

**Design concerns:** Systems services and users.

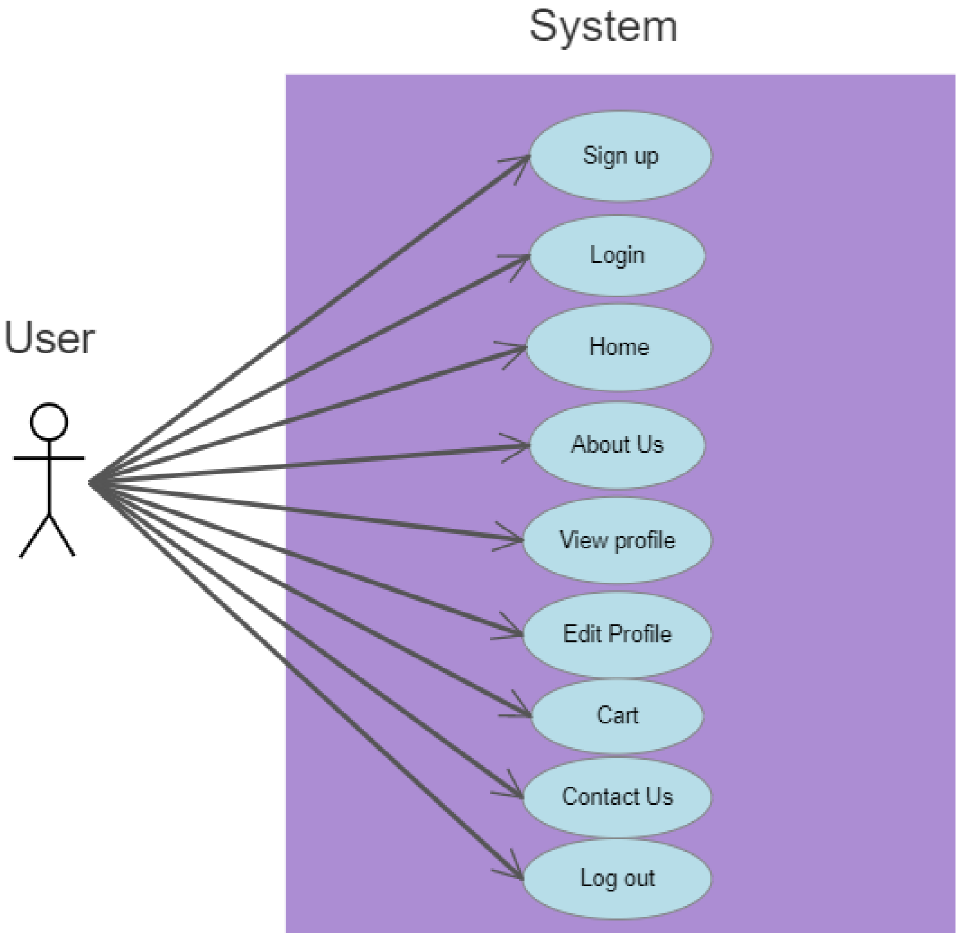


Figure 3: Use Case Diagram

## 3.2 Composition viewpoint

N/A

### 3.2.1 Design Rationale

N/A

## 3.3 Logical viewpoint

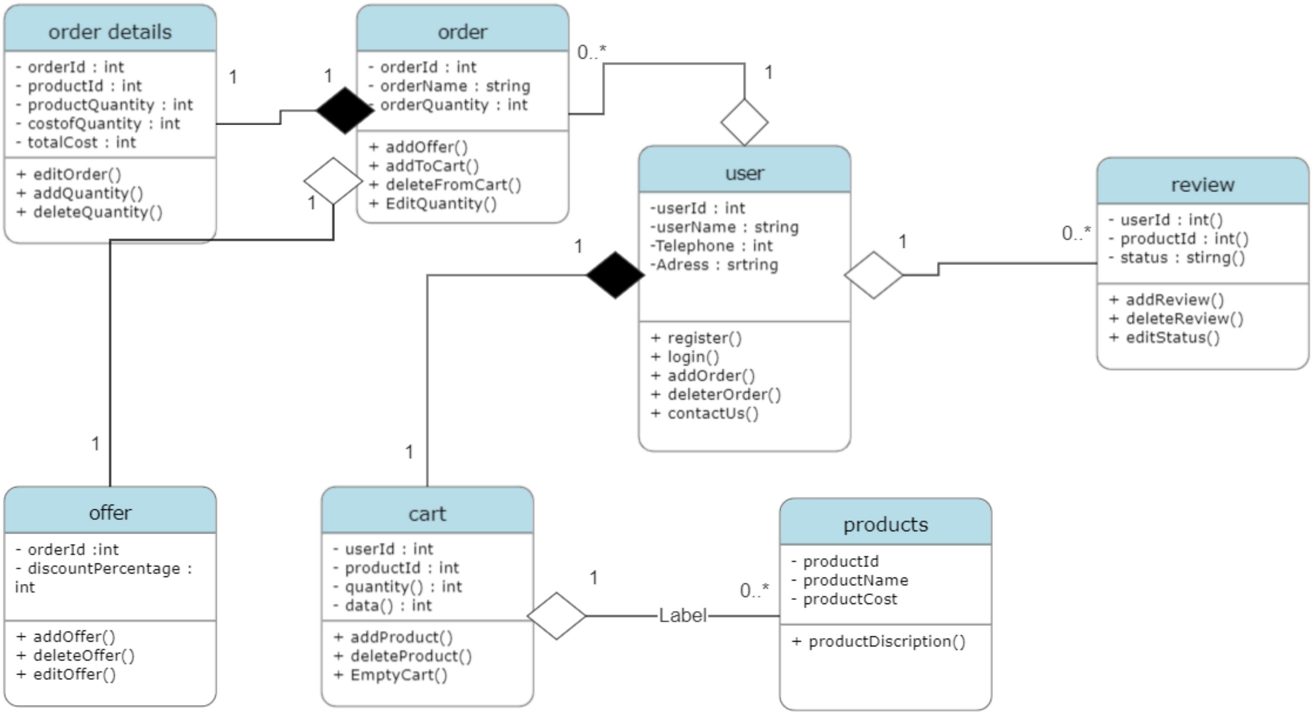


Figure 4: Entities Relationship

Table 3: user

| | |
|---|---|
| **Abstract or Concrete:** | Abstract |
| **Superclasses** | xxxx |
| **Subclasses** | xxxx |
| **Purpose** | represent person object |
| **Collaborations** | Aggregation with order and compostion with cart |
| **Attributes** | userId :int , Telephone:int ,Adress:string |
| **Operations** | register ,login ,add order ,delete order ,contact us |

Table 4: user

| | |
|---|---|
| **Abstract or Concrete:** | Abstract |
| **Superclasses** | xxxx |
| **Subclasses** | xxxx |
| **Purpose** | represent person object |
| **Collaborations** | Aggregation with order and compostion with cart |
| **Attributes** | userId :int , Telephone:int ,Adress:string |
| **Operations** | register ,login ,add order ,delete order ,contact us |

Table 5: cart

| | |
|---|---|
| **Abstract or Concrete:** | Abstract |
| **Superclasses** | xxxx |
| **Subclasses** | xxxx |
| **Purpose** | represent the cart |
| **Collaborations** | Aggregation with product |
| **Attributes** | UserId:int , productid:int ,Quantity(): int , data(0:int |
| **Operations** | addproduct() , deleteproduct() ,EmptyCart() |

Table 6: product

| | |
|---|---|
| **Abstract or Concrete:** | Abstract |
| **Superclasses** | xxxx |
| **Subclasses** | xxxx |
| **Purpose** | represent Products |
| **Collaborations** | Aggregation with cart |
| **Attributes** | productid:int , productname: string, productCost: int |
| **Operations** | Product discription |

Table 7: review

| | |
|---|---|
| **Abstract or Concrete:** | Abstract |
| **Superclasses** | xxxx |
| **Subclasses** | xxxx |
| **Purpose** | represent comments from users |
| **Collaborations** | Aggregation from user |
| **Attributes** | userid: int, productid:int,statuse : string |
| **Operations** | add review, deleteReview , editStatus |

Table 8: order

| | |
|---|---|
| **Abstract or Concrete:** | Abstract |
| **Superclasses** | xxxx |
| **Subclasses** | xxxx |
| **Purpose** | represent order |
| **Collaborations** | Aggregation with order details and compostion with offer |
| **Attributes** | orderId :int ,orderName:string ,OrderQuantity :int |
| **Operations** | addOffer(), addToCart() ,DeleteFromCart() ,EditQuanity() |

Table 9: offer

| | |
|---|---|
| **Abstract or Concrete:** | Abstract |
| **Superclasses** | xxxx |
| **Subclasses** | xxxx |
| **Purpose** | represent offers for orders |
| **Collaborations** | Aggregation with order |
| **Attributes** | orderid: int , discountPercentage: int |
| **Operations** | addOffer,deleteOffer,editOffer |

Table 10: order details

| | |
|---|---|
| **Abstract or Concrete:** | Abstract |
| **Superclasses** | xxxx |
| **Subclasses** | xxxx |
| **Purpose** | represent order details |
| **Collaborations** | compostion with order |
| **Attributes** | orderid: int,productid:int, productQuantity:int,costQuantity:int, totalCost:int |
| **Operations** | editOrder(),addQuatity(),deleteQuantity() |

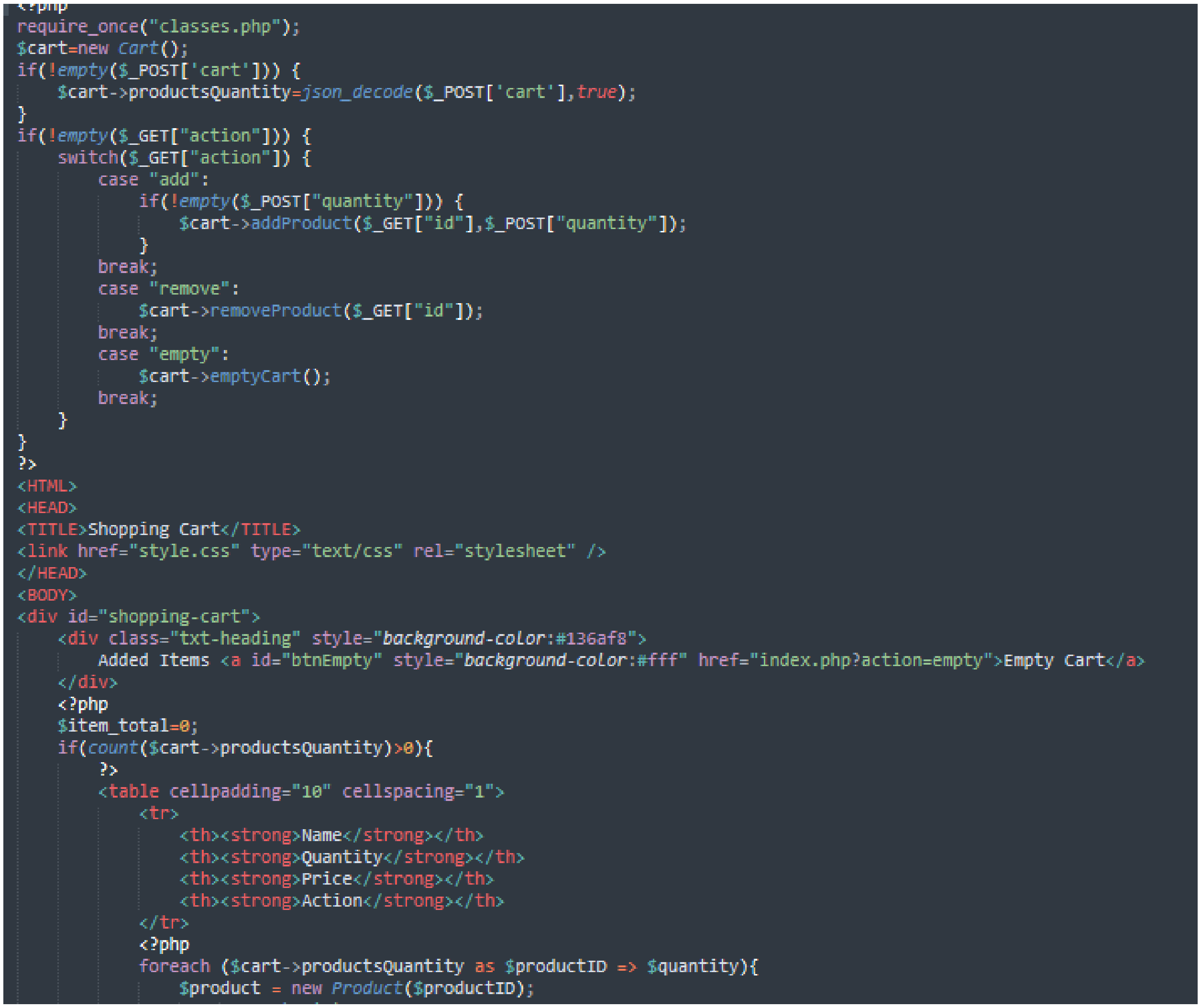
## 3.4 Patterns use viewpoint

This viewpoint addresses design ideas focusing on the used design patterns. UML class diagram and the UML package diagram can be used here to illustrate the used design patterns.

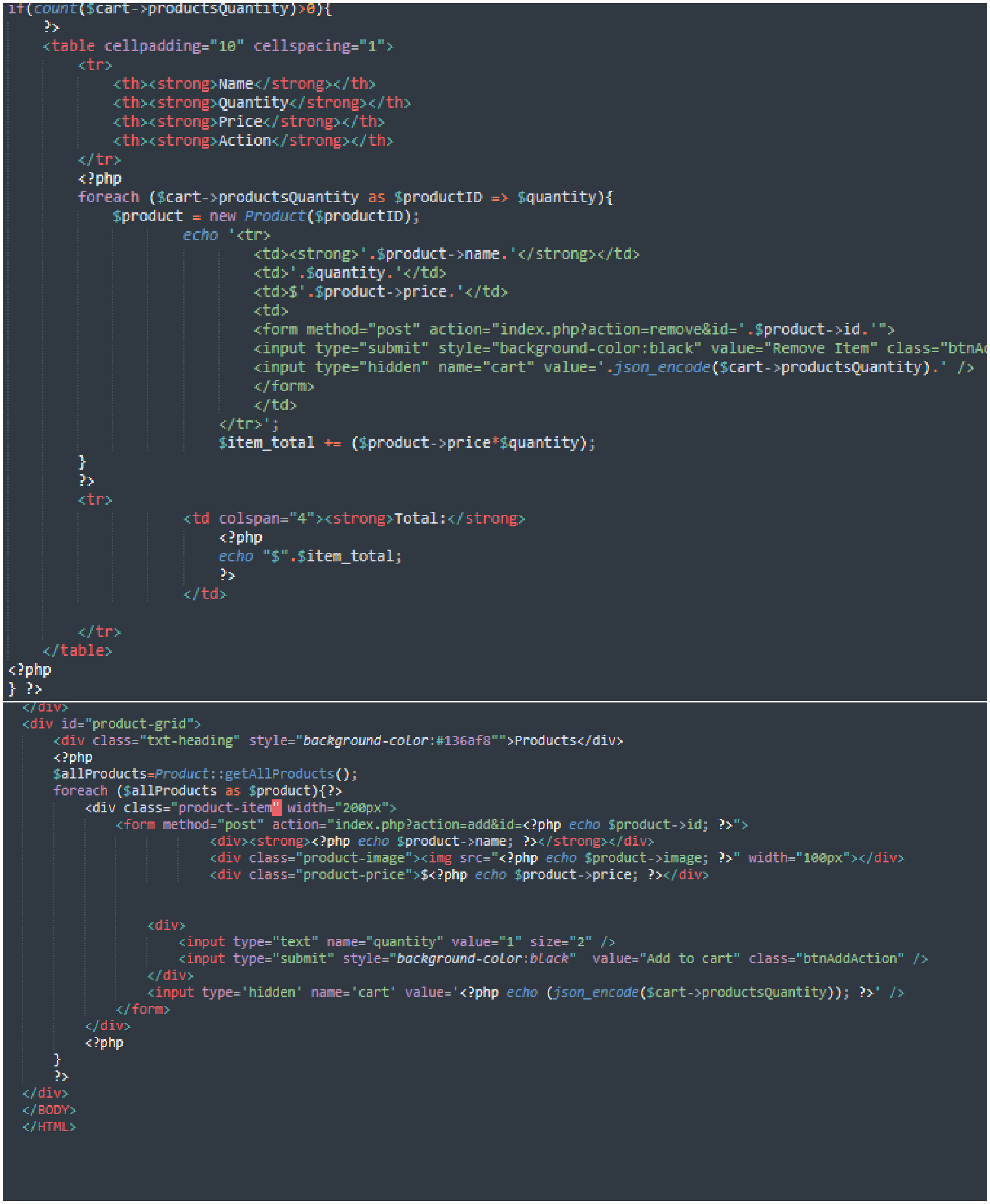
### 3.4.1 Design Rationale

You need to provide the design rationale for using these design patterns.

## 3.5 Algorithm viewpoint



```
<?php
require_once("classes.php");
$cart=new Cart();
if(!empty($_POST['cart'])) {
    $cart->productsQuantity=json_decode($_POST['cart'],true);
}
if(!empty($_GET["action"])) {
    switch($_GET["action"]) {
        case "add":
            if(!empty($_POST["quantity"])) {
                $cart->addProduct($_GET["id"],$_POST["quantity"]);
            }
        break;
        case "remove":
            $cart->removeProduct($_GET["id"]);
        break;
        case "empty":
            $cart->emptyCart();
        break;
    }
}
?>
<HTML>
<HEAD>
<TITLE>Shopping Cart</TITLE>
<link href="style.css" type="text/css" rel="stylesheet" />
</HEAD>
<BODY>
<div id="shopping-cart">
    <div class="txt-heading" style="background-color:#136af8">
        Added Items <a id="btnEmpty" style="background-color:#fff" href="index.php?action=empty">Empty Cart</a>
    </div>
    <?php
    $item_total=0;
    if(count($cart->productsQuantity)>0){
        ?>
        <table cellpadding="10" cellspacing="1">
            <tr>
                <th><strong>Name</strong></th>
                <th><strong>Quantity</strong></th>
                <th><strong>Price</strong></th>
                <th><strong>Action</strong></th>
            </tr>
            <?php
            foreach ($cart->productsQuantity as $productID => $quantity){
                $product = new Product($productID);
```



```
if(count($cart->productsQuantity)>0){
    ?>
    <table cellpadding="10" cellspacing="1">
        <tr>
            <th><strong>Name</strong></th>
            <th><strong>Quantity</strong></th>
            <th><strong>Price</strong></th>
            <th><strong>Action</strong></th>
        </tr>
        <?php
        foreach ($cart->productsQuantity as $productID => $quantity){
            $product = new Product($productID);
                    echo '<tr>
                            <td><strong>'.$product->name.'</strong></td>
                            <td>'.$quantity.'</td>
                            <td>$'.$product->price.'</td>
                            <td>
                            <form method="post" action="index.php?action=remove&id='.$product->id.'">
                            <input type="submit" style="background-color:black" value="Remove Item" class="btnAc
                            <input type="hidden" name="cart" value='.json_encode($cart->productsQuantity).' />
                            </form>
                            </td>
                        </tr>';
                        $item_total += ($product->price*$quantity);
        }
        ?>
        <tr>

                    <td colspan="4"><strong>Total:</strong>
                        <?php
                        echo "$".$item_total;
                        ?>
                    </td>

        </tr>
    </table>
<?php
} ?>
```

```
  </div>
  <div id="product-grid">
      <div class="txt-heading" style="background-color:#136af8"">Products</div>
      <?php
      $allProducts=Product::getAllProducts();
      foreach ($allProducts as $product){?>
          <div class="product-item" width="200px">
              <form method="post" action="index.php?action=add&id=<?php echo $product->id; ?>">
                          <div><strong><?php echo $product->name; ?></strong></div>
                          <div class="product-image"><img src="<?php echo $product->image; ?>" width="100px"></div>
                          <div class="product-price">$<?php echo $product->price; ?></div>


                  <div>
                      <input type="text" name="quantity" value="1" size="2" />
                      <input type="submit" style="background-color:black"  value="Add to cart" class="btnAddAction" />
                  </div>
                  <input type='hidden' name='cart' value='<?php echo (json_encode($cart->productsQuantity)); ?>' />
              </form>
          </div>
          <?php
      }
      ?>
  </div>
  </BODY>
  </HTML>
```

Figure 5: view and add cart code

## 3.6 Interaction viewpoint

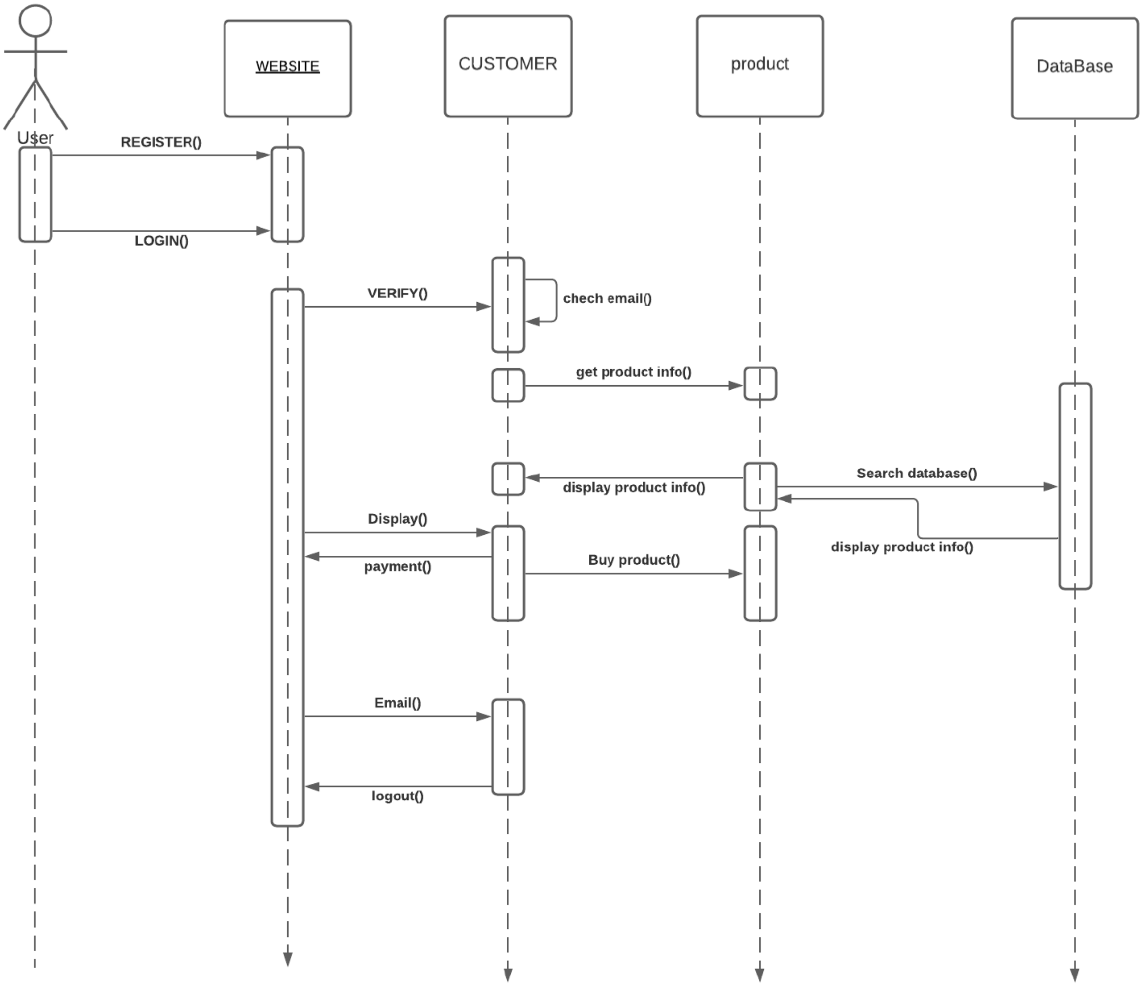


Figure 6: SEQUENCE DIAGRAM

# 4 Data Design

## 4.1 Data Description

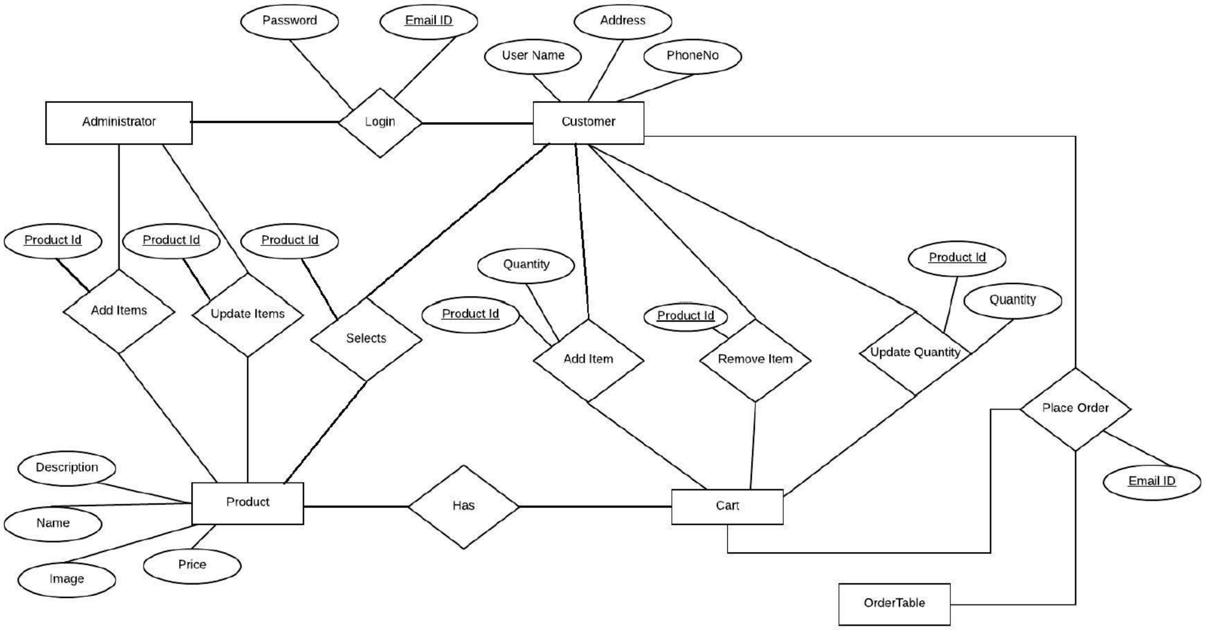


Figure 7: ER Diagram

## 4.2 Database design description

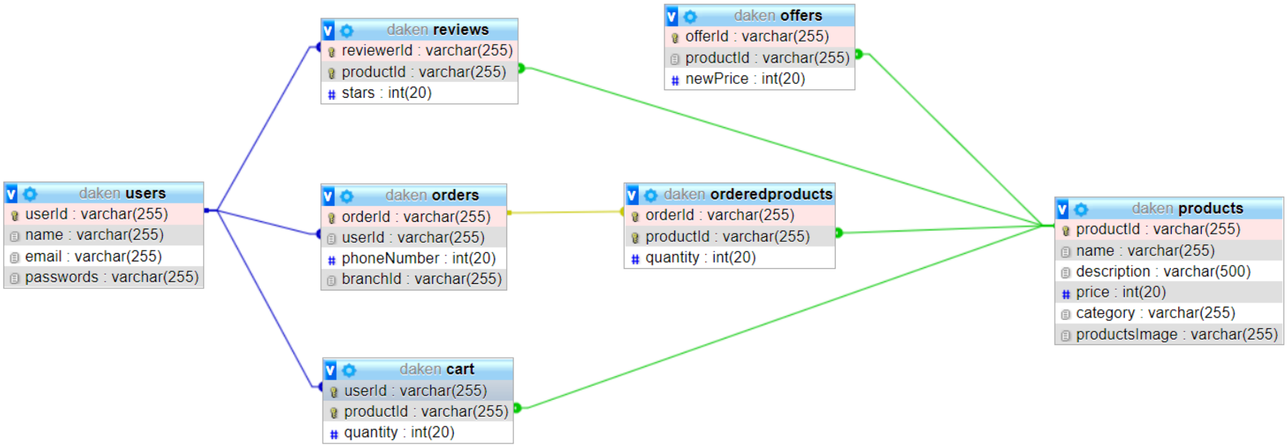


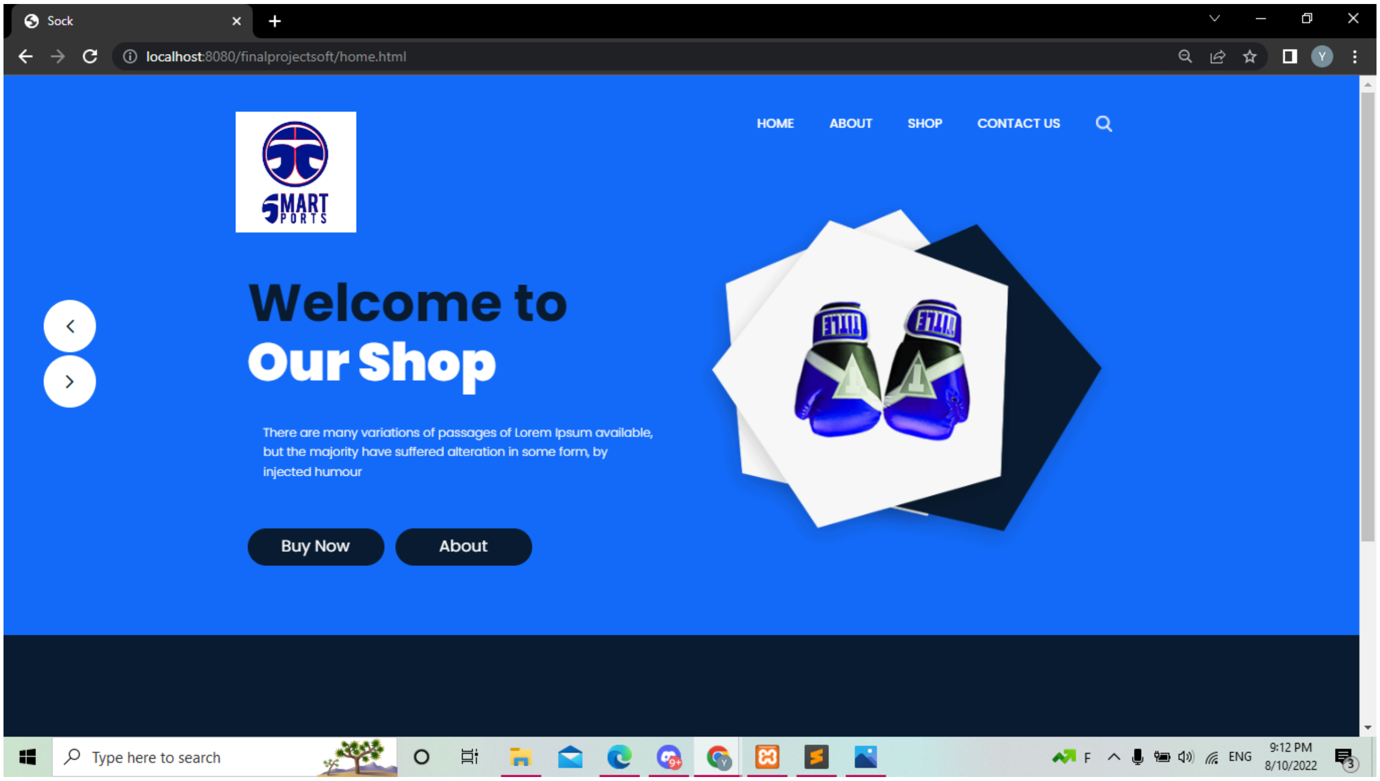
Figure 8: Database schema

# 5 Human Interface Design

## 5.1 User Interface

The first thing that is displayed for the user is the Home page where the user is supposed to sign up from , then log in with his email and password,there is a contact us page where the user could contact us and leave his feedback.The user shall view his profile and edit it. The user could view the products which contain different kinds of sports products and add what he wants to the cart.The user then could log out to the home page.

## 5.2 Screen Images



Welcome to Our Shop

There are many variations of passages of Lorem Ipsum available, but the majority have suffered alteration in some form, by injected humour

Figure 9: Home page

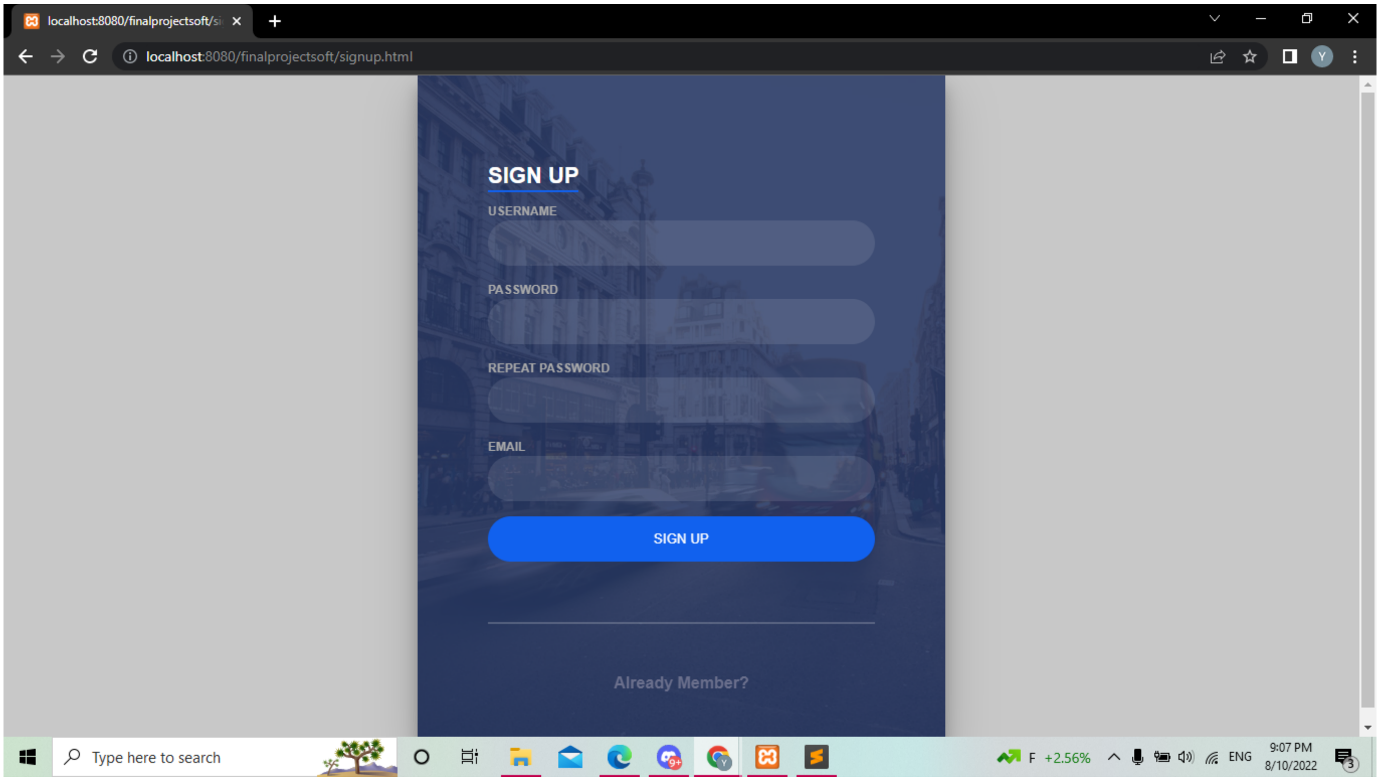


Figure 10: sign up

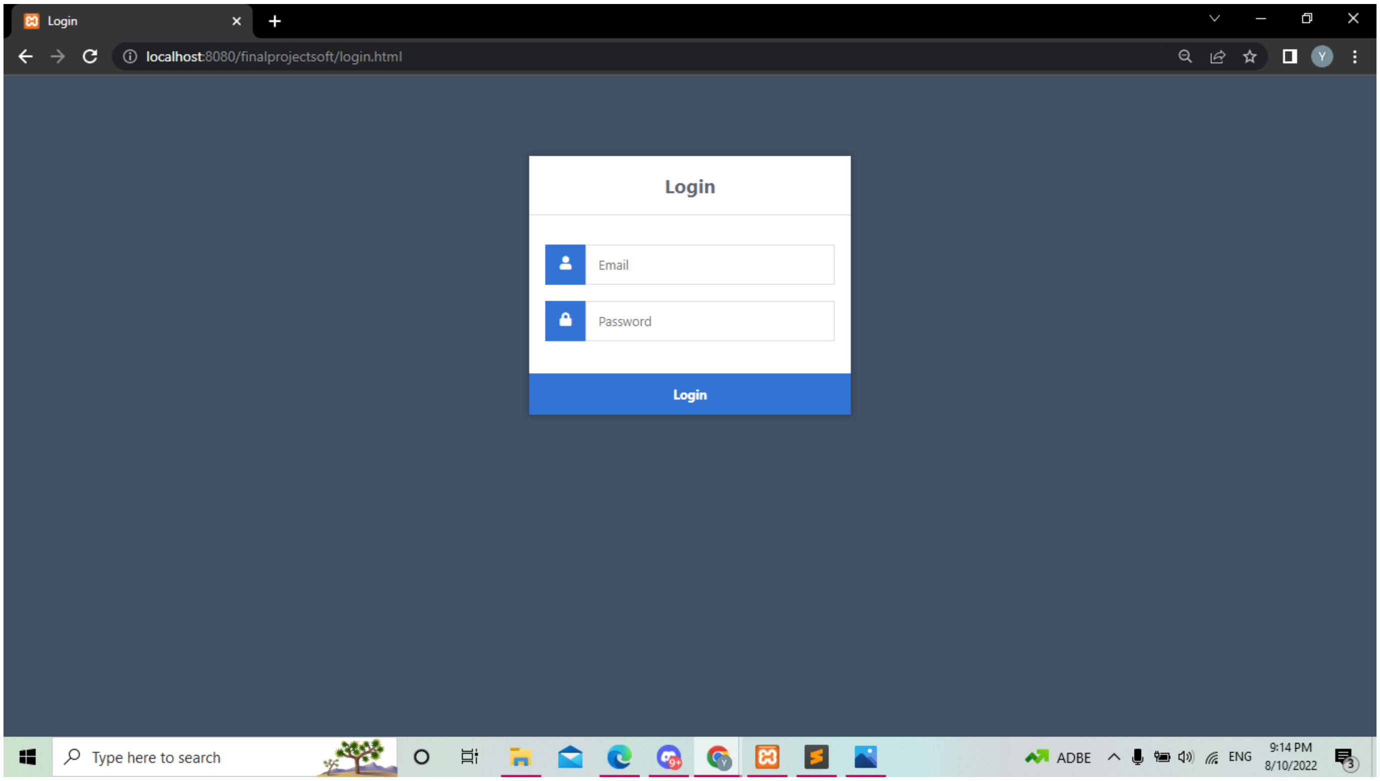
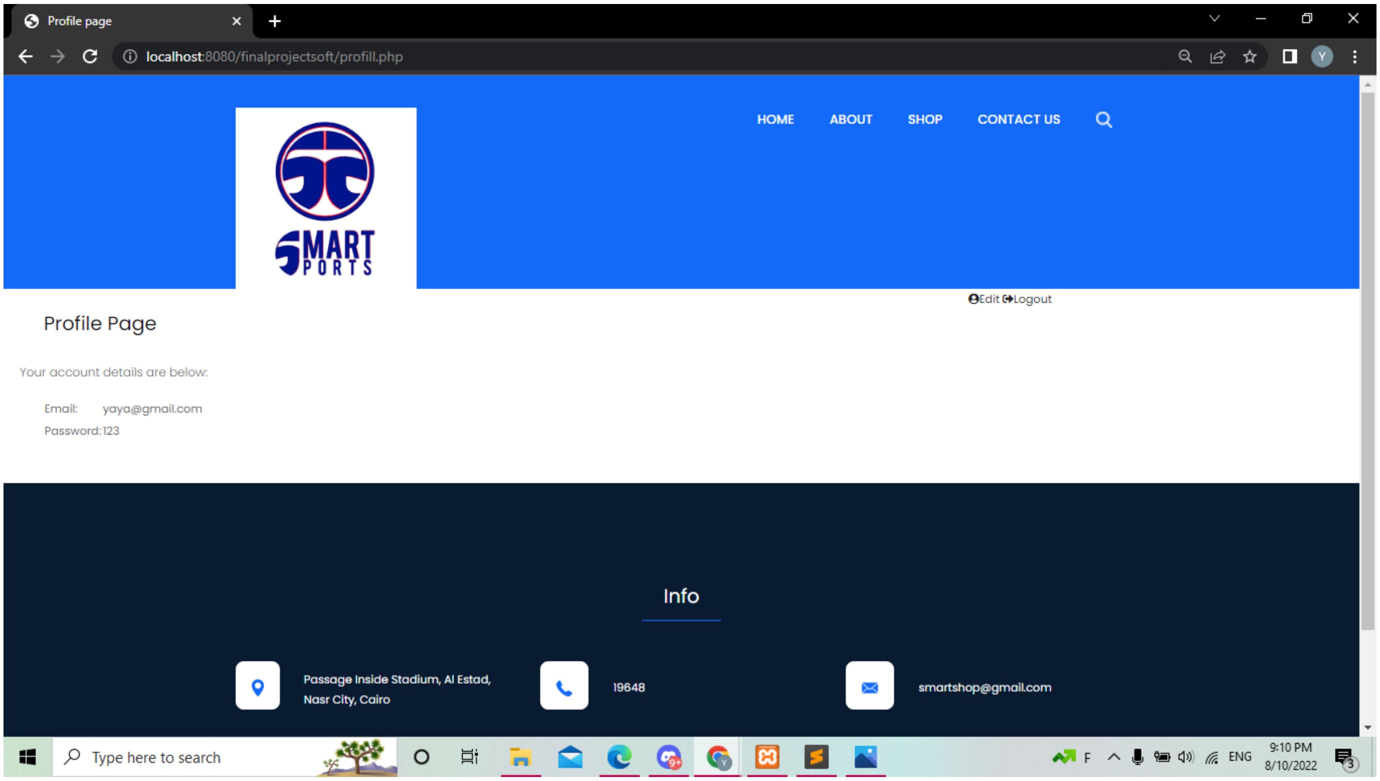


Figure 11: login



Profile Page

Your account details are below:

Email: yaya@gmail.com

Password:123

Info

Passage Inside Stadium, Al Estad, Nasr City, Cairo

19648

smartshop@gmail.com

Figure 12: view profile

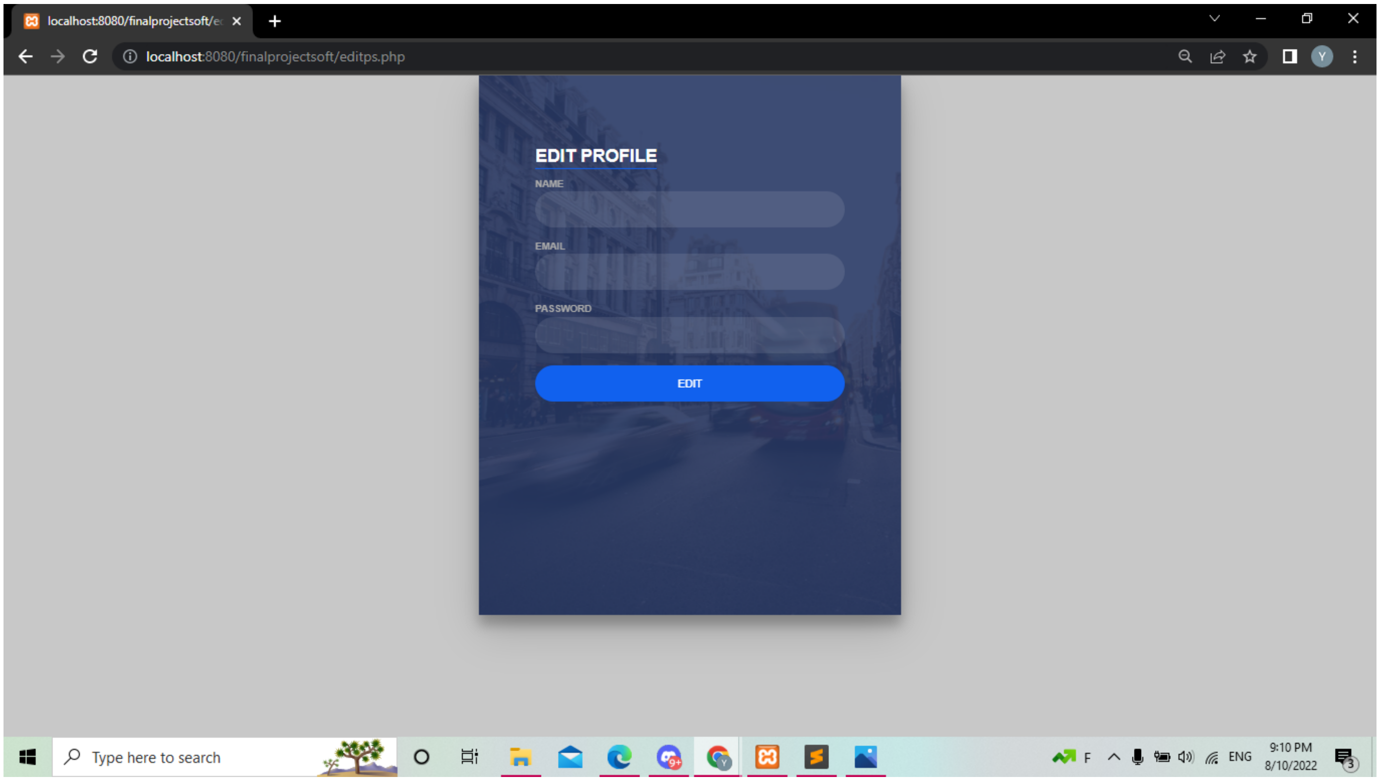
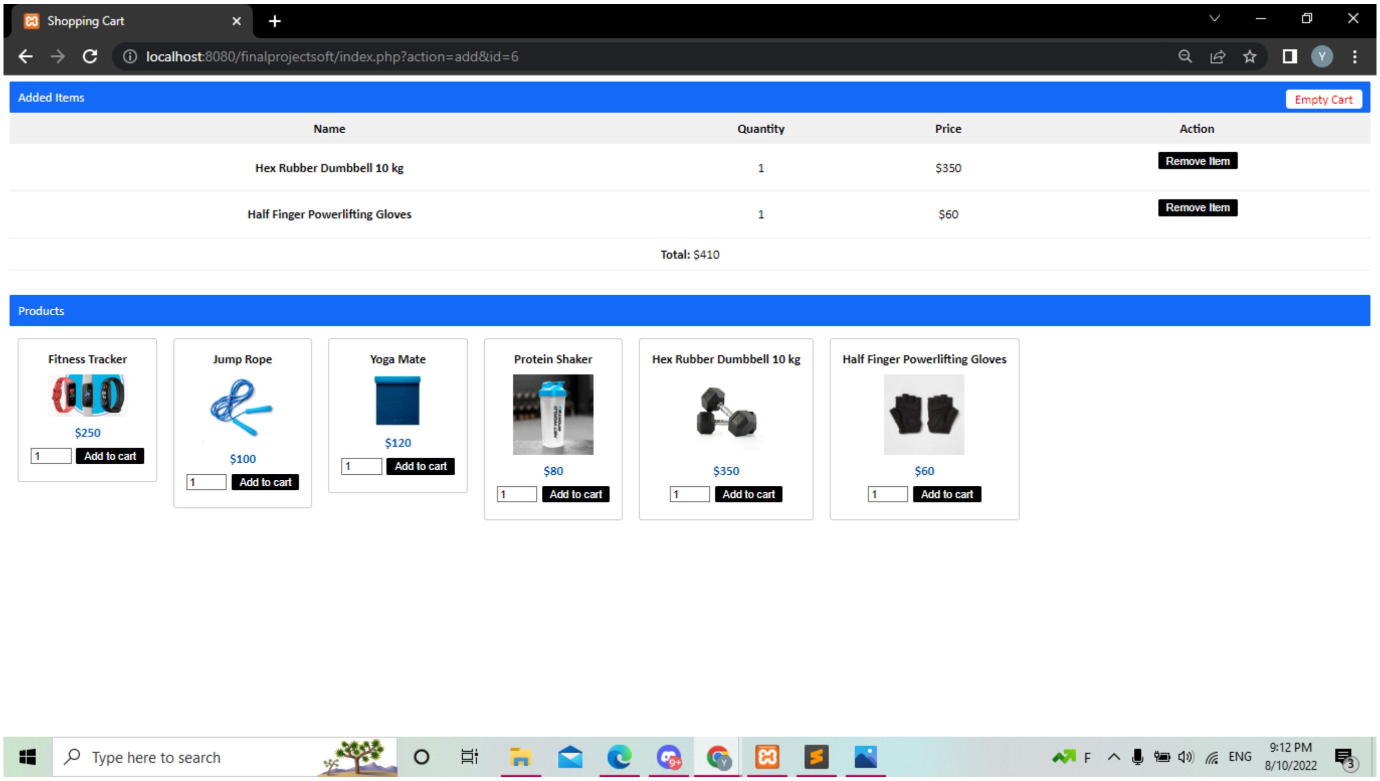

localhost:8080/finalprojectsoft/e
localhost:8080/finalprojectsoft/editps.php
EDIT PROFILE
NAME
EMAIL
PASSWORD
EDIT
Type here to search
ENG
9:10 PM
8/10/2022

Figure 13: edit profile



Added Items

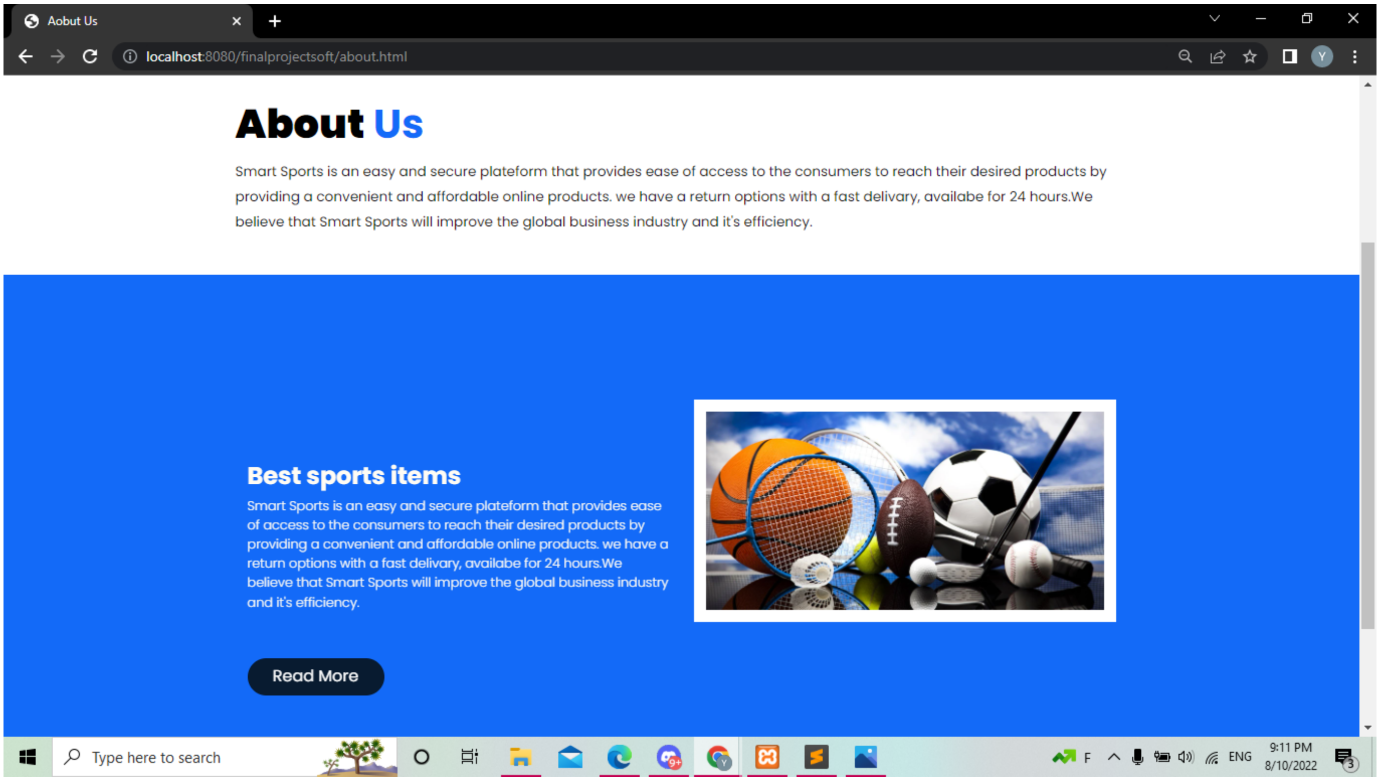
| Name | Quantity | Price | Action |
|---|---|---|---|
| Hex Rubber Dumbbell 10 kg | 1 | $350 | Remove Item |
| Half Finger Powerlifting Gloves | 1 | $60 | Remove Item |

Total: $410

Products

| Fitness Tracker | Jump Rope | Yoga Mate | Protein Shaker | Hex Rubber Dumbbell 10 kg | Half Finger Powerlifting Gloves |
|---|---|---|---|---|---|
| $250 | $100 | $120 | $80 | $350 | $60 |
| 1 Add to cart | 1 Add to cart | 1 Add to cart | 1 Add to cart | 1 Add to cart | 1 Add to cart |

Figure 14: cart



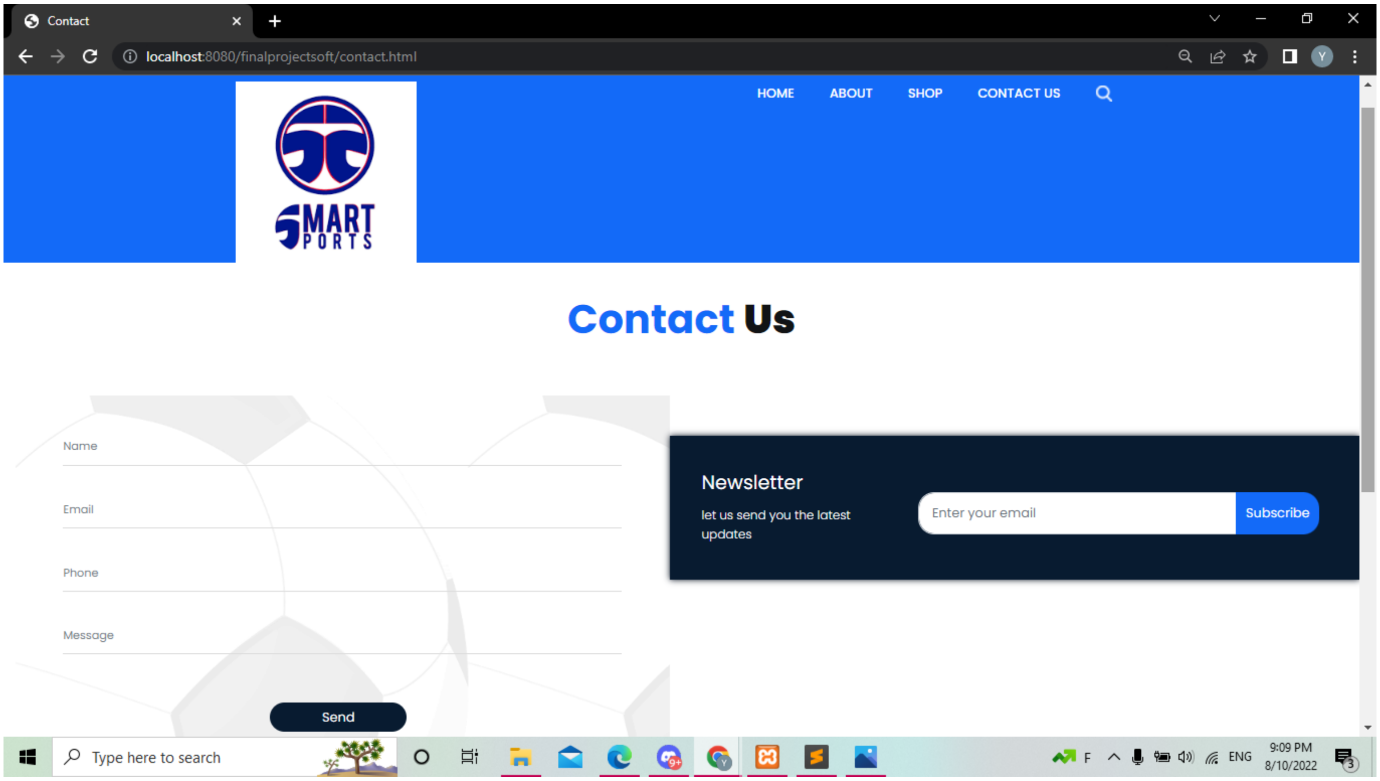
## About Us

Smart Sports is an easy and secure plateform that provides ease of access to the consumers to reach their desired products by providing a convenient and affordable online products. we have a return options with a fast delivary, availabe for 24 hours.We believe that Smart Sports will improve the global business industry and it's efficiency.

### Best sports items

Smart Sports is an easy and secure plateform that provides ease of access to the consumers to reach their desired products by providing a convenient and affordable online products. we have a return options with a fast delivary, availabe for 24 hours.We believe that Smart Sports will improve the global business industry and it's efficiency.

Figure 15: about us



Contact Us

Newsletter

let us send you the latest updates

Figure 16: contact us

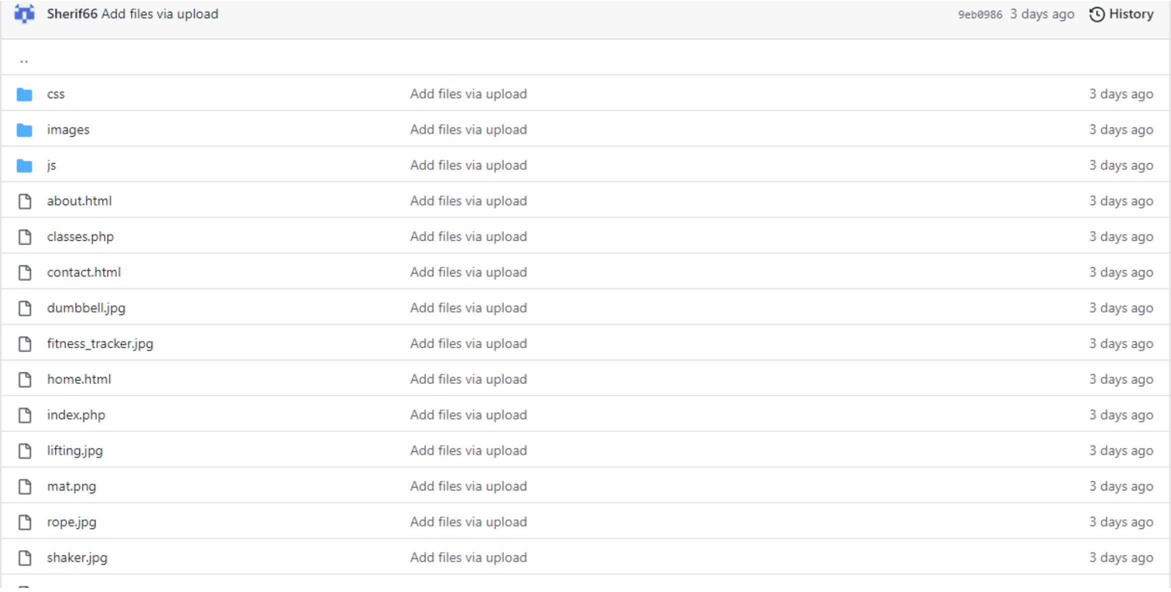
# 6 Requirements Matrix

Table 11: Requirements Ratrix

| Req. ID | NAME | description | Test Cases ID | Status |
|---|---|---|---|---|
| FR01 | Register | Allow user register for the system | xxxx | Developed |
| FR02 | login | Allow user login to the system | 1,2,3,4,5 | Developed |
| FR03 | ADDTocart | Allow user to add product to cart | 6,7,8 | Developed |
| FR04 | viewProfile | Allow user to view his profile | xxx | Developed |
| FR05 | EditProfile | Allow user to edit his profile | xxx | Developed |

# 7 APPENDICES

## 7.1 github



Sherif66 Add files via upload 9eb0986 3 days ago History

..

| | | |
|---|---|---|
| css | Add files via upload | 3 days ago |
| images | Add files via upload | 3 days ago |
| js | Add files via upload | 3 days ago |
| about.html | Add files via upload | 3 days ago |
| classes.php | Add files via upload | 3 days ago |
| contact.html | Add files via upload | 3 days ago |
| dumbbell.jpg | Add files via upload | 3 days ago |
| fitness_tracker.jpg | Add files via upload | 3 days ago |
| home.html | Add files via upload | 3 days ago |
| index.php | Add files via upload | 3 days ago |
| lifting.jpg | Add files via upload | 3 days ago |
| mat.png | Add files via upload | 3 days ago |
| rope.jpg | Add files via upload | 3 days ago |
| shaker.jpg | Add files via upload | 3 days ago |

Figure 17: github Repository

## 7.2 References

[1]Wohllebe, A., Stoyke, T. and Podruzsik, S., 2020. Incentives on E-commerce app downloads in medium apps: a case study on the effects of coupons and bonus points.

[2]Indriana, M. and Adzani, M.L., 2017, November. UI/UX analysis design for mobile e-commerce application prototype on Gramedia. com. In 2017 4th International Conference on New Media Studies (CONMEDIA) (pp. 170-173). IEEE.

[3]Einav, L., Levin, J., Popov, I. and Sundaresan, N., 2014. Growth, adoption, and use of mobile E-commerce. American Economic Review, 104(5), pp.489-94.

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Huang, Z. and Benyoucef, M., 2013. From e-commerce to social commerce: A close look at design features. Electronic Commerce Research and Applications, 12(4), pp.246-259.