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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
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A WEBSITE DEVELOPMENT REPORT ON "RESPONSIVE E - COMMERCE"

SUBMITTED TO THE IVTH SEMESTER
WEB TECHNOLOGIES (19CS2405) - 2021

BACHELOR OF TECHNOLOGY
IN
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CERTIFICATE

This is to certify that the report on Website Development entitled “RESPONSIVE E - COMMERCE” being submitted by Abhijeet Kumar (ENG19CS0009) & Abhijith J K (ENG19CS0010) to the Department of Computer Science and Engineering, School of Engineering, Dayananda Sagar University, Bangalore, for the IVth semester B.Tech CSE of this university during the academic year 2020-2021.

Date: _____

Signature of the Faculty in Charge

Signature of the Chairman

ACKNOWLEDGEMENT

The satisfaction that accompanies the successful completion of a task would be incomplete without the mention of the people who made it possible and whose constant guidance and encouragement crown all the efforts with success.

We are especially thankful to our Chairman, Dr.Sanjay Chitnis, for providing necessary departmental facilities, moral support and encouragement.

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ABSTRACT

Online Shopping is a web based application intended for online retailers. The main objective of this website is to make it interactive and its ease of use. It would make searching, viewing and selection of a product easier. It contains a sophisticated search engine for users to search for products specific to their needs. The user can then view the complete specification of each product. The main emphasis lies in providing a user friendly search engine for effectively showing the desired results and its drag and drop behavior.

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1. INTRODUCTION

Shopping has long been considered a recreational activity by many. Shopping online is no exception. The goal of this application is to develop a web based interface for online retailers. The system would be easy to use and hence make the shopping experience pleasant for the users. The goal of this application is

- To develop an easy to use web based interface where users can search for products.
- A user can view the price of the product along with images.

2. PROBLEM STATEMENT

As online shopping became a trend nowadays the regular shops are losing their customers to online brands. Customers have effortless shopping experience and saving time through shopping online. For competing with those online brands , if shops are providing an online portal where their customers can shop through the internet and get the products at their doors will increase the number of customers. This project aims to develop online shopping for customers with the goal that it is very easy to shop your loved things from an extensive number of online shopping sites available on the web. With the help of this you can carry out an online shopping from your home. Here is no compelling reason to go to the crowded stores or shopping centers during festival seasons. You simply require a PC or a laptop and one important payment sending option to shop online.

3. REQUIREMENT SPECIFICATIONS

3.1. Hardware Requirements:

- Processor P IV
- RAM 250 MB
- Minimum Space Required 100 MB
- Display 16 bit color
- Server side Hardware
- Hardware Recommended by the all the software needed
- Communication hardware to server client requests.
- Client side Hardware
- Hardware recommended by respective client operating system & Web browser.
- Communication hardware to communicate with the server.

3.2. Software Requirements:

3.2.1. Front end specifications:-

- HTML
- CSS
- Java Script
- Platform .Net Framework & IIS Visual Studio 2008
- Server side software
- Web-Server software
- Server side scripting tools (Support .net is mandatory)
- Compatible operating system

HTML (Hyper Text Markup Language)

HTML is a syntax used to format a text document on the web.

CSS (Cascading Style Sheets)

CSS is a style sheet language used for describing the look and formatting of a document written in a markup language.

Java Script

JS is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed.

ANALYSIS & DESIGN

4. SYSTEM ANALYSIS:

After carefully analyzing the requirements and functionality of the website, I had two important diagrams by the end of the analysis phase. They are the ER diagram and data flow diagram which were the basis for finding out entities and relationships between them, the flow of information.

4.1 ER Diagram:

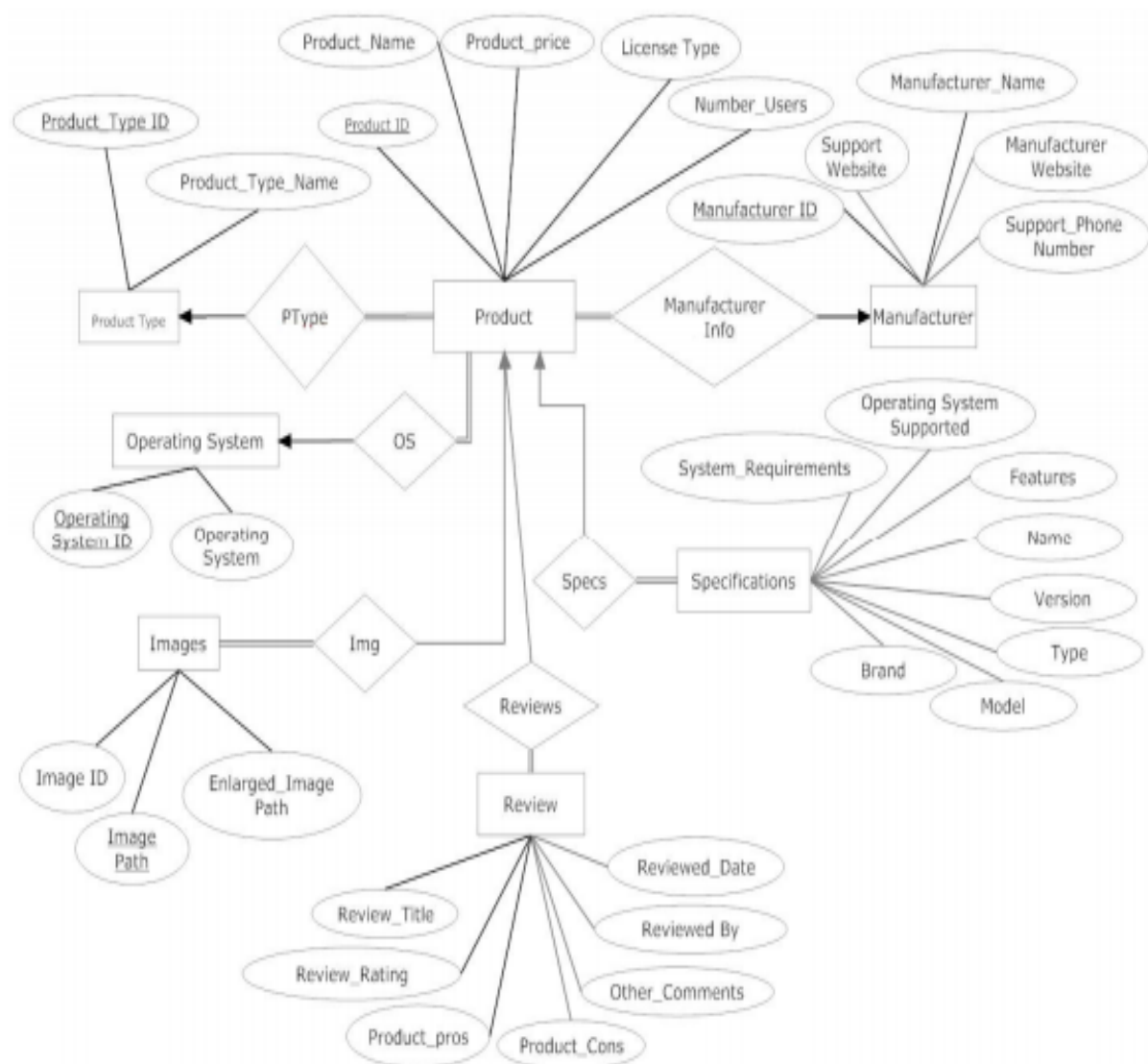


Figure 4.1 Entity Relationship Diagram

4.2. Data Flow Diagram:

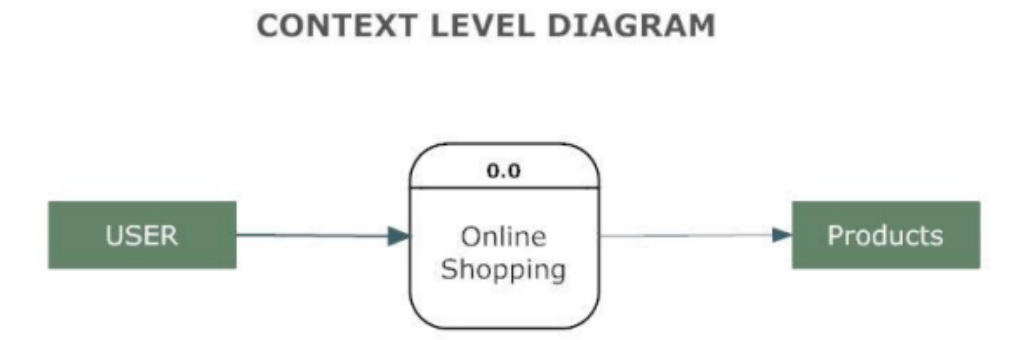


Figure 4.2 A Context level Diagram

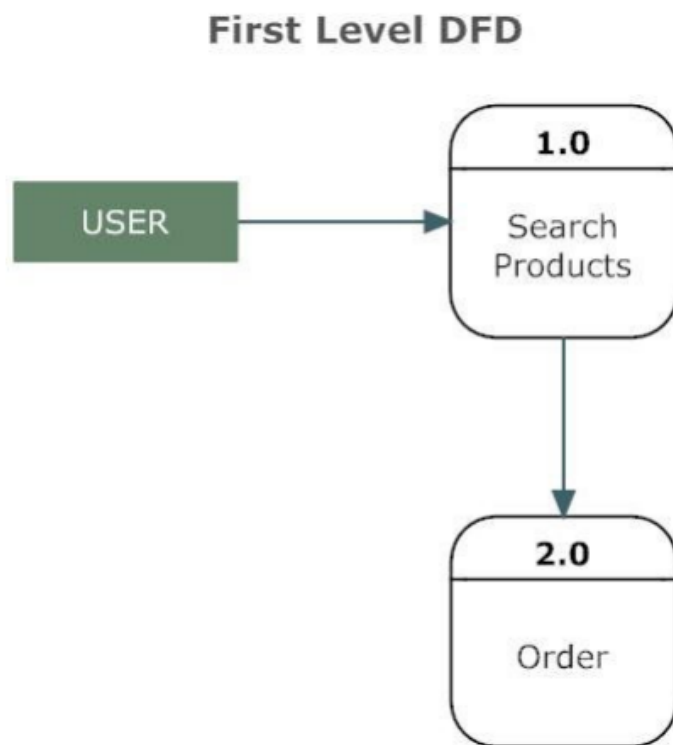


Figure 4.3 A First Level Diagram

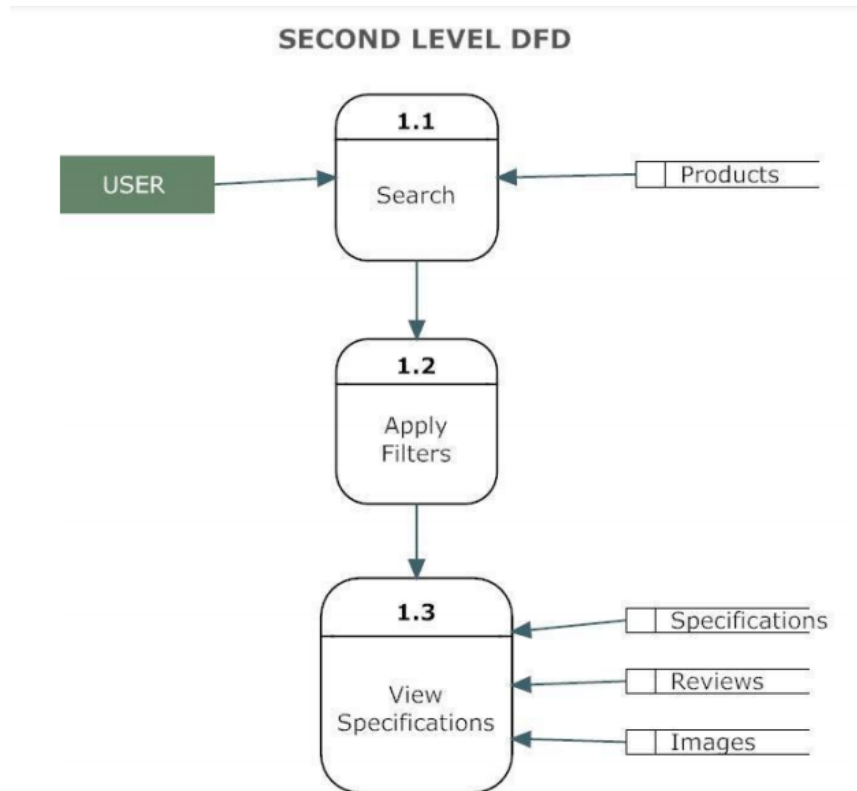


Figure 4.4 A Second Level Diagram

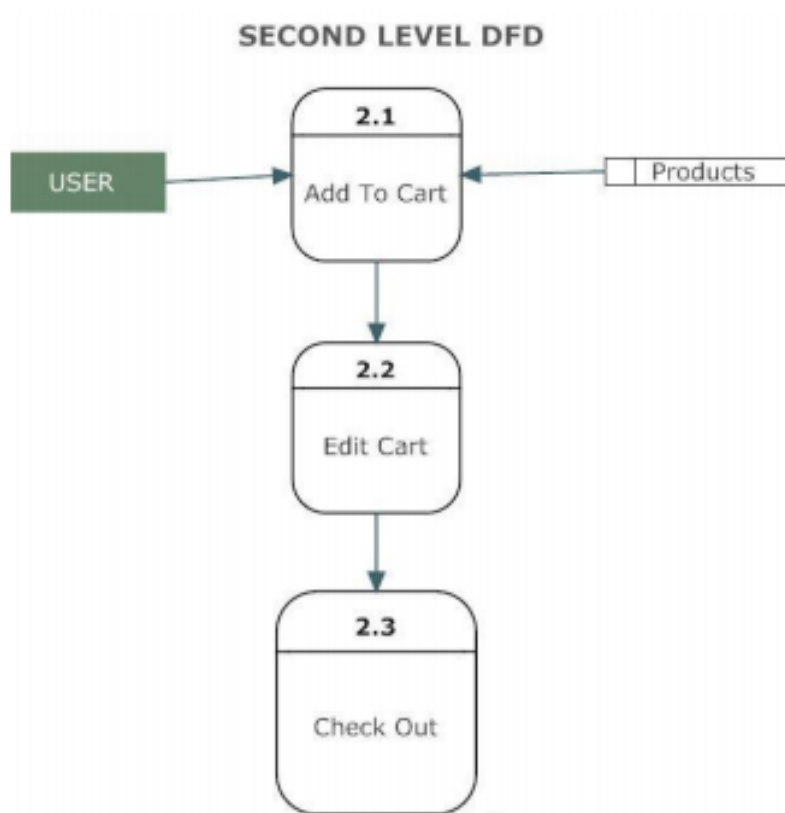


Figure 4.5 A Second Level Diagram

5. DESIGN:

5.1. Design Goals:-

- The design of the web application involves the design of the forms for listing the products, search for products, display the complete specification for the product, and design a shopping cart that is easy to use.
- Design of an interactive application that enables the user to filter the products based on different parameters.
- Design of an application that has features like drag and drop etc.
- Design of application that decreases data transfers between the client and the server.

5.2. Architectural Design:-

5.2.1. Architectural Context Diagram

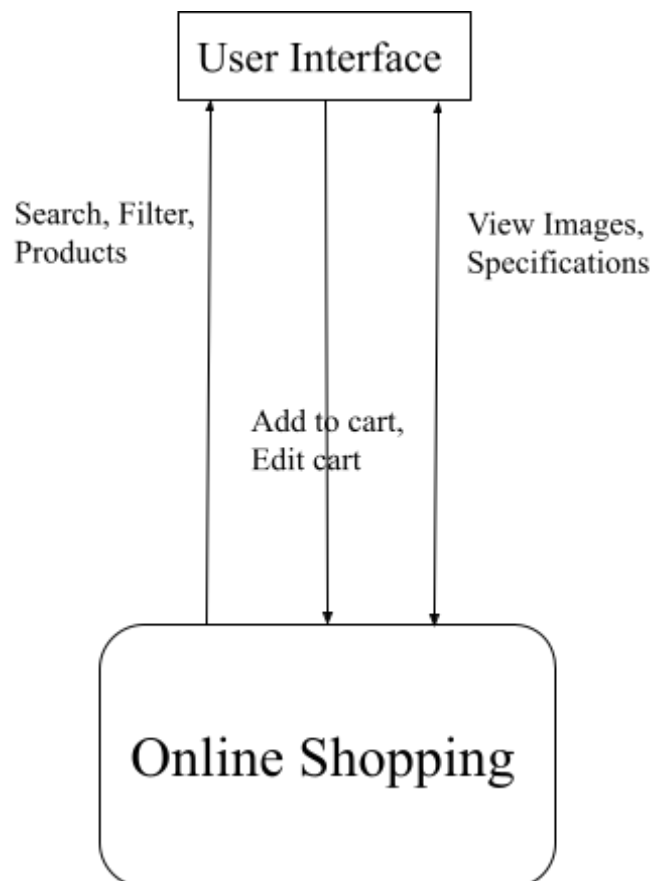


Figure 5.1 Architectural Context Diagram

5.2.2. Description of Architectural Design

In this context diagram, the information provided to and received from the ‘Online Shopping’ is identified. The arrows represent the information received or generated by the application. The closed boxes represent the set of sources and sinks of information.

In the system, we can observe that the user interacts with the application through a graphical user interface. The inputs to the system are the Search and Filter criteria provided by the user. Also, the output is in the form of Repeater and grid views which present the users with a list of Products available. The users can view complete specifications and view Images.

5.3. Procedural/Modular Approach

Following are all the modules designed for the Online Shopping System.

5.3.1. Shop Products Module

This module starts when the user visits the home page or when a user searches for a product by entering a search term. This part of the application includes displaying all the products that are available or the products that match the search term entered by the user. The user can then filter these products based on various parameters like manufacturer, product type, operating system supported or a price range. The user browses through the products and each product would be displayed with an image and its features like operating system supported, number of user licenses and if it is a full version or an upgrade version. A user can add a product to the cart either by dragging the product and dropping it in the cart or by clicking a button. The user would be able to see the shopping cart summary.

5.3.2. Product Description Module

This module starts when a user visits the product description page. A user can view various images of the product of different sizes. The user can see an enlarged image in a popup window. The user can view the complete specification of the product like its features, operating system supported, system requirements etc.

5.3.3. Shopping Cart Module

This module starts when the user views the shopping cart. All the products that have been added to the shopping cart by the user are listed along with their price and the quantity. The total price of all the products added to cart is displayed. A user can edit the quantity of each product or remove the product from the shopping cart. A user can remove the product from the cart by clicking a button or by dragging the product and dropping it outside the cart. The

total price changes accordingly when a user edits the quantity of a product or when a product is removed from the cart.

6. IMPLEMENTATION

6.1. User Interface Design and Implementation

The user interface of the application has been designed using Microsoft Visual Studio 2008. The main controls used in the design are Repeaters, Ajax Update panels, Ajax toolkit controls like modal popup, textbox watermark and Auto complete controls.

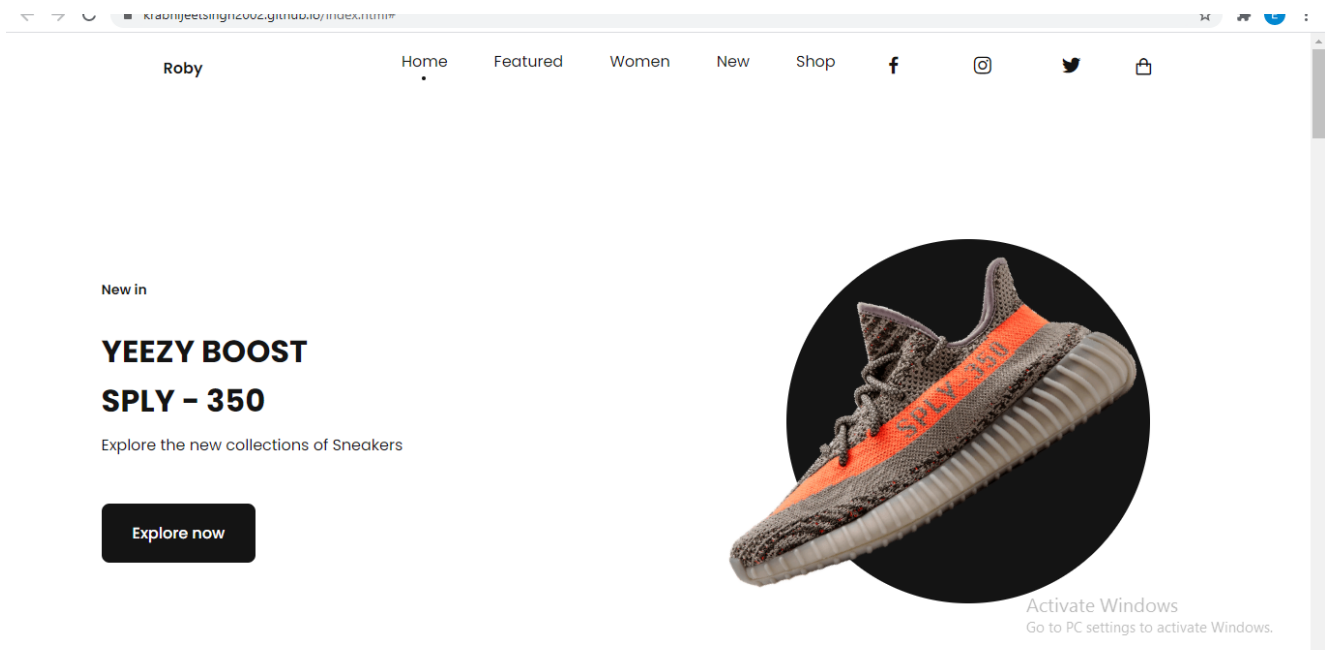


Figure 6.2 Shop Products Page

The user can see the list of products that are available. The user can search for featured products by clicking on the textbox provided on the top. This text box is watermarked with the words "Featured" to let the user know that this is the place to see featured products. This is shown in figure 6.3. The user can also search for a new collection by clicking on the textbox named as "New" which directs the user to the Brand new collection. This is shown in figure 6.4. There is a specific textbox named as "Women" on the top which contains products for women. This is shown in figure 6.5. A user can drag and drop a product in the shopping cart.

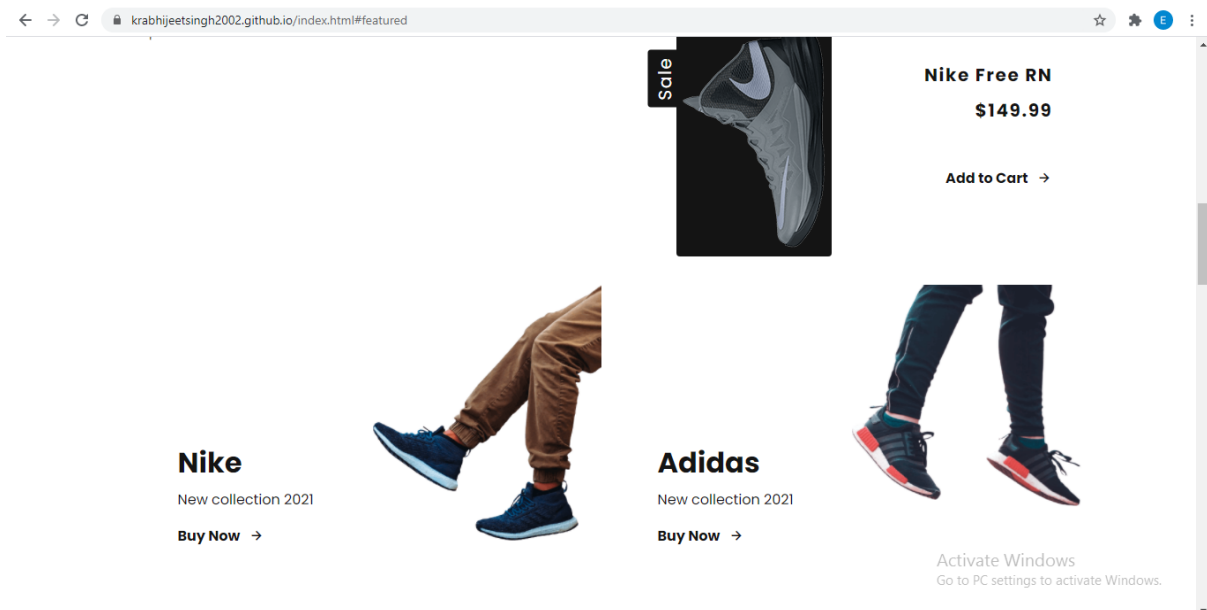
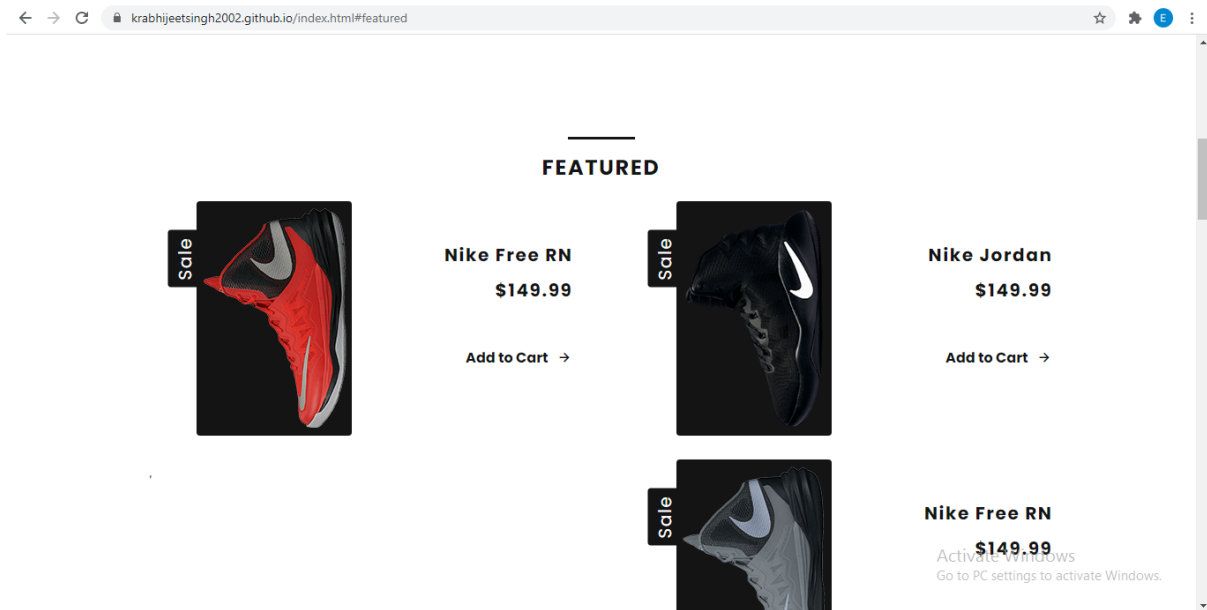


Figure 6.3 Featured Products Page

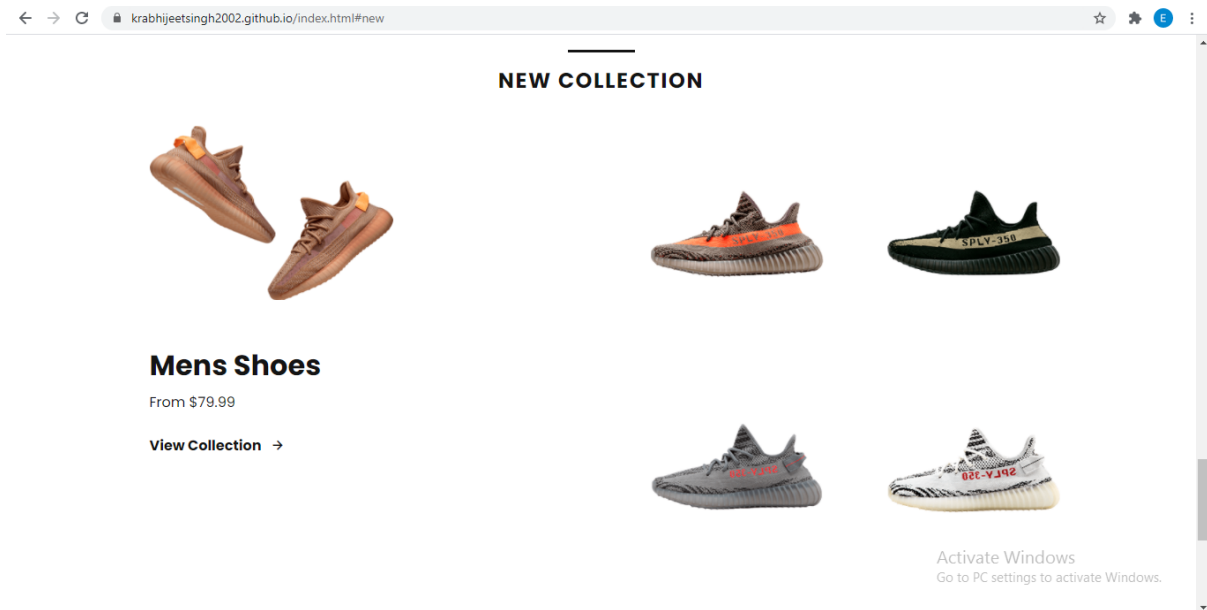
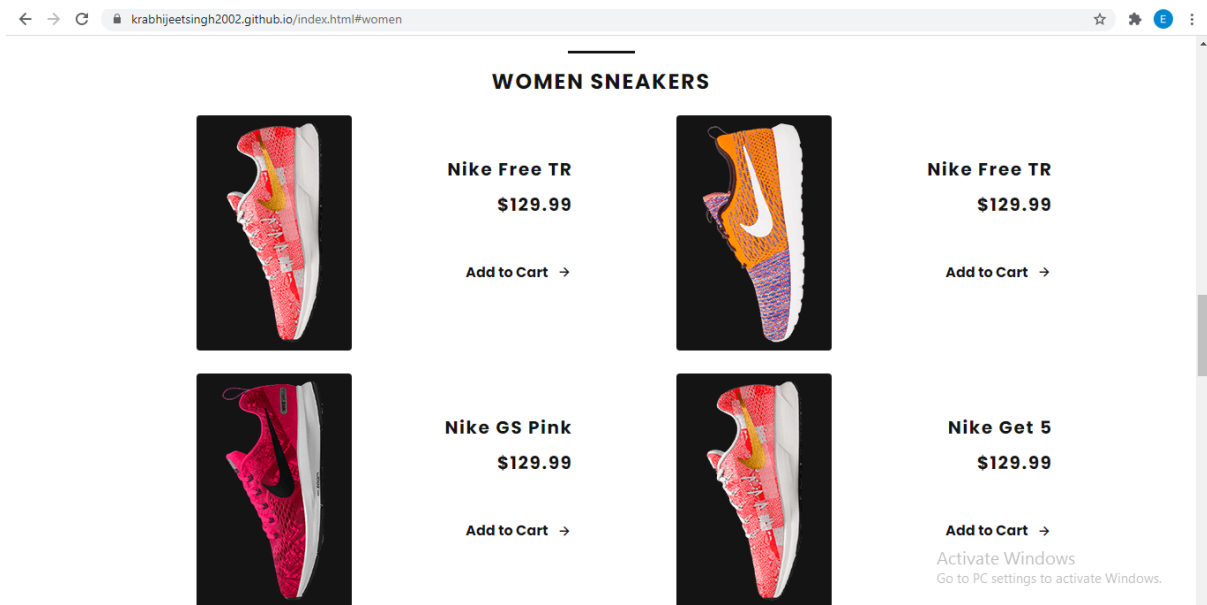


Figure 6.4 Figure showing New Collection



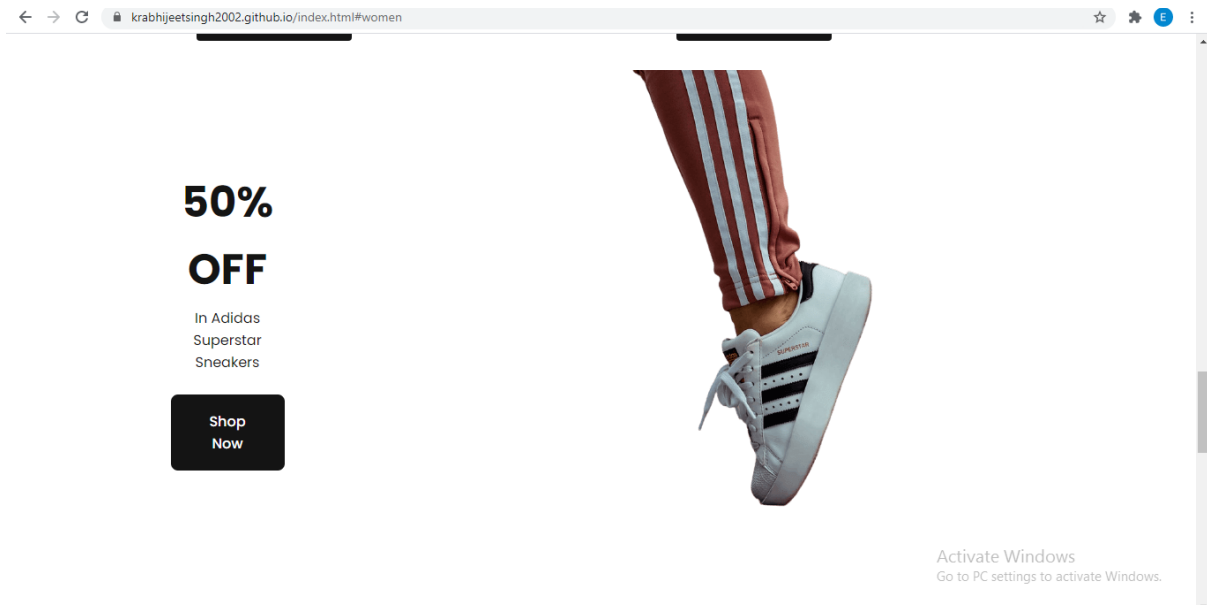
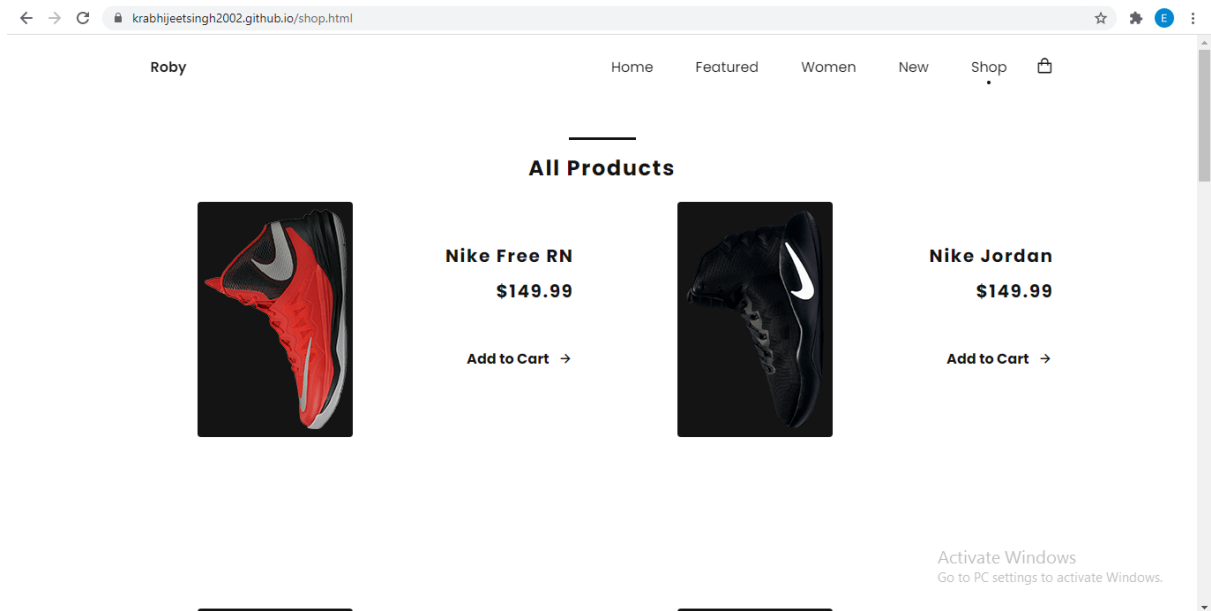
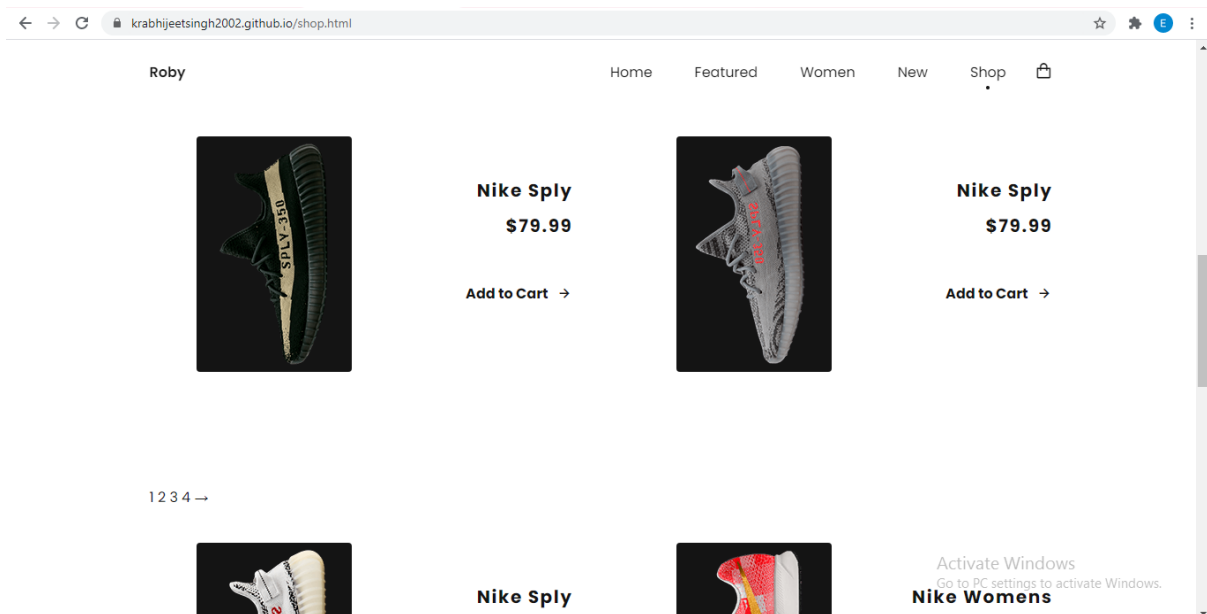
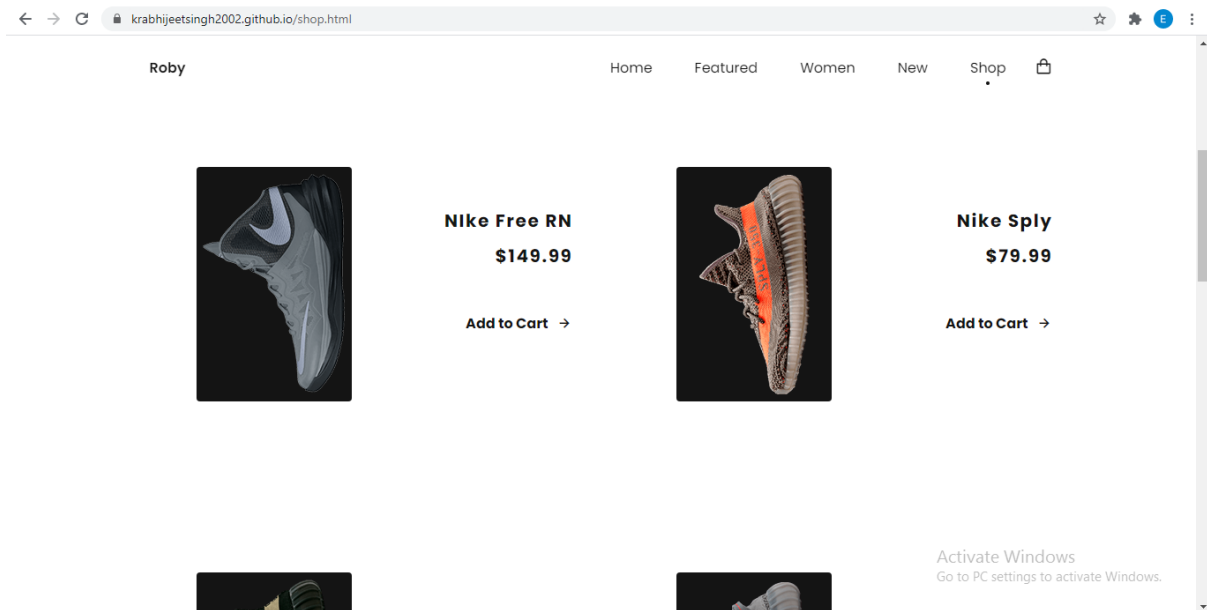


Figure 6.5 Figure showing Women Category Products





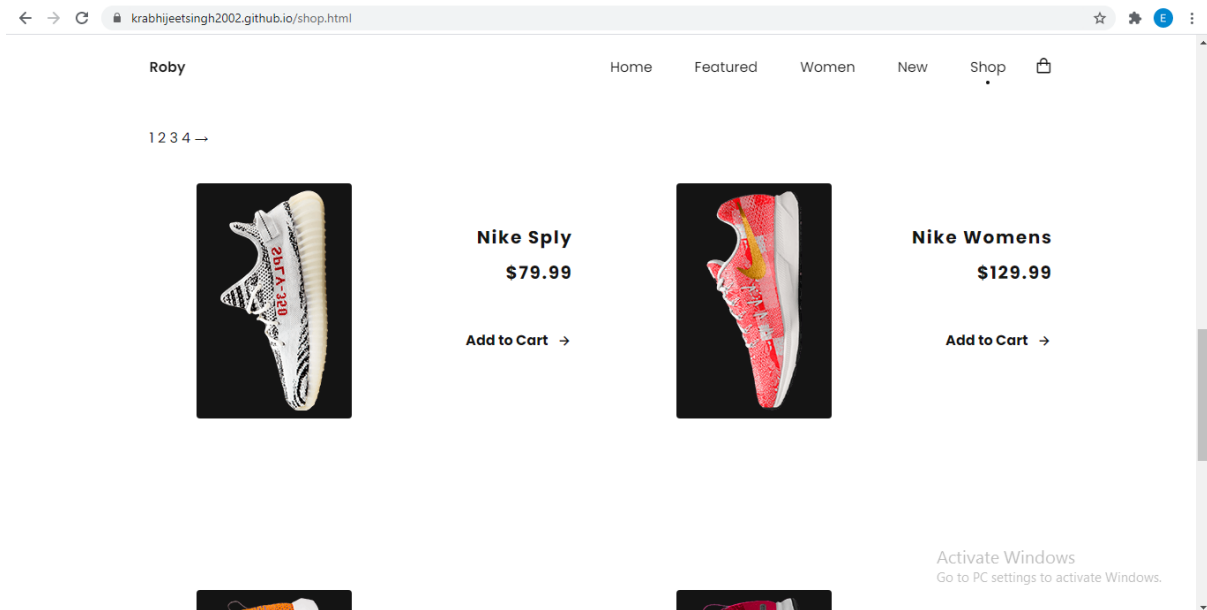


Figure 6.6 Figure showing all Products available on the website

7. APPLICATIONS AND CONCLUSION

7.1. APPLICATIONS:

- The motive of this Online Shopping Website is to allow the user to play with the search tool and create different combinatorial search criteria to perform exhaustive search.
- Making the application AJAX enabled gets rid of these unnecessary delays letting the user to perform exhaustive search. The users of this application can easily feel the difference between the Ajax empowered user interfaces vs. traditional user interfaces.
- Provide Interactive interface through which a user can interact with different areas of the website easily.
- A search engine that provides an easy and convenient way to search for products specific to their needs. The search engine would list a set of products based on the search term and the user can further filter the list based on various parameters.
- Provide Drag and Drop feature thereby allowing the user to add products to or remove products from the shopping cart by dragging the products in to or out of the shopping cart.

7.2. CONCLUSION:

The ‘Online Shopping’ is designed to provide a website that would make searching, viewing and selection of a product easier. The search engine provides an easy and convenient way to search for products where a user can Search for a product interactively and the search engine would refine the products available based on the user’s input. The user can then view the complete specification of each product. Use of Ajax components would make the application interactive and prevent annoying post backs. Its drag and drop feature would make it easy to use.

7.2.1. Limitations

This application does not have a built in check out process. An external checkout package has to be integrated into this application. Also users cannot save the shopping carts so that they can access later i.e. they cannot create wish lists which they can access later. This application does not have features by which users can set price ranges for products and receive alerts once the price reaches the particular range.

7.2.2. Scope for Future Work

The following things can be done in future.

- The current system can be extended to allow the users to create accounts and save products into wishlists.
- The users could subscribe for price alerts which would enable them to receive messages when prices for products fall below a particular level.
- The current system is confined only to the shopping cart process. It can be extended to have an easy to use check out process.
- Users can have multiple shipping and billing information saved. During checkout they can use the drag and drop feature to select shipping and billing information.

8. CODE SNIPPETS

```
index.html - Visual Studio Code
File Edit Selection View Go Run Terminal Help
index.html X shop.html # styles.css JS main.js
C:\Users\user> Documents > College stuff > 2nd year > WEBT > Mini Project > index.html > ...
33 </li class="nav_item"><a href="https://www.facebook.com" class="footer_social"><i class="bx bxl-facebook"></i></a></li>
34 </li class="nav_item"><a href="https://www.instagram.com/accounts/login/" class="footer_social"><i class="bx bxl-instagram"></i></a></li>
35 </li class="nav_item"><a href="https://twitter.com/login/lang-en-gb" class="footer_social"><i class="bx bxl-twitter"></i></a></li>
36 </div>
37
38 <div class="nav_shop">
39 <i class="bx bx-shopping-bag"></i>
40 </div>
41 </nav>
42 </header>
43
44 <main class="l-main">
45 <!--===== HOME =====>
46 <section class="home" id="home">
47 <div class="home_container bd-grid">
48 <div class="home_sneaker">
49 <div class="home_shape"></div>
50 
51 </div>
52
53 <div class="home_data">
54 <span class="home_new">New In</span>
55 <h1 class="home_title">VEEZY BOOST <br> SPV - 350</h1>
56 <p class="home_description">Explore the new collections of Sneakers</p>
57 <a href="#" class="button">Explore now</a>
58 </div>
59 </div>
60 </section>
61
62 <!--===== FEATURED =====>
63 <section class="featured section" id="featured">
64 <h2 class="section-title">FEATURED</h2>
65
66 <div class="featured_container bd-grid">
67 <article class="sneaker">
68 <div class="sneaker_sale">Sale</div>
69 
70 <span class="sneaker_name">Mike Free RN</span>
71 <span class="sneaker_price">$149.99</span>
72 <a href="#" class="button-light">Add to Cart <i class="bx bx-right-arrow-alt button-icon"></i></a>
73 </article>
74
75 <article class="sneaker">
76 <div class="sneaker_sale">Sale</div>
77 
78 <span class="sneaker_name">Mike Jordan</span>
79 <span class="sneaker_price">$149.99</span>
80 <a href="#" class="button-light">Add to Cart <i class="bx bx-right-arrow-alt button-icon"></i></a>
81 </article>
82
83 </div>
84
85 </main>
86 </body>
87 </html>
```

```
shop.html - Visual Studio Code
File Edit Selection View Go Run Terminal Help
index.html X shop.html # styles.css JS main.js
C:\Users\user> Documents > College stuff > 2nd year > WEBT > Mini Project > shop.html > ...
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4 <meta charset="UTF-8">
5 <meta name="viewport" content="width=device-width, initial-scale=1.0">
6
7 <!--===== CSS =====>
8 <link rel="stylesheet" href="assets/css/styles.css">
9
10 <!--===== BOX ICONS =====>
11 <link href="https://cdn.jsdelivr.net/npm/boxicons@2.0.5/css/boxicons.min.css" rel="stylesheet">
12
13 <title>Responsive Ecommerce Website Sneakers</title>
14 </head>
15 <body>
16
17 <!--===== HEADER =====>
18 <header class="l-header" id="header">
19 <div class="nav bd-grid">
20 <div class="nav_toggle" id="nav-toggle">
21 <i class="bx bx-grid"></i>
22 </div>
23
24 <a href="#" class="nav_logo">shoby</a>
25
26 <div class="nav_menu" id="nav-menu">
27 <ul class="nav_list">
28 <li class="nav_item"><a href="#">Home</a></li>
29 <li class="nav_item"><a href="#">Featured</a></li>
30 <li class="nav_item"><a href="#">Women</a></li>
31 <li class="nav_item"><a href="#">New</a></li>
32 <li class="nav_item"><a href="#">Shop</a></li>
33 </ul>
34 </div>
35
36 <div class="nav_shop">
37 <i class="bx bx-shopping-bag"></i>
38 </div>
39 </div>
40 </header>
41
42 <main class="l-main">
43 <!--===== ALL PRODUCTS =====>
44 <section class="featured section" id="shop">
45 <h2 class="section-title">All Products</h2>
46
47 <div class="featured_container bd-grid">
48 <article class="sneaker">
49 
50 <span class="sneaker_name">Mike Free RN</span>
51 </article>
52
53 </div>
54
55 </main>
56 </body>
57 </html>
```

```
File Edit Selection View Go Run Terminal Help styles.css - Visual Studio Code
C:\Users\user> user > Documents > College stuff > 2nd year > WEB1 > Mini Project > assets > css > # styles.css > ...
1 /* ===== */
2 @import url("https://fonts.googleapis.com/css2?family=Poppins:wght@400;500;600;700&display=swap");
3 /*===== VARIABLES CSS =====*/
4 :root{
5   --header-height: 3rem;
6
7   /*===== Font weight =====*/
8   --font-medium: 500;
9   --font-semi-bold: 600;
10  --font-bold: 700;
11
12  /*===== Colors =====*/
13  --dark-color: #141414;
14  --dark-color-light: #0A0A0A;
15  --dark-color-lighten: #F2F2F2;
16  --white-color: #FFF;
17
18  /*===== Font and typography =====*/
19  --body-font: 'Poppins', sans-serif;
20  --big-font-size: 1.25rem;
21  --bigger-font-size: 1.5rem;
22  --biggest-font-size: 2rem;
23  --h2-font-size: 1.25rem;
24  --normal-font-size: .9375rem;
25  --smaller-font-size: .8125rem;
26
27  /*===== Margenes =====*/
28  --mb-1: 5rem;
29  --mb-2: 1rem;
30  --mb-3: 1.5rem;
31  --mb-4: 2rem;
32  --mb-5: 2.5rem;
33  --mb-6: 3rem;
34
35  /*===== Index =====*/
36  --z-fixed: 100;
37
38  /*===== Rotate (img) =====*/
39  --rotate-img: rotate(-30deg);
40  }
41
42 @media screen and (min-width: 768px){
43   :root{
44     --big-font-size: 1.5rem;
45     --bigger-font-size: 2rem;
46     --biggest-font-size: 3rem;
47     --normal-font-size: 1rem;
48     --smaller-font-size: .875rem;
49   }
50 }
51 }
```

```
File Edit Selection View Go Run Terminal Help main.js - Visual Studio Code
C:\Users\user> user > Documents > College stuff > 2nd year > WEB1 > Mini Project > assets > js > # main.js > ...
1 /*===== MENU SHOW =====*/
2 const showMenu = (toggleId, navId) => {
3   const toggle = document.getElementById(toggleId),
4   nav = document.getElementById(navId)
5
6   if(toggle && nav){
7     toggle.addEventListener('click', () => {
8       nav.classList.toggle('show')
9     })
10  }
11 }
12
13 showMenu('nav-toggle', 'nav-menu')
14
15 /*===== REMOVE MENU =====*/
16 const navLink = document.querySelectorAll('.nav_link'),
17   navMenu = document.getElementById('nav-menu')
18
19 function linkAction(){
20   navMenu.classList.remove('show')
21 }
22 navLink.forEach(n => n.addEventListener('click', linkAction))
23
24 /*===== SCROLL SECTIONS ACTIVE LINK =====*/
25 const sections = document.querySelectorAll('section[id]')
26
27 window.addEventListener('scroll', scrollActive)
28
29 function scrollActive(){
30   const scrollY = window.pageYOffset
31
32   sections.forEach(current => {
33     const sectionHeight = current.offsetHeight
34     const sectionTop = current.offsetTop - 50
35     sectionId = current.getAttribute('id')
36
37     if(scrollY > sectionTop && scrollY <= sectionTop + sectionHeight){
38       document.querySelector('.nav_menu a[href*="'+ sectionId + '"]').classList.add('active')
39     }else{
40       document.querySelector('.nav_menu a[href*="'+ sectionId + '"]').classList.remove('active')
41     }
42   })
43 }
44
45 /*===== CHANGE COLOR HEADER =====*/
46 window.onscroll = () => {
47   const nav = document.getElementById('header')
48   if(this.scrollY >= 200) nav.classList.add('scroll-header'); else nav.classList.remove('scroll-header')
49 }
50 }
```


9. REFERENCES

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<http://krex.k-state.edu/dspace/handle/2097/959>
- SmartDraw for drawing all the Diagrams used in this report.
<http://www.smartdraw.com/>
- Sample Ecommerce Application
<http://www.NewEgg.com>
- Ajax Toolkit controls
<http://asp.net/ajax>