UI UX PROJECT

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CHAPTER 1

INTRODUCTION

In the covid-19 pandemic lockdown, there was a rise in online delivery and e-commerce website. People did not want to go to grocery shops to buy groceries as they were afraid of contracting the virus. So an e-grocery system like was needed for users to order online with delivery being done contact-less for a safe shopping experience for the users. So an e-grocery system was a convinient system for users then. Now users have found out the convenience of using online delivery systems, so they now like to still use it, even though the fear of contracting the virus is at a lesser scale now.

To develop this application, I have used four technologies, which are:

- HTML
- CSS
- Javascript
- Bootstrap

HTML:

HTML is a standard markup language for Web Pages. The HyperText Markup Language or HTML is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

CSS:

CSS is the language we use to style an HTML document. CSS describes how HTML elements should be displayed. Cascading Style Sheets (CSS) is a stylesheet language used to describe the presentation of a document written in HTML or XML (including XML dialects such as SVG, MathML or XHTML). CSS describes how elements should be rendered on screen, on paper, in speech, or on other media.

CSS is among the core languages of the open web and is standardized across Web browsers according to W3C specifications. Previously, development of various parts of CSS specification was done synchronously, which allowed versioning of the latest recommendations. You might have heard about CSS1, CSS2.1, CSS3. However, CSS4 has never become an official version.

From CSS3, the scope of the specification increased significantly and the progress on different CSS modules started to differ so much, that it became more effective to develop and release recommendations separately per module. Instead of versioning the CSS specification, W3C now periodically takes a snapshot of the latest stable state of the CSS specification.

Javascript:

JavaScript is the world's most popular programming language. JavaScript is the programming language of the Web. JavaScript (JS) is a lightweight, interpreted, or just-in-time compiled programming language with first-class functions. While it is most well-known as the scripting language for Web pages, many non-browser environments also use it, such as Node.js, Apache CouchDB and Adobe Acrobat. JavaScript is a prototype-based, multi-paradigm, single-threaded, dynamic language, supporting object-oriented, imperative, and declarative (e.g. functional programming) styles. Read more about JavaScript.

This section is dedicated to the JavaScript language itself, and not the parts that are specific to Web pages or other host environments. For information about APIs that are specific to Web pages, please see Web APIs and DOM.

The standards for JavaScript are the ECMAScript Language Specification (ECMA-262) and the ECMAScript Internationalisation API specification (ECMA-402). As soon as one browser implements a feature, we try to document it. This means that cases where some proposals for new ECMAScript features have already been implemented in browsers, documentation and examples in MDN articles may use some of those new features. Most of the time, this happens between the stages 3 and 4, and is usually before the spec is officially published.

Do not confuse JavaScript with the Java programming language. Both "Java" and "JavaScript" are trademarks or registered trademarks of Oracle in the U.S. and other countries. However, the two programming languages have very different syntax, semantics, and use.

Bootstrap:

Bootstrap 5 is the newest version of Bootstrap, which is the most popular HTML, CSS, and JavaScript framework for creating responsive, mobile-first websites. Bootstrap is a free, open source HTML, CSS, and JavaScript framework for quickly building responsive websites.

Initially, Bootstrap was called Twitter Blueprint and was developed by a team working at Twitter. It supports responsive design and features predefined design templates that you can use out of the box, or customise for your needs with your code. You don't need to worry about compatibility with other browsers either, as Bootstrap is compatible with all modern browsers and newer versions of Internet Explorer.

CHAPTER 2

REQUIREMENT SPECIFICATIONS

2.1 Software Requirements

Programming language	: HTML5, CSS3, JAVASCRIPT,
Frameworks	: Bootstrap
Operating System	: Any OS
Application required	: Standalone desktop application.

2.2 Hardware Requirements

Processor	:	Minimum - 1.9 gigahertz (GHz) x86
Memory	:	Minimum - 2GB RAM
		Recommended - 4GB RAM or more
Display	:	Super VGA with a resolution of 1024 x 768

2.3 Functional Requirements

- Registration: There must be a registration page where the user can register to the website using their information and credentials.

The user must be validated and warned when their information doesn't meet the requirements.

- Login: Only the authenticated users must be able to log and redirected to the homepage. The user must not be able to go to other pages if they aren't logged in. The system must check if the user exists already and if they are entering the right password.
- Home Page: There must be a homepage which would display a catalogue of products to the user. This page must have a good and attractive user interface and must provide a good user experience. As it is very essential.
- Products Page: Products page must display all the products available for the users.
- Product page: This page must show the individual product details and should provide the functionality like adding to cart etc.
- Cart page: There must be a cart page that allows the user to review the order. There must also be an increment and decrement option and the total cart value must be calculated accordingly.

2.4 Non-Functional Requirements

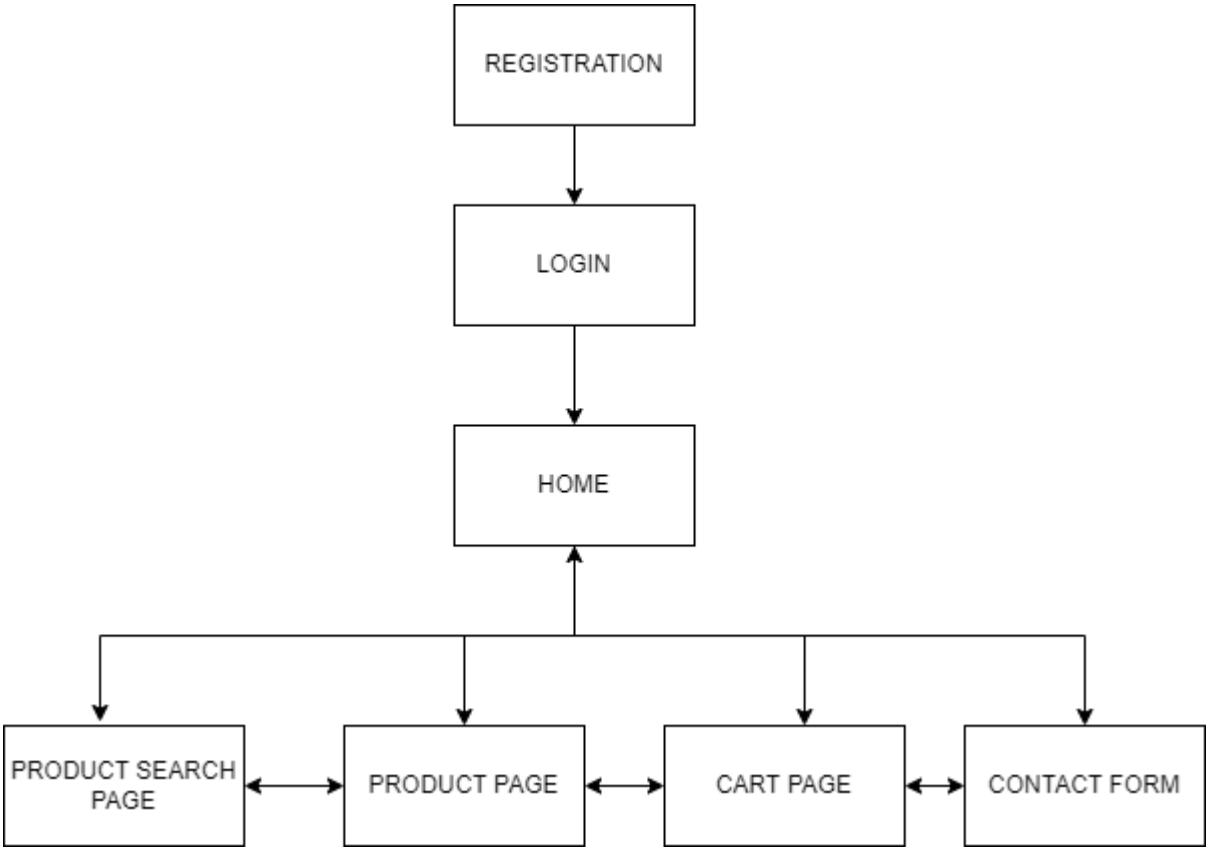
- **Reliability** – The capability to maintain the specified level of performance is what is meant by reliability. The application is a standalone web application and it provides both stable and consistent results.
- **Availability**– The application can communicate with anyone as long as they have a stable internet connection and running on a trusted web browser.

- **Maintainability–** Maintenance is one type of change that typically is done after the software development has been finished. As the time changes, the needs too change.
- **Usability**– They are documented expectations and specifications designed to ensure that a product is easy to use. The web app provides options that are delightful to use and user friendly and can be used in multiple scenarios.

CHAPTER 3

SYSTEM DESIGN

Flow Chart:



CHAPTER 4:

IMPLEMENTATION

HTML:

HTML is the standard markup language for Web Pages. With HTML we can create our own webpages. For this project, I have used various html tags and elements which include, <h1>, <button>, , <p>, <li>, <ul> etc. The following is the boilerplate code for the html 5 page.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width,
initial-scale=1.0">
  <title>Document</title>
</head>
<body>

</body>
</html>
```

The following is an example html code for my login page:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width,
initial-scale=1.0">
    <link rel="stylesheet" href="./style.css">
```

```
    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.0.0/dist/css/bootstrap.m
in.css"
integrity="sha384-Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgF
AW/dAiS6JXm" crossorigin="anonymous">
    <title>Document</title>
    <style>
      #login-error{
        color: red;
      }
    </style>
</head>
<body style="background-color:whitesmoke" ;>
    <!-- Image and text -->
    <section class="vh-100" style="padding-top: 8%;">
        <div class="container-fluid h-custom">
          <div id="full" class="row d-flex justify-content-center
align-items-center h-100">
            <div class="col-md-9 col-lg-6 col-xl-5">
              <img
src="https://www.kindpng.com/picc/m/161-1618750_online-ordering-system-
e-commerce-ecommerce-related-clipart.png"
                class="img-fluid" alt="Sample image">
            </div>
            <div class="col-md-8 col-lg-6 col-xl-4 offset-xl-1">
              <form action="" id="forms">
                <!-- Email input -->
                <div class="form-outline mb-4">
                  <input type="email" id="email" class="form-control
form-control-lg"
                    placeholder="Enter a valid email address" required
/>
                </div>

                <!-- Password input -->
                <div class="form-outline mb-3">
                  <input type="password" id="password"
class="form-control form-control-lg"
                    placeholder="Enter password" required />
                </div>

                <div class="d-flex justify-content-between
align-items-center">
```

```
                  <!-- Checkbox -->
                  <div class="form-check mb-0">
                    <input class="form-check-input me-2"
type="checkbox" value="" id="form2Example3" required />
                    <label class="form-check-label"
for="form2Example3">
                      Remember me
                    </label>
                  </div>
                  <a href="#!" class="text-body">Forgot password?</a>
                </div>

                <div class="text-center text-lg-start mt-4 pt-2">
                  <div style="padding-bottom: 1%;" id='login-error'
class='error'></div>
                  <a href="index.html"><button type="submit" class="btn
btn-primary btn-lg"
                    style="padding-left: 2.5rem; padding-right:
2.5rem;">Login</button></a>
                  <p class="small fw-bold mt-2 pt-1 mb-0">Don't have an
account? <a href="register.html"
                      class="link-danger">Register</a>
                </div>

              </form>
            </div>
          </div>
        </div>
      </section>
</body>
</html>
```

CSS:

CSS is the language we use to style an HTML document. CSS describes how HTML elements should be displayed. I have added several properties to various elements which include, font, background, color, padding, margin etc. The following is the sample css I have added to a few pages of my project.

```
body {
  font: 14px/22px "Lato", Arial, sans-serif;
  background: #6394F8;
}

.lighter-text {
  color: #ABB0BE;
}

.main-color-text {
  color: #6394F8;
}

nav {
  padding: 20px 0 40px 0;
  background: #F8F8F8;
  font-size: 16px;
}
nav .navbar-left {
  float: left;
}
```

BOOTSTRAP:

Bootstrap is a free, open source framework used by developers to build good, attractive and responsive websites. I have added bootstrap to my html pages by including the following link in the head of the html code:

```
<link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/css/bootstrap.min.css"
integrity="sha384-Vkoo8x4CGsO3+Hhxv8T/Q5PaXtkKtu6ug5TOeNV6gBiFeWPGFN9MuhOf23Q9Ifjh" crossorigin="anonymous">
```

JAVASCRIPT:

JavaScript (JS) is a lightweight, interpreted, or just-in-time compiled programming language with first-class functions. I have used javascript to perform various functionalities like, validation in registration page, validation for sign in page, and calculating cart total along with coupon discount.

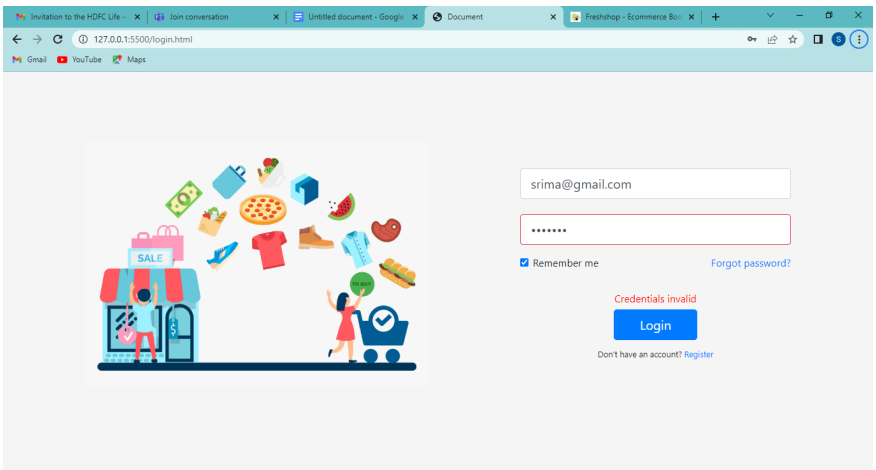
SIGN IN PAGE:

The following is the code and output for the validation done in sign in page:

```
<script>

const loginError = document.querySelector('#login-error');
const userEmail = document.querySelector('#email');
const userPassword = document.querySelector('#password');
var loginForm = document.querySelector('#forms');

const myLogin = {
  userEmail: 'srima@gmail.com',
  password: 'password'
}

window.onload = init()

function init(){
  loginForm.addEventListener('submit', function(event){
    event.preventDefault()
    userLogin()
  })
}

function userLogin(){
  var mailVal = userEmail.value,
      passwordVal = userPassword.value
```

```
        var isLogin = true

        if(mailVal === myLogin.userEmail && passwordVal ===
myLogin.password){
          location.replace('http://127.0.0.1:5500/index.html');
        }else{
          loginError.textContent = 'Credentials invalid';
          console.log(mailVal, myLogin.userEmail)
          console.log(mailVal == myLogin.userName);
          console.log(passwordVal == myLogin.password);
        }

        if(mailVal != myLogin.userEmail){
          userEmail.classList.add('is-invalid');
        }
        else{
          userEmail.classList.remove('is-invalid');
          userEmail.classList.remove('is-valid');
        }

        if(passwordVal != myLogin.password){
          userPassword.classList.add('is-invalid');
        }
        else{
          userPassword.classList.remove('is-invalid');
        }
      }

</script>
```

Output:



REGISTRATION PAGE:

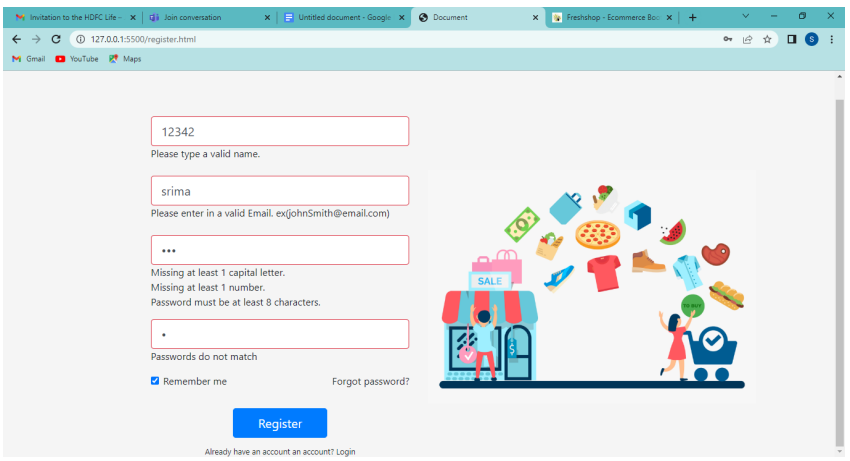
The following is the javascript code for validation in registration page:

```
<script>
  const pw = document.querySelector('#password');
  const pwC = document.querySelector('#passwordC');
  const firstname = document.querySelector('#firstname');
  const email = document.querySelector('#email');
  const pwError = document.querySelector('#password-error');
  const pwCError = document.querySelector('#passwordC-error');
  const firstnameError = document.querySelector('#first-name-error');
  const emailError = document.querySelector('#email-error');

  firstname.addEventListener("input", function (event) {
    if (firstname.value === '') {
      firstnameError.textContent = 'Please type in your full name.';
      firstname.classList.add('is-invalid');
      console.log('error!')
    } else {
      if(firstname.value.match(/[0-9]/)) {
      firstnameError.textContent = 'Please type a valid name.';
      firstname.classList.add('is-invalid');
      console.log(error);
      }
      else
if(firstname.value.match(/[`!@#$%^&*()_+\-=\[\]{};':"\\|,.<>\/?~]/)){
        firstnameError.textContent = 'Please type a valid name.';
        firstname.classList.add('is-invalid');
        console.log(error);
      }
      else{
      firstnameError.textContent = '';
      firstname.classList.remove('is-invalid');
      firstname.classList.add('is-valid');
      }
    }
  });

  email.addEventListener("input", function (event) {
    if (email.validity.typeMismatch) {
```

```
      emailError.textContent = 'Please enter in a valid Email.
ex(johnSmith@email.com)';
      email.classList.add('is-invalid');
    } else {
      emailError.textContent = '';
      email.classList.remove('is-invalid');
      email.classList.add('is-valid');
    }
  });

  pw.addEventListener("input", function (event) {
    if (pw.validity.patternMismatch){
      const currentValue = pw.value;
      const regExpCap = /[A-Z]/g;
      const regExpDig = /[0-9]/g;
      let result = '';
      var error = 0;

      if (regExpCap.test(currentValue)){
        result += '';
        console.log(error);
      } else {
        result += `Missing at least 1 capital letter.<br> `;
        result += '\n';
        console.log(error);
      }

      if(pw.value == ''){
        pw.classList.add('is-invalid');
        console.log(pw.classList);
      }


      if (regExpDig.test(currentValue)){
        result += '';
      } else {
        result += 'Missing at least 1 number.<br> ';
        result += '\n';
      }

      if (currentValue.length < 9){
        result += 'Password must be at least 8 characters. '
        result += '\n';
```

```
        pw.classList.remove('is-valid');
        pw.classList.add('is-invalid');
      } else {
        result += '';
      }

      console.log(result);
      pwError.innerHTML = result;


    } else {
      pwError.innerHTML = '';
      error = 0;
      pw.classList.remove('is-invalid');
      pw.classList.add('is-valid');
    }
  });

  pwC.addEventListener("input", function (event) {
    if (pwC.value !== pw.value) {
      pwCError.textContent = 'Passwords do not match';
      pwC.classList.add('is-valid');
    } else {
      pwCError.textContent = '';
      pwC.classList.remove('is-valid');
    }
  });
</script>
```

OUTPUT:



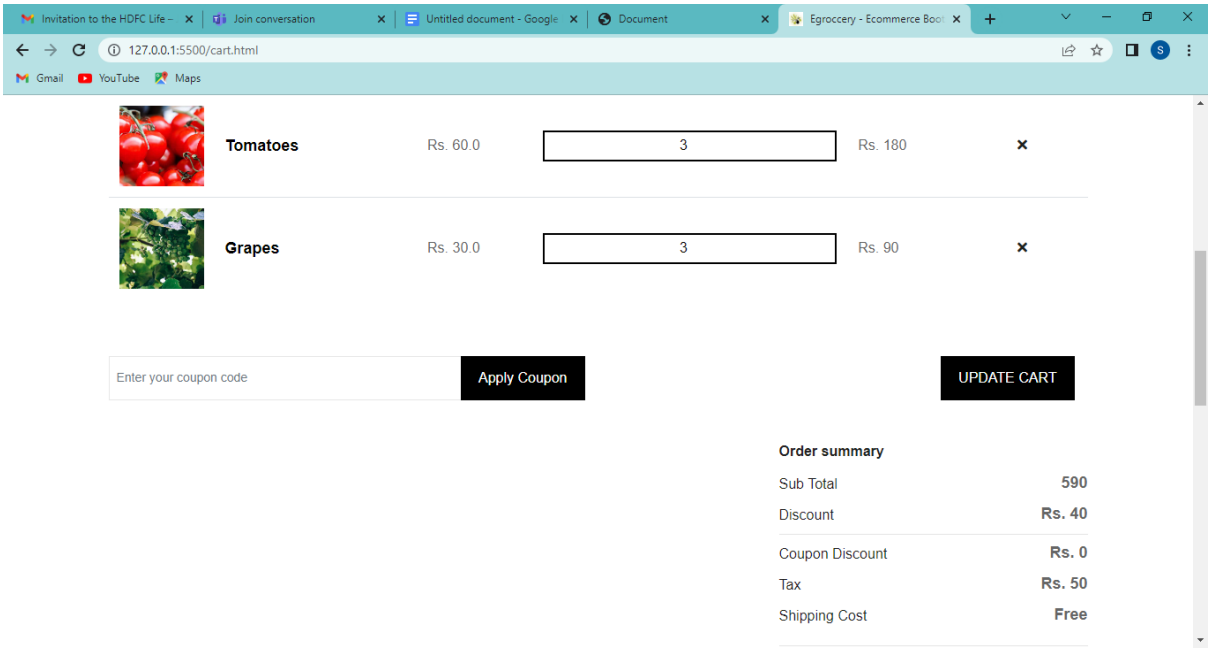
I have added validation for various fields, the name field, you cannot enter digits and special characters. The email entered must be valid. The first password field is validated on three criteria, which are the password must contain 8 characters, must contain at least 1 upper case letter and at least 1 digit. The second password field must be the same as the previous password field.

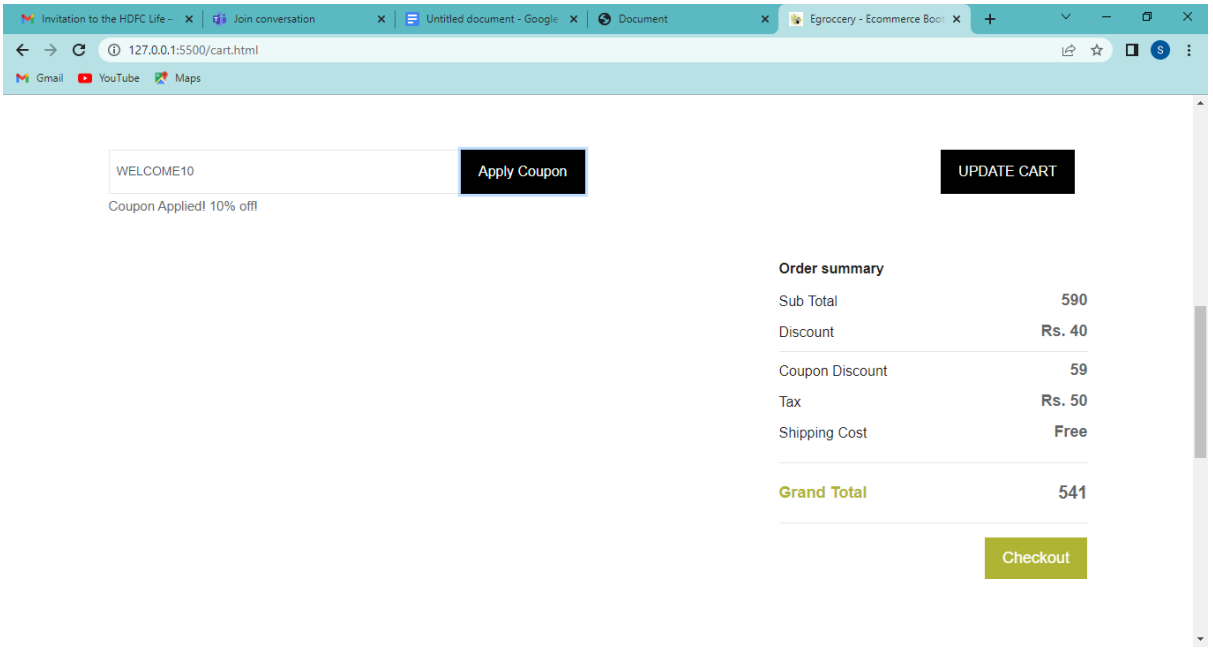
CART PAGE:

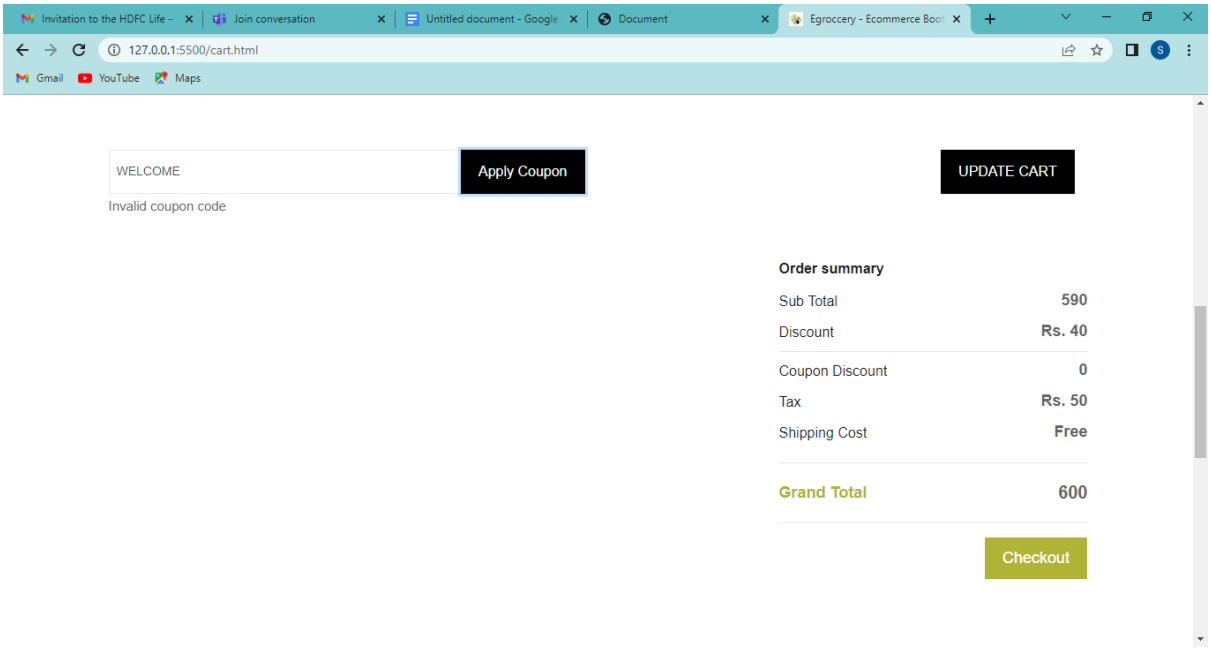
```
<script>
        const quan1 = document.querySelector('#quan1');
        const quan2 = document.querySelector('#quan2');
        const quan3 = document.querySelector('#quan3');
        const price1 = document.querySelector('#price1');
        const subTotal = document.querySelector('#subTotal');
        const couponBtn = document.querySelector('#couponBtn');
        const coupon = document.querySelector('#coupon');
        const couponError = document.querySelector('#coupon-error');
        const discount = document.querySelector('#discount');
        const grandTotal = document.querySelector('#grandTotal');

        let total1, total2, total3 = 0;
        total2 = 0;
        let total = 0;

        quan1.addEventListener('input', function(event){
            let currentValue = quan1.value;
            total1 = 80 * currentValue;
            price1.textContent = 'Rs. ' + total1;
            updateTotal();

        })

        quan2.addEventListener('input', function(event){
            let currentValue = quan2.value;
            total2 = 60 * currentValue;
            price2.textContent = 'Rs. ' + total2;
            updateTotal();
```

```
        })

        quan3.addEventListener('input', function(event){
            let currentValue = quan3.value;
            total3 = 30 * currentValue;
            price3.textContent = 'Rs. ' + total3;
            updateTotal();

        })

        function updateTotal(){
            console.log(total1, total2, total3);
            total = total1 + total2 + total3;
            subTotal.textContent = total;
            grandTotal.textContent = total + 10;
        }

        window.onload(init());

        function init(){
            couponBtn.addEventListener('click', function(e){
                var couponVal = coupon.value;
                if(couponVal != 'WELCOME10'){
                    couponError.textContent = 'Invalid coupon code';
                    grandTotal.textContent = total + 10;
                    discount.textContent = 0;
                    console.log(couponVal);
                    console.log(couponVal == 'WELCOME10');
                }
                else{
                    couponError.textContent = 'Coupon Applied! 10%
off!';
                    discount.textContent = 0.1 * total;
                    grandTotal.textContent = total - (0.1 * total) +
10;

                }
            })
        }
    </script>
```

OUTPUT:


Invitation to the HDFC Life –
Join conversation
Untitled document - Google
Document
Egroccery - Ecommerce Boo
127.0.0.1:5500/cart.html
Gmail
YouTube
Maps
Tomatoes
Rs. 60.0
3
Rs. 180
Grapes
Rs. 30.0
3
Rs. 90
Enter your coupon code
Apply Coupon
UPDATE CART
Order summary
Sub Total
590
Discount
Rs. 40
Coupon Discount
Rs. 0
Tax
Rs. 50
Shipping Cost
Free


Invitation to the HDFC Life –
Join conversation
Untitled document - Google
Document
Egroccery - Ecommerce Boo
127.0.0.1:5500/cart.html
Gmail
YouTube
Maps
WELCOME10
Apply Coupon
Coupon Applied! 10% off!
UPDATE CART
Order summary
Sub Total
590
Discount
Rs. 40
Coupon Discount
59
Tax
Rs. 50
Shipping Cost
Free
Grand Total
541
Checkout

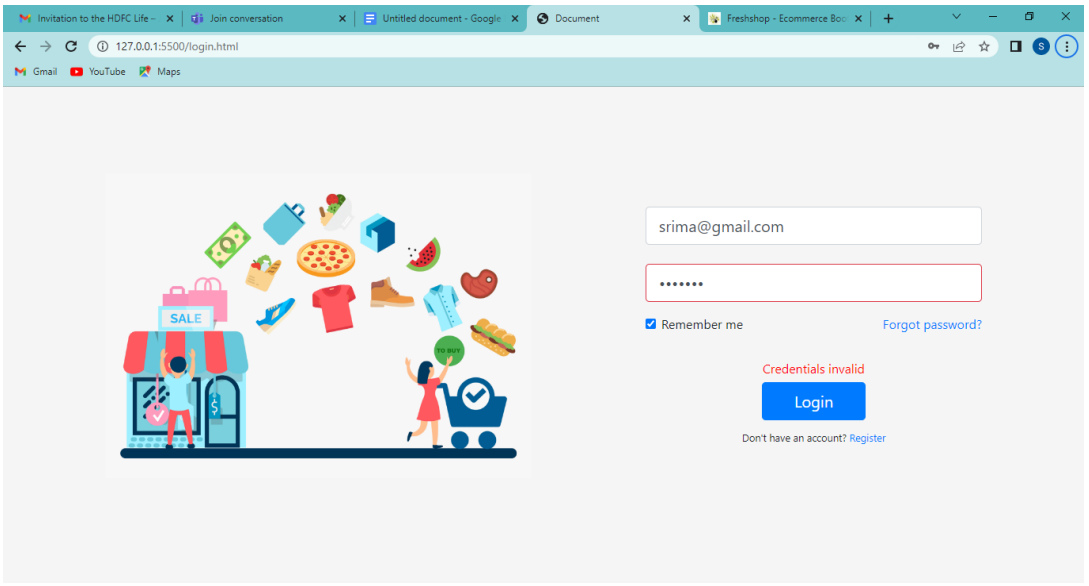


As seen in the above screenshots, upon increasing the quantities of the products, the grand total is calculated dynamically. Upon entering a valid coupon code, in this case it would be, ‘WELCOME10’, the javascript code calculates 10% off to the grand total. If an invalid code is entered, the grand total goes back to the original price.

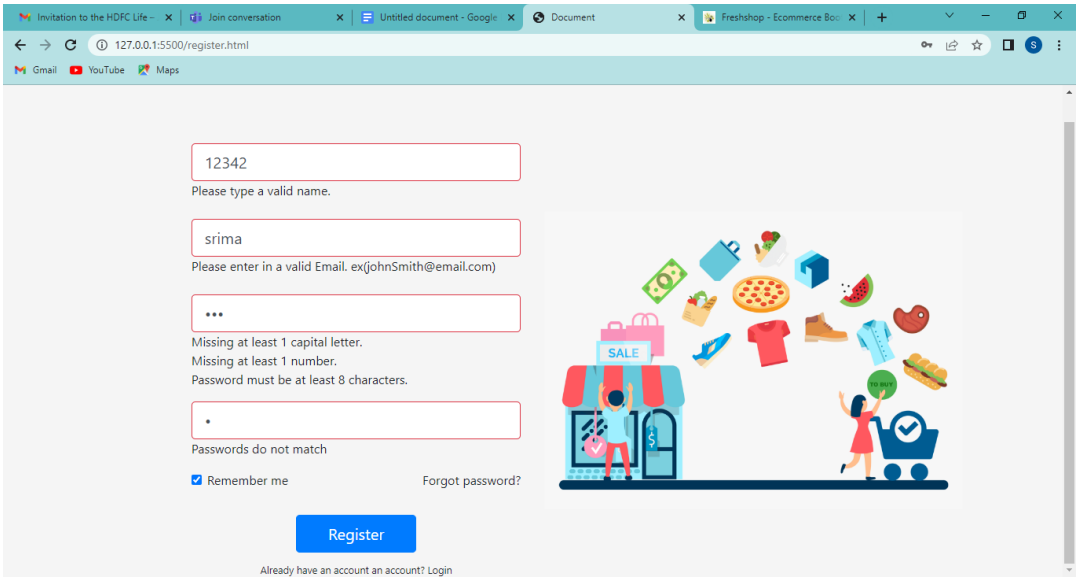
CHAPTER 5:

RESULTS AND SNAPSHOTS

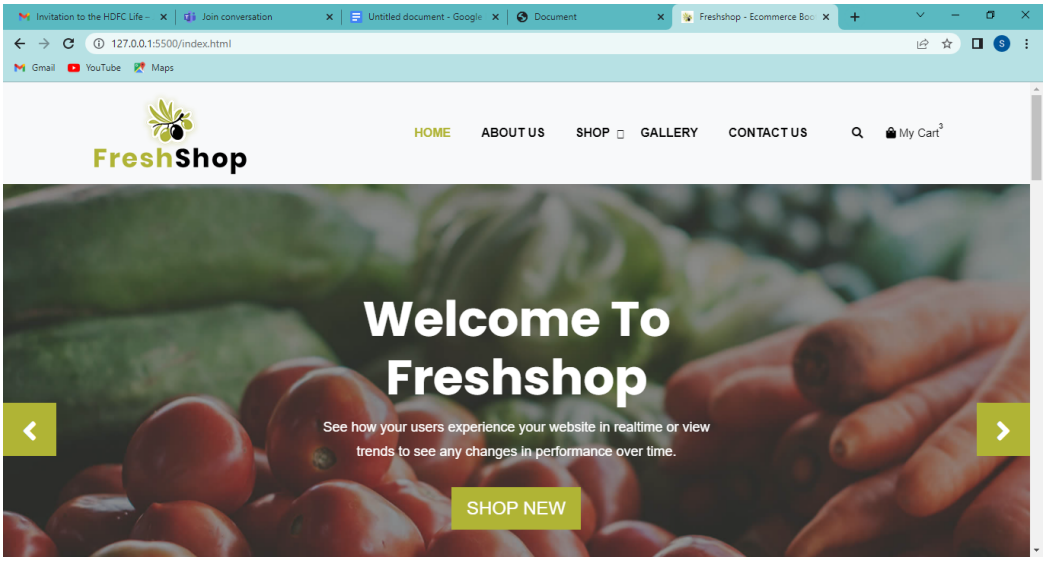
LOGIN PAGE AND VALIDATION:

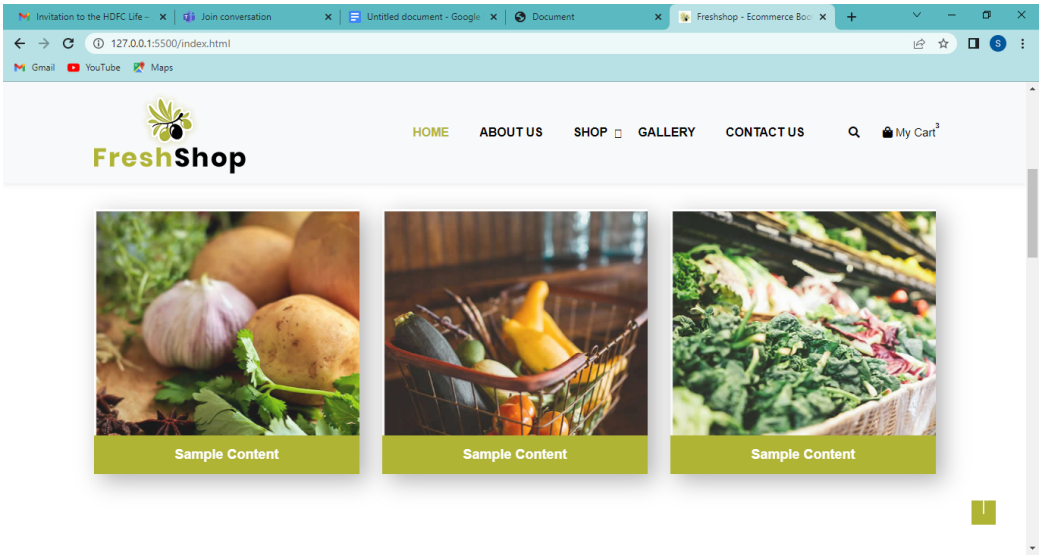


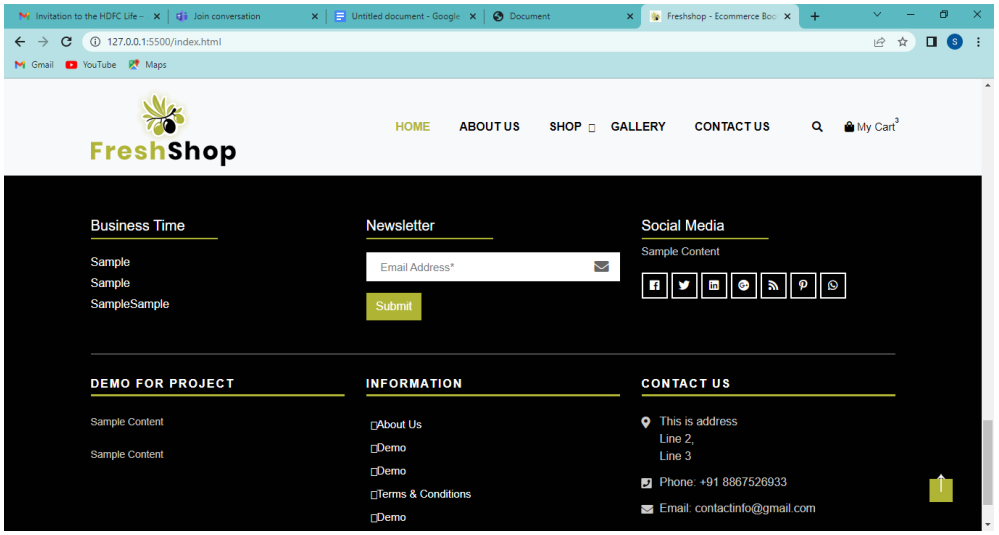
REGISTRATION PAGE AND VALIDATION:



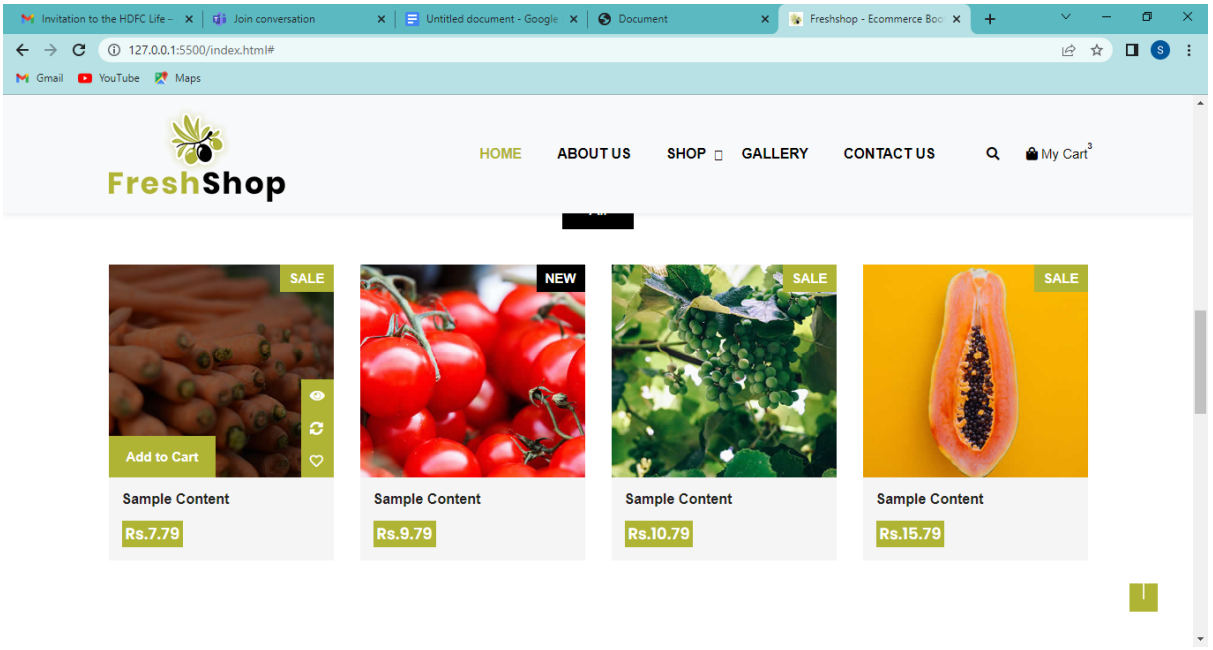
HOME PAGE:


127.0.0.1:5500/index.html
FreshShop
HOME
ABOUT US
SHOP
GALLERY
CONTACT US
My Cart
Welcome To Freshshop
See how your users experience your website in realtime or view trends to see any changes in performance over time.
SHOP NEW

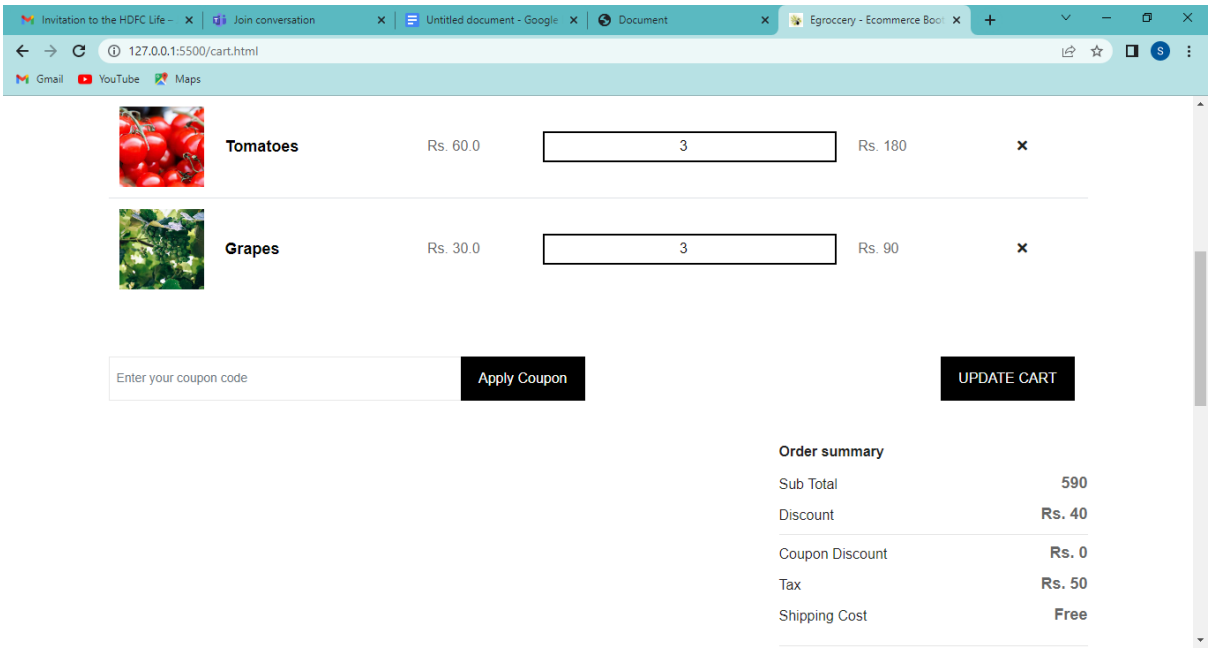

127.0.0.1:5500/index.html
FreshShop
HOME
ABOUT US
SHOP
GALLERY
CONTACT US
My Cart
Sample Content
Sample Content
Sample Content

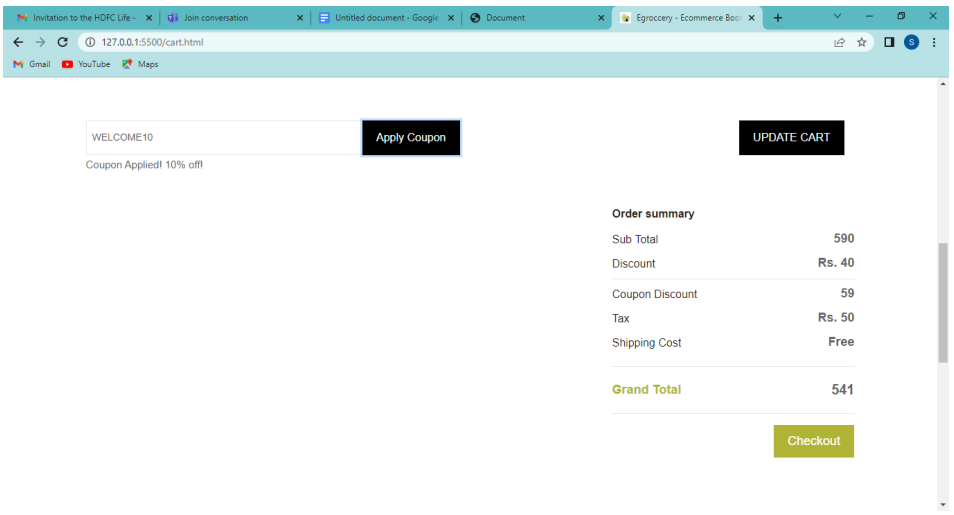

127.0.0.1:5500/index.html
FreshShop
HOME
ABOUT US
SHOP
GALLERY
CONTACT US
My Cart
Business Time
Sample
Sample
SampleSample
Newsletter
Email Address*
Submit
Social Media
Sample Content
DEMO FOR PROJECT
Sample Content
Sample Content
INFORMATION
About Us
Demo
Demo
Terms & Conditions
Demo
CONTACT US
This is address
Line 2,
Line 3
Phone: +91 8867526933
Email: contactinfo@gmail.com

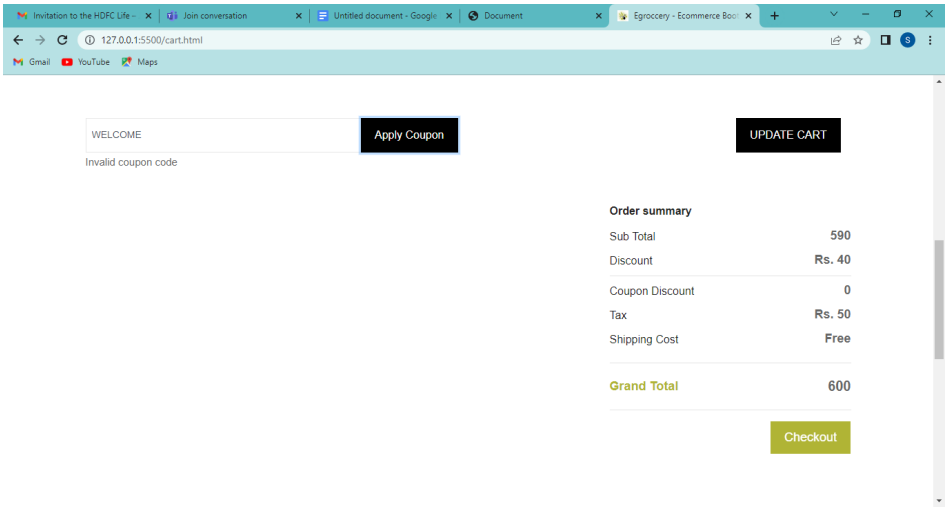
PRODUCTS PAGE (with hover and add to cart functionality):



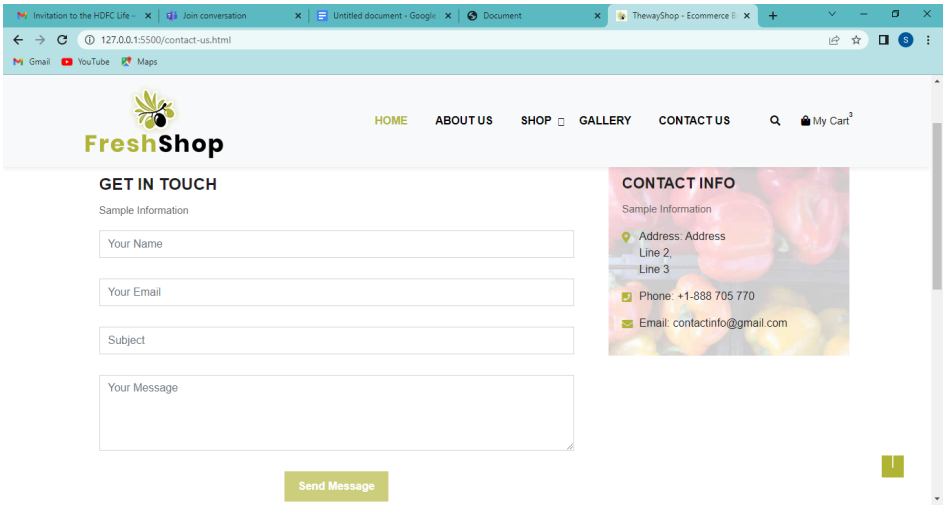
CART PAGE(with total calculation and discount calculation):







CONTACT FORM(UI):



CONCLUSION:

This project contains 6 pages, which include registration page, login page, homepage, products page, cart page and contact form. I have used 4 technologies, which include, HTML, CSS, BOOTSTRAP and JAVASCRIPT. The javascript was mainly used for form validation for various fields like name, email, password, re-entering password. I have also used javascript to calculate the cart total price. Using valid discount coupon codes, it can also calculate 10% discount to the present cart value. Upon entering invalid cart value, it will calculate the cart value and notify the user that they have entered an invalid coupon code.