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DAILY BUGLE EXPLOITATION CTF

A Project Report for Industrial Training and Internship

submitted by

Prantik Roy

In the partial fulfillment of the award of the degree of

B.Tech

in the

Computer Science Department

of

Dr. Sudhir Chandra Sur Institute Of Technology & Sports Complex

at

Ardent Computech Pvt. Ltd.

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CERTIFICATE FROM SUPERVISOR

This is to certify that **"Prantik Roy,25500122146"** have completed the project titled "**E-Commerce Website**" under my supervision during the period from "24.02.25" to "07.03.25" which is in partial fulfillment of requirements for the award of the **B.Tech** degree and submitted to the Department of "Computer Science" of **"Dr. Sudhir Chandra Sur Institute Of Technology And Sports Complex"**.

_____

Signature of the Supervisor

Name of the Project Supervisor: Ms. Nisha Shaw

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BONAFIDE CERTIFICATE

Certified that this project work was carried out under my supervision

"DAILY BUGLE EXPLOITATION CTF" is the bonafide work of

Name of the student: Prantik Roy   **Signature:** *Prantik Roy*

SIGNATURE

Name : Ms. Nisha Shaw

PROJECT MENTOR

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ACKNOWLEDGEMENT

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ABSTRACT

The rapid evolution of technology has transformed the retail landscape, giving rise to online e-commerce platforms that facilitate the buying and selling of goods and services over the internet. This abstract explores the key components, benefits, and challenges associated with online e-commerce websites. E-commerce platforms provide consumers with unparalleled convenience, allowing them to shop from anywhere at any time, while offering businesses a broader market reach and reduced operational costs. The integration of advanced technologies such as artificial intelligence, machine learning, and big data analytics enhances user experience through personalized recommendations and targeted marketing strategies. However, the e-commerce sector also faces significant challenges, including cybersecurity threats, payment fraud, and the need for robust logistics and supply chain management. As consumer preferences continue to shift towards digital shopping, understanding the dynamics of online e-commerce is crucial for businesses aiming to thrive in this competitive environment. This abstract underscores the importance of innovation, customer engagement, and strategic planning in the successful operation of e-commerce websites.

<u>CONTENT</u>

INTRODUCTION

In the digital age, e-commerce has revolutionized the way consumers shop and businesses operate. An e-commerce website serves as a virtual storefront, enabling users to browse, select, and purchase products or services online. The development of such a platform requires a solid understanding of web technologies, with HTML, CSS, and JavaScript forming the foundational building blocks.

HTML (HyperText Markup Language) is the backbone of any e-commerce website, providing the structure and content of the web pages. It allows developers to create a well-organized layout that presents products, descriptions, and other essential information in a user-friendly manner. CSS (Cascading Style Sheets) complements HTML by enhancing the visual appeal of the website. It enables developers to apply styles, colors, fonts, and responsive designs, ensuring that the site is aesthetically pleasing and accessible across various devices, from desktops to smartphones.

JavaScript plays a crucial role in adding interactivity and dynamic features to the e-commerce site. It allows for real-time updates, such as product availability, shopping cart functionality, and user authentication, creating a seamless shopping experience. With JavaScript frameworks and libraries, developers can implement advanced features like AJAX for asynchronous data loading, enhancing the overall performance and responsiveness of the website.

Together, HTML, CSS, and JavaScript empower developers to create robust and engaging e-commerce platforms that cater to the needs of modern consumers. This introduction sets the stage for exploring the intricacies of building an e-commerce website using these technologies, highlighting the importance of user experience, design, and functionality in driving online sales and customer satisfaction.

APPLICATIONS USED

Applications used are VS Code and nodeJS

Visual Studio Code (VS Code):

- **Definition:** VS Code is a free and open-source code editor developed by Microsoft.
- **Key Features:**
  - **Cross-Platform:** Available on Windows, macOS, and Linux.
  - **Extensibility:** Supports numerous extensions for various programming languages and tools.
  - **Integrated Terminal:** Built-in terminal for running scripts and commands.
  - **Debugging Tools:** Advanced debugging capabilities for multiple programming languages.
  - **Intellisense:** Auto-completion of code, parameter info, quick info, and member lists.
  - **Version Control:** Built-in support for Git, allowing seamless version control.

Node.js:

- **Definition:** Node.js is an open-source, cross-platform JavaScript runtime built on Chrome's V8 JavaScript engine.
- **Key Features:**
  - **Event-Driven:** Designed for building scalable network applications by using non-blocking I/O.
  - **Single-Threaded:** Runs on a single thread, allowing it to handle many connections simultaneously.
  - **Package Management:** Utilizes npm (Node Package Manager) for managing libraries and packages.
  - **Full-Stack Development:** Can be used for both frontend and backend development, making it a full-stack option.
  - **Rich Ecosystem:** A vast collection of modules available through npm allows developers to enhance functionality.

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FRONTEND (HTML & CSS)& USE OF JAVA SCRIPT

<>page.html

```html
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4       <link rel="stylesheet" href="stylep.css">
5
6       <title>Simple E-Commerce Website</title>
7   </head>
8   <body>
9
10      <script src="web.js" defer></script>
11
12
13
14      <header>
15          <nav>
16              <div class="logo">
17                  <h1><b>DesignIND</b></h1>
18              </div>
19              <ul>
20                  <li><a href="#">Home</a></li>
21                  <li><a href="#">Products</a></li>
22                  <li><a href="Cart.html">Cart (<span id="cart-count">0</span>)</a></li>
23                  <li><a href="Contact.html">Contact</a></li>
24
25              </ul>
26          </nav>
27      </header>
28
29      <section class="product-list">
30          <div class="product-card">
```

```html
2   <html lang="en">
8   <body>sS
27      </header>
28
29      <section class="product-list">
30          <div class="product-card">
31              <img src="https://m.media-amazon.com/images/I/91SR5NN3QtL._AC_UF894,1000_QL80_.jpg"
                    alt="Product 1">
32              <h2>Curtains</h2>
33              <p>₹1000.00</p>
34              <button onclick="addToCart('Curtains', 1000)">Add to Cart</button>
35          </div>
36          <div class="product-card">
37              <img src="https://images.unsplash.com/photo-1672137233327-37b0c1049e77?q=80&w=1974&
                    auto=format&fit=crop&ixlib=rb-4.0.3&
                    ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D" alt="Product 2">
38              <h2>Wardrobe</h2>
39              <p>₹90000.00</p>
40              <button onclick="addToCart('Wardrobe', 90000)">Add to Cart</button>
41          </div>
42          <div class="product-card">
43              <img src="https://images.unsplash.com/photo-1578934691229-08987b226b47?w=600&auto=format&
                    fit=crop&q=60&ixlib=rb-4.0.3&
                    ixid=M3wxMjA3fDB8MHxzZWFyY2h8N3x8Zmxvd2VyJTIwdmFzZXx1bnwwfHwwfHx8MA%3D%3D" alt="Product 3">
44              <h2>Flower Vase</h2>
45              <p>₹10000.00</p>
46              <button onclick="addToCart('Flower Vase', 10000)">Add to Cart</button>
47          </div>
48          <div class="product-card">
49              <img src="https://cdn.pixabay.com/photo/2012/10/10/11/01/fresco-60612_1280.jpg" alt="Product
```

Document Type Declaration
- Defines the document type and version of HTML being used.

HTML Tag
Specifies the language of the document, in this case, English.

Head Section

- **Head Elements**
  - **link**: References an external CSS file for styling.
  - **title**: Sets the title of the webpage displayed on the browser tab.

Body Section

- **Script Inclusion**
- Links an external JavaScript file which enhances functionality.

□ **Header and Navigation**

  - **header**: Contains site branding and navigation.
  - **nav**: Lists navigation links.
  - **cart-count**: Displays the number of items in the cart using a span element.

Products Section

- **Product List Section**
  - **section**: Groups product items.
  - **product-card**: Each card represents a product.

- **img**: Displays a product image.
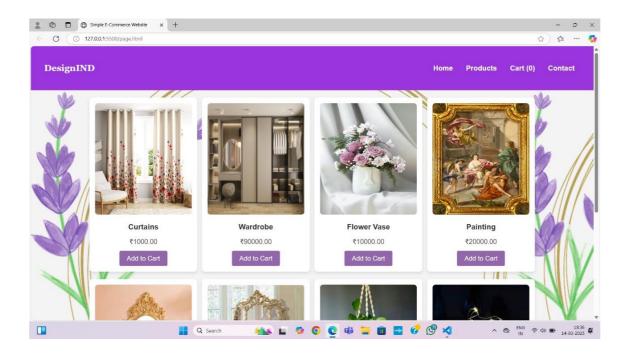- **h2**: Displays the product title.

- **p**: Shows product price.
- **button**: Calls a JavaScript function addToCart to add the product to the shopping cart.

Ending Tags

- **Footer Section**
  - Summarizes copyright information.

<>cart.html

Head Section

- **Doctype Declaration (<!DOCTYPE html>):** Specifies the document type and version of HTML being used.
- **HTML Tag (<html lang="en">):** Indicates the language of the document; here, it's set to English.
- **Head Section (<head> containing <link> and <title>):**
  - CSS Link: <link rel="stylesheet" href="style.css"> links to an external stylesheet for styling the page.
  - Title: The <title>Your Cart</title> sets the title displayed in the browser tab.

Body Section

- **Header Section (<header>):**
  - **Navigation Bar (<nav>): Contains:**
    - Logo: A <div> with a class "logo" encapsulates the company name "DesignIND".
    - Navigation List (<ul>): Contains links to various pages:
      - Home (Home)
      - Cart (Cart (0)): Displays a count of items in the cart.
      - Contact (Contact)

- **Cart Section (<section id="cart-section">):**
  - Heading: Displays "Your Cart".
  - Items List (<ul id="cart-items">): Placeholder for shopping cart items.
  - Total Section (<p id="total-cost">Total: ₹0</p>): Shows the total cost of items in the cart.
  - Buttons:
    - Clear Cart Button: <button onclick="clearCart()">Clear Cart</button>: Calls a JavaScript function to clear the cart.
    - Proceed to Checkout: <button onclick="window.location.href = 'Checkout.html';">Proceed to Checkout</button>: Redirects to the checkout page.
- **Footer Section (<footer>):** Contains a copyright notice:
  - Example: <p>© 2025 DesignIND. All rights reserved.</p>

JavaScript Inclusion

- Script Tag: <script src="web.js"></script>: Links to an external JavaScript file that likely contains functions to handle cart operations.

web.js
Constants and Initial Cart Items

- **const cartItems:**
  - An array containing the items in the shopping cart.
  - Each item is an object with name and

price properties:
- Curtains: $1,000
- Wardrobe: $90,000

Display Order Summary Function

- **Function Name**: displayOrderSummary()
- **Variables**:
  - **orderItemsList**: References an HTML element with the ID order-items where the order summary will be displayed.
  - **totalCost**: Initialized to 0 to accumulate the total cost of the items.
- **Loop through cartItems**:
  - **cartItems.forEach(item => {...})**: Iterates through each item in the shopping cart.
    - **Create HTML li Element**:
      - Each item's details (name and price) are displayed in a list format.
      - **Total Cost Calculation**: Adds the price of each item to total

Cost.

- **Update Total Cost Display**:
  - Sets the text content of the element with the ID total-cost to display the total amount.

Place Order Function

- **Function Name**: placeOrder()
- **User Input Variables**:
  - Collects form data using document.getElementById().value for different fields:
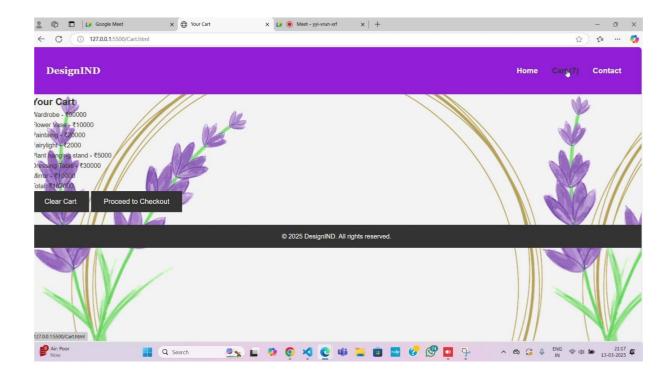   - name, address, phone, email, cardNumber, expiryDate, and cvv.
- **Validation**:
  - Checks if all required fields are filled in using a conditional statement:
    - If all the variables are truthy (not empty or null), an alert confirms the order was placed successfully.
    - If any field is missing, an alert prompts the user to fill in all details.

Window Onload Event

- **window.onload =** displayOrderSummary;

- o Ensures that the displayOrderSummary function is called when the window loads, displaying the order summary automatically.

<>checkout.html

Document Structure

- **DOCTYPE Declaration**
  - o Specifies the document type and version of HTML being used.
- **HTML Element**
  - o The <html lang="en"> tag indicates that

the content language is English.

Head Section

- **Head Element**
  - Contains meta-information about the document.
- **Link to CSS**
  - <link rel="stylesheet" href="style.css">: Links external CSS file for styling.
- **Title**
  - Sets the title of the page displayed in the browser tab to "Checkout".

Body Section

- **Header Section**
  - **Header Element**
    - Defines the top section of the page which typically contains navigation elements.
  - **Navigation Menu**
    - Contains links to different pages:
      - **Home** (Link to page.html)
      - **Cart** (Link to Cart.html)
      - **Contact** (Link to contact.html)
    - The div with class "logo" (Line 11) displays the site name "DesignIND".

Checkout Section

- **Checkout Section**
  - Enclosed with

section">, indicating its purpose.

- **Order Summary**
  - Displays the summary of the items being purchased. The list of items is enclosed in <ul id="order-items">.
  - Total cost displayed as: <p id="total-cost">Total: ₹0</p>.

Shipping Details

- **Shipping Details Section**

```
2    <html lang="en">
8    <body>
22       <section id="checkout-section">
53          <div id="payment-details">
54             <h3>Payment Details</h3>
55             <form id="payment-form">
56                <label for="card-number">Card Number:</label>
57                <input type="text" id="card-number" name="card-number" required>
58
59                <label for="expiry-date">Expiry Date:</label>
60                <input type="month" id="expiry-date" name="expiry-date" required>
61
62                <label for="cvv">CVV:</label>
63                <input type="text" id="cvv" name="cvv" required>
64             </form>
65          </div>
66
67
68          <button id="place-order-button" onclick="placeOrder()">Place Order</button>
69       </section>
70
71       <footer>
72          <p>© 2025 DesignIND. All rights reserved.</p>
73       </footer>
74
75       <script src="checkout.js"></script>
76    </body>
77    </html>
78
```

  - Contains a form for collecting user shipping details.
  - Made up of labels and input fields for:
    - Full Name
    - Shipping Address (text area)
    - Phone Number
    - Email Address

Payment Details

- **Payment Details Section**
  - Contains another form for payment information.
  - Collects:
    - Card Number
    - Expiry Date
    - CVV
  - Uses input fields with specific types to enhance user experience (e.g., using type="text", type="month").
- **Place Order Button**
  - <button id="place-order-button" onclick="placeOrder()">: A button that triggers a JavaScript function named placeOrder() when clicked.

Footer Section

- **Footer Element**
  - Contains the copyright notice for "DesignIND" for the year 2025.
- **Script Inclusion**
  - Links an external JavaScript file checkout.js to handle any dynamic functionality on the checkout page.

checkout.js

```html
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4       <link rel="stylesheet" href="stylep.css">
5
6       <title>Simple E-Commerce Website</title>
7   </head>
8   <body>
9
10      <script src="web.js" defer></script>
11
12
13
14      <header>
15          <nav>
16              <div class="logo">
17                  <h1><b>DesignINO</b></h1>
18              </div>
19              <ul>
20                  <li><a href="#">Home</a></li>
21                  <li><a href="#">Products</a></li>
22                  <li><a href="Cart.html">Cart (<span id="cart-count">0</span>)</a></li>
23                  <li><a href="Contact.html">Contact</a></li>
24              </ul>
25          </nav>
26      </header>
27
28
29      <section class="product-list">
30          <div class="product-card">
```

```javascript
20      }
20      }
21
22
23  function placeOrder() {
24      const name = document.getElementById("name").value;
25      const address = document.getElementById("address").value;
26      const phone = document.getElementById("phone").value;
27      const email = document.getElementById("email").value;
28      const cardNumber = document.getElementById("card-number").value;
29      const expiryDate = document.getElementById("expiry-date").value;
30      const cvv = document.getElementById("cvv").value;
31
32      if (name && address && phone && email && cardNumber && expiryDate && cvv) {
33          alert("Order placed successfully!");
34      } else {
35          alert("Please fill in all the details.");
36      }
37  }
38
39
40  window.onload = displayOrderSummary;
41
```

Cart Items Declaration

- o **Purpose**: Defines an array of items in the shopping cart, each with a name and price.

Display Order Summary

- o **Purpose:** Displays the items and total cost of the cart on the webpage.
- **Key Steps:**
  - o Get reference to the order-items element.
  - o Initialize totalCost to zero.
  - o Loop through cartItems:
    - Create a list item (li) for each product.
    - Append the item to the order list.
    - Add the item's price to totalCost.
  - o Update the total cost in the total-cost element.

Place Order Function

- **Function Definition:**
- **function placeOrder() { ... }**
  - **Purpose:** To gather user input and validate if the order can be placed.
- **Key Steps:**
  - Retrieve values from input fields (name, address, phone, email, card details).
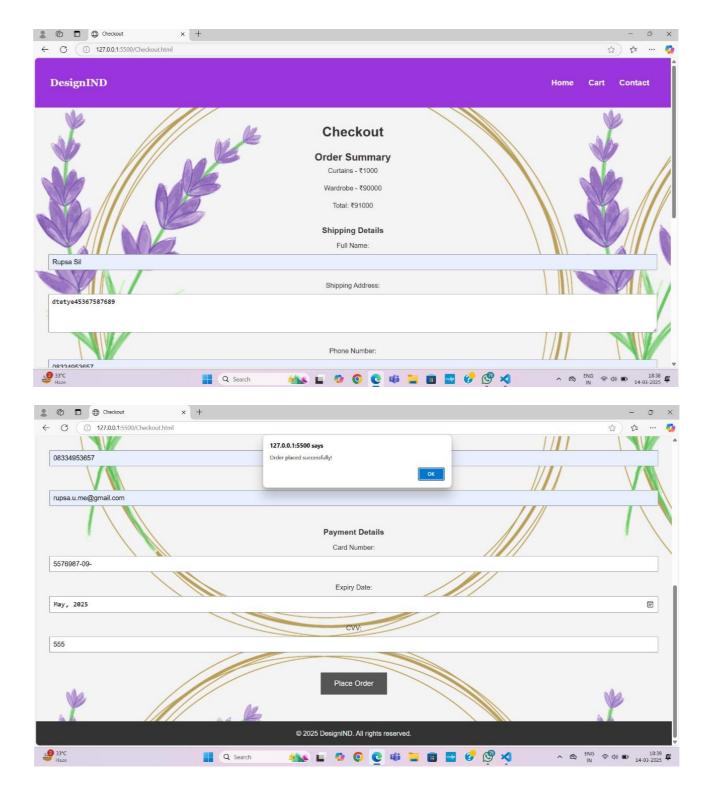 - Perform validation to check if all fields are filled:

Window Load Event

- **Event Binding:**
- **Purpose:** Ensures the displayOrderSummary function runs when the webpage loads, displaying the current items in the cart.

<>contact.html

Head Section

- Link to Stylesheet:
- **<link rel="stylesheet" href="style.css">**
  - Links an external CSS file for styling the webpage.
- **Character Set:**
  - Sets character encoding for the document.
- **Viewport Settings:**
  - This makes the website responsive on different devices.
- **Compatibility:**
  - Ensures proper rendering in Internet Explorer.
- **Title Tag:**
  - **<title>Contact Us</title>**
    - The title that appears in the browser tab.

Body Section

- Logo: Displays the website name in bold.
- List of Links: Navigation links directing to different pages (Home, Cart, and Contact).
- **Contact Section:**
  - Heading: The section header.
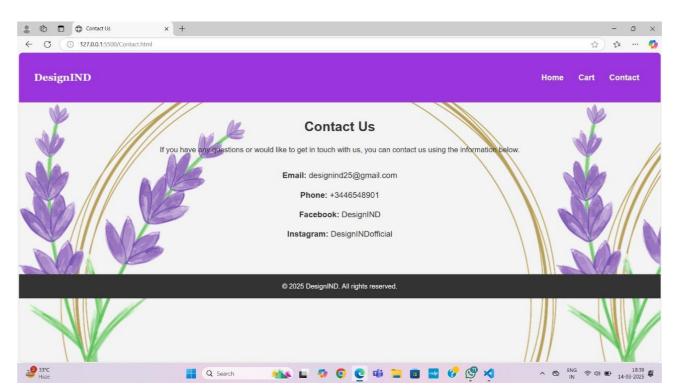 - Description: A brief paragraph inviting users

to contact the website.

- o Contact Information:
    - Email link that opens the default email client.
    - Phone link that dials the number.
    - Links to social media profiles (Facebook, Instagram) that open in new tabs.

Footer Section

- Footer Content: 2025 DesignIND. All rights reserved.
- Contains copyright information.

style.css

CSS Structure Overview

- **General Styling**: Defined general styles applied to all elements using the universal selector *.
- **Specific Sections**: Styles are defined for various HTML elements like body, header, footer, and specific classes for layout.

Global Styles

- **Universal Selector ***
  - **Margin & Padding:** Both set to 0 to remove any default spacing.
  - **Box Sizing:** Set to border-box, making width and height include padding and borders.

Body Styles

- **Font Family & Color:**
  - Uses Arial, sans-serif.
  - Text color set to #333 (dark gray).

- ## **Background Color:**
  - ◦ Light gray #f4f4f4.

Header Styles

- ## **Header Background & Text Color:**
  - ◦ Background set to rgb(154, 53, 222) (a shade of purple).
  - ◦ Text color #fff (white).

- ## **Logo Styles:**
  - ◦ Title margin and font size defined for a specific logo header.

Navigation Bar

- ## **Flex Layout:**
  - ◦ Utilizes flexbox to align items and evenly space them.

- **List Styles:**
  - Removes bullet points and standardizes spacing.
- **Link Styles:**
  - White text; transitions for hover effects to change color.

Product List & Product Card Styles

- **Flex Display:**
  - Products are laid out using a flexbox with adjustable margins.
- **Card Attributes:**
  - Background set to white with rounded corners (border-radius: 8px).
  - Box shadow adds a soft visual effect.

Typography

- **Font Sizes:**
  - Various elements like headers, paragraphs, and buttons have defined font sizes for clear hierarchy and readability.

Button Styles

- **Base Button Styles:**
  - Background color, padding, and font size set for usability.

- **Hover Effects:**
  - Changes background color when hovered over.

Summary and Contact Sections

- **Styled Sections:**
  - Contains specific styles for visually organizing information.
- **Flexbox for Layout:**
  - Used to align items effectively.

Form Elements

- **Input Styling:**
  - Defines how input fields and text areas should behave and look.
- **Labels**:
  - Adjusts margin and size for consistency.

Footer Styles

- **Background & Text Color:**
  - Dark gray and white text with centered alignment for contents.

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Consistency Through Classes
- **Repeated Classes:**
  - Many sections reuse similar styles (e.g., list styles, text color, etc.) to maintain a consistent design across the page.

This CSS code provides a structured, responsive layout that should ensure a visually appealing and user-friendly interface.

CONCLUSION

We can conclude that the E-Commerce website has provided a wider knowledge of web development and how a basic website can be created in a very ease manner. Moreover, DesignIND successfully combines aesthetics with functionality, provides an attractive source for online shopping while ensuring customer support and satisfaction.

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