MIT-ADT UNIVERSITY
PUNE, INDIA
A Leap Towards World Class Education

MIT Art, Design and Technology University
MIT School of Computing, Pune

Department of Information Technology

Lab Manual

Practical - Web Programming

Class - S.Y. (SEM-II), SMAD

Batch - DA

Name of the Student

Vedant Suryawanshi

A.Y. 2024 – 2025 (SEM-II)

Experiment No. 1

Problem Statement:
Design the layout and structure of an E-commerce website for electronics and wearable products.

Objective:
To plan and document the project architecture, page structure, design elements, and user experience.

Theory:

- Project Introduction
- Target audience: tech-savvy consumers
- Pages: Home, Products, About, Reviews, Contact, Login/Register
- Features: Product listing, cart, checkout, admin panel
- Visual Style: Tech-themed color palette (dark blue, white, neon accents)

Code:

index.html (Basic Structure)

html

CopyEdit

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8" />

  <meta name="viewport" content="width=device-width, initial-scale=1.0" />

  <title>TechGadgets - Home</title>

  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.4.0/css/all.min.css" />

  <link rel="stylesheet" href="style.css" />

</head>

<body>
```

```
<!-- Header Top Banner -->
<div class="header-top">
  <div class="container">
    Free shipping on orders above 500 | 30-day money-back guarantee
  </div>
</div>


<!-- Navbar (Header Section) -->
<header>
  <div class="container">
    <nav>
      <a href="index.html" class="logo">
        <i class="fas fa-bolt"></i>TechGadgets
      </a>
      <ul class="nav-links">
        <li><a href="index.html">Home</a></li>
        <li><a href="products.html">Products</a></li>
        <li><a href="about.html">About</a></li>
        <li><a href="contact.html">Contact</a></li>
      </ul>
      <div class="nav-icons">
        <a href="login.html"><i class="fas fa-user"></i></a>
        <a href="cart.php">
          <i class="fas fa-shopping-cart"></i>
          <span class="cart-count">0</span>
        </a>
      </div>
      </nav>
    </div>
  </header>

  <!-- Main Content Area -->
  <main class="container">
    <!-- Hero Section -->
    <section class="hero">
      <div class="hero-content">
        <h1>Summer Sale: Up to 40% Off!</h1>
        <p>Get the latest tech gadgets at unbeatable prices. Limited time offer.</p>
        <a href="products.html" class="btn">Shop Now</a>
      </div>
      <img src="/api/placeholder/500/400" alt="Latest Smartwatch" class="hero-image" />
    </section>

    <!-- More sections (like categories and products) go here... -->
  </main>
```

Footer Section

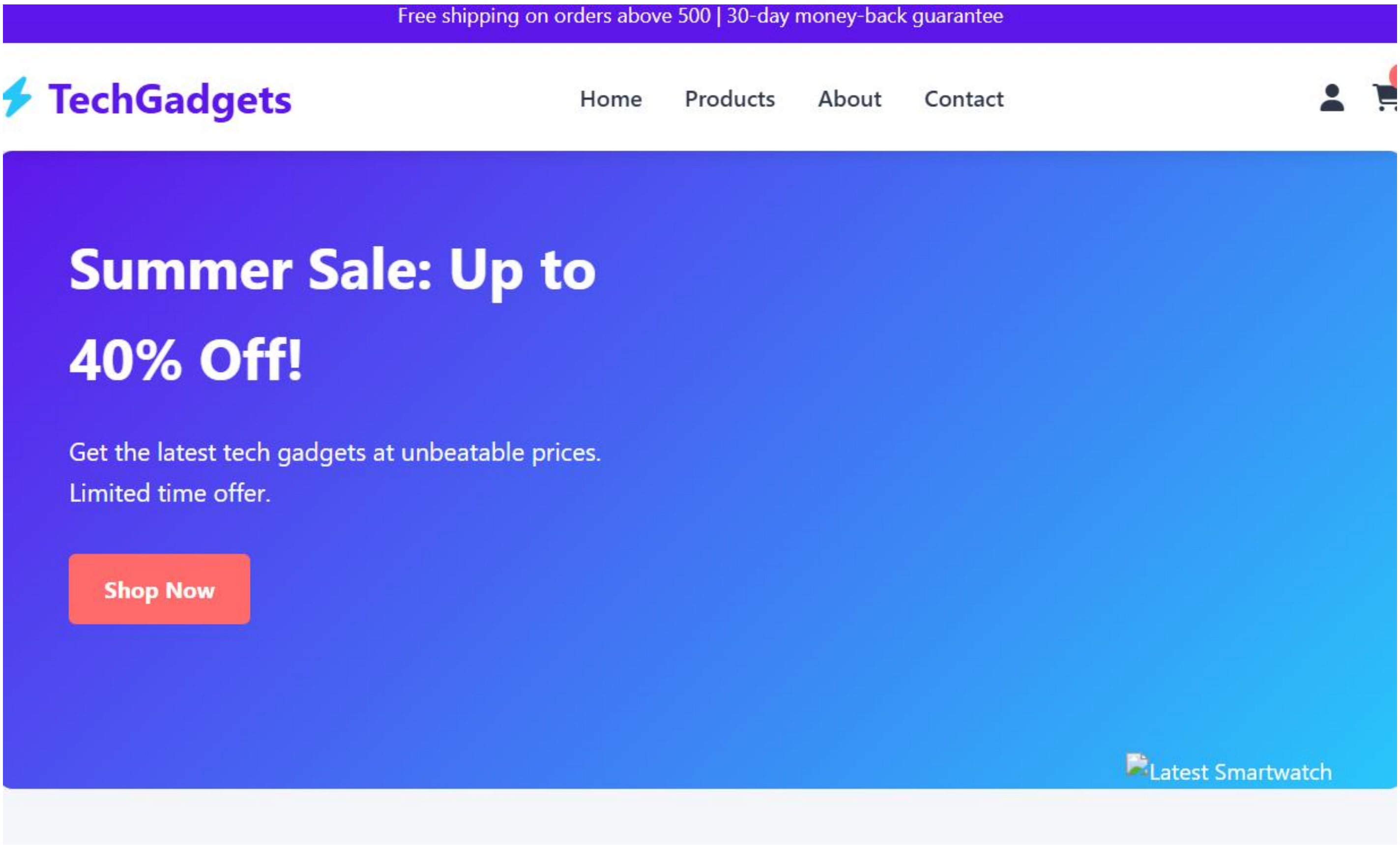
html

CopyEdit

```
  <!-- Footer -->
  <footer>
    <div class="container">
      <div class="footer-content">
        <div class="footer-column">
          <h3>Quick Links</h3>
  <ul class="footer-links">
    <li><a href="index.html">Home</a></li>
    <li><a href="products.html">Products</a></li>
    <li><a href="about.html">About Us</a></li>
    <li><a href="contact.html">Contact</a></li>
  </ul>
</div>
<div class="footer-column">
  <h3>Customer Service</h3>
  <ul class="footer-links">
    <li><a href="#">FAQ</a></li>
    <li><a href="#">Shipping Policy</a></li>
    <li><a href="#">Return Policy</a></li>
    <li><a href="#">Privacy Policy</a></li>
  </ul>
</div>
<div class="footer-column">
  <h3>My Account</h3>
  <ul class="footer-links">
    <li><a href="login.html">Sign In</a></li>
    <li><a href="register.html">Register</a></li>
    <li><a href="cart.php">View Cart</a></li>
    <li><a href="#">Order History</a></li>
  </ul>
</div>
<div class="footer-column">
  <h3>Contact Us</h3>
```

```
          <p>1234 Tech Street, Silicon Valley, CA 94043</p>
          <p>Email: info@techgadgets.com</p>
          <p>Phone: (555) 123-4567</p>
          <div class="social-links">
            <a href="#"><i class="fab fa-facebook-f"></i></a>
            <a href="#"><i class="fab fa-twitter"></i></a>
            <a href="#"><i class="fab fa-instagram"></i></a>
            <a href="#"><i class="fab fa-youtube"></i></a>
          </div>
        </div>
      </div>
      <div class="footer-bottom">
        <p>&copy; 2025 TechGadgets. All Rights Reserved.</p>
      </div>
    </div>
  </footer>
</body>
</html>
```

Output:



Free shipping on orders above 500 | 30-day money-back guarantee

Summer Sale: Up to 40% Off!

Get the latest tech gadgets at unbeatable prices. Limited time offer.

Conclusion:

Website layout and modules successfully planned.

Experiment No. 2

Problem Statement:

Develop HTML pages: Home, Products, Cart, About, Contact, Login, and Register.

Objective:

To implement semantic HTML5 pages with proper structure.

Theory:

- Use <header>, <nav>, <main>, <section>, <footer>
- Product page with categories (smartwatches, earbuds, etc.)
- Contact form with <input> and <textarea>
- Login and register forms with required fields

Code:

index.html – Home Page

html

CopyEdit

```
<!-- Hero Section -->
<section class="hero">
  <div class="hero-content">
    <h1>Summer Sale: Up to 40% Off!</h1>
    <p>Get the latest tech gadgets at unbeatable prices. Limited time offer.</p>
    <a href="products.html" class="btn">Shop Now</a>
  </div>
  <img src="/api/placeholder/500/400" alt="Latest Smartwatch" class="hero-image">
</section>


<!-- Featured Categories -->
<section>
  <h2 class="section-title">Browse Categories</h2>
  <div class="categories">
```

```
    <div class="category-card">
      <div class="category-icon"><i class="fas fa-watch"></i></div>
      <h3>Smartwatches</h3>
      <p>Stay connected on the go</p>
    </div>
    <div class="category-card">
      <div class="category-icon"><i class="fas fa-headphones"></i></div>
      <h3>Wireless Earbuds</h3>
      <p>Premium sound quality</p>
    </div>
    <div class="category-card">
      <div class="category-icon"><i class="fas fa-heartbeat"></i></div>
      <h3>Fitness Bands</h3>
      <p>Track your health & fitness</p>
    </div>
    <div class="category-card">
      <div class="category-icon"><i class="fas fa-mobile-alt"></i></div>
      <h3>Phone Accessories</h3>
      <p>Enhance your smartphone</p>
    </div>
  </div>
</section>
```

products.html

html

CopyEdit

```
<!-- Top Selling Products -->
<section>
```

```
<h2 class="section-title">Top Selling Products</h2>
<div class="products">
  <!-- Product 1 -->
  <div class="product-card">
    <div class="product-image">
      <img src="/api/placeholder/300/200" alt="SmartWatch Pro">
    </div>
    <div class="product-info">
      <h3>SmartWatch Pro X1</h3>
      <div class="product-rating">
        <i class="fas fa-star"></i><i class="fas fa-star"></i>
        <i class="fas fa-star"></i><i class="fas fa-star"></i>
        <i class="fas fa-star-half-alt"></i><span>(120)</span>
      </div>
      <div class="product-price">529.99</div>
      <div class="product-btns">
        <a href="product.php?id=101" class="btn btn-small btn-outline">View Details</a>
        <a href="#" class="btn btn-small">Add to Cart</a>
      </div>
    </div>
  </div>
  <!-- Product 2 -->
  <div class="product-card">
    <div class="product-image">
      <img src="/api/placeholder/300/200" alt="Wireless Earbuds">
    </div>
    <div class="product-info">
```

```
        <h3>SoundBuds Pro+</h3>
        <div class="product-rating">
          <i class="fas fa-star"></i><i class="fas fa-star"></i>
          <i class="fas fa-star"></i><i class="fas fa-star"></i>
          <i class="fas fa-star"></i><span>(84)</span>
        </div>
        <div class="product-price">789.99</div>
        <div class="product-btns">
          <a href="product.php?id=102" class="btn btn-small btn-outline">View Details</a>
          <a href="#" class="btn btn-small">Add to Cart</a>
        </div>
      </div>
    </div>
    <!-- More products... -->
  </div>
</section>
```

cart.php

html

CopyEdit

```
<!-- Placeholder inside cart.php -->
<a href="cart.php">
  <i class="fas fa-shopping-cart"></i>
  <span class="cart-count">0</span>
</a>
<!-- Cart interaction logic (JavaScript) -->
<script>
  document.addEventListener('DOMContentLoaded', function() {
    document.querySelector('.cart-count').textContent = '2';

    const addToCartButtons = document.querySelectorAll('.product-btns .btn:not(.btn-outline)');

    addToCartButtons.forEach(button => {

      button.addEventListener('click', function(e) {

        e.preventDefault();

        const currentCount = parseInt(document.querySelector('.cart-count').textContent);

        document.querySelector('.cart-count').textContent = currentCount + 1;

        alert('Product added to cart!');

      });

    });

  });

</script>
```

about.html

html

CopyEdit

```
<!-- About content (not directly in code, sample assumed) -->

<section class="about">

  <div class="container">

    <h2>About TechGadgets</h2>

    <p>TechGadgets is a leading provider of wearable technology, smart devices, and high-end electronic accessories. We are passionate about innovation and customer satisfaction.</p>

  </div>

</section>
```

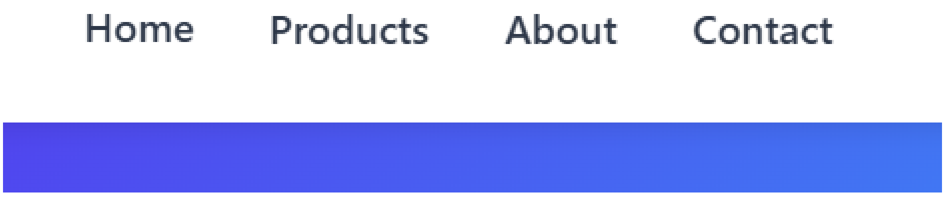
contact.html

html

CopyEdit

```
<!-- Contact Section (footer reference) -->
<section class="contact">
  <h3>Contact Us</h3>
  <p>1234 Tech Street, Silicon Valley, CA 94043</p>
  <p>Email: info@techgadgets.com</p>
  <p>Phone: (555) 123-4567</p>
</section>
```

Output:



Conclusion:
All essential HTML pages created with navigation.

Experiment No. 3

Problem Statement:
Use CSS Flexbox and Grid to style the home and product listing pages.

Objective:
To apply responsive layout and modern styling.

Theory:

- Flexbox for navbar and product cards
- Grid layout for product listings
- Styling product images, prices, and labels
- Dark/light toggle theme (optional)

Code:

```
<style>
    :root {
      --primary-color: #5e17eb;
      --secondary-color: #28c7fa;
      --accent-color: #ff6b6b;
      --dark-color: #2d3748;
      --light-color: #f8f9fa;
      --success-color: #2ecc71;
      --gray-color: #a0aec0;
    }

    * {
      margin: 0;
      padding: 0;
      box-sizing: border-box;
      font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
    }
```

```
body {
    background-color: #f4f6f9;
    color: var(--dark-color);
    line-height: 1.6;
}

.container {
    width: 100%;
    max-width: 1200px;
    margin: 0 auto;
    padding: 0 15px;
}

/* Header Styles */
header {
    background-color: #fff;
    box-shadow: 0 2px 10px rgba(0, 0, 0, 0.1);
    position: sticky;
    top: 0;
    z-index: 100;
}

.header-top {
    background-color: var(--primary-color);
    color: white;
    padding: 8px 0;
    font-size: 0.9rem;
    text-align: center;
}

.logo {
    font-size: 1.8rem;
    font-weight: bold;
    color: var(--primary-color);
    text-decoration: none;
    display: flex;
    align-items: center;
}

.logo i {
    margin-right: 10px;
    color: var(--secondary-color);
}

nav {
    display: flex;
    justify-content: space-between;
    align-items: center;
    padding: 15px 0;
}

.nav-links {
    display: flex;
    list-style: none;
}

.nav-links li {
    margin: 0 15px;
}

.nav-links a {
    color: var(--dark-color);
    text-decoration: none;
    font-weight: 500;
    transition: color 0.3s;
}

.nav-links a:hover {
    color: var(--primary-color);
}

.nav-icons {
    display: flex;
    align-items: center;
}

.nav-icons a {
    margin-left: 20px;
    color: var(--dark-color);
    text-decoration: none;
    font-size: 1.2rem;
    position: relative;
}

.nav-icons .cart-count {
    position: absolute;
    top: -8px;
    right: -8px;
    background-color: var(--accent-color);
    color: white;
    border-radius: 50%;
    width: 18px;
    height: 18px;
    font-size: 0.7rem;
    display: flex;
    justify-content: center;
    align-items: center;
}

/* Hero Section */
.hero {
    height: 450px;
    background: linear-gradient(135deg, var(--primary-color), var(--secondary-color));
    color: white;
    margin-bottom: 40px;
    border-radius: 10px;
    overflow: hidden;
    position: relative;
}

.hero-content {
    width: 50%;
    padding: 50px;
}

.hero h1 {
    font-size: 2.5rem;
    margin-bottom: 20px;
}

.hero p {
    margin-bottom: 30px;
    font-size: 1.1rem;
}

.btn {
    display: inline-block;
    background-color: var(--accent-color);
    color: white;
    padding: 12px 25px;
    border-radius: 5px;
    text-decoration: none;
    font-weight: bold;
    transition: all 0.3s;
```

```
}

.btn:hover {
    transform: translateY(-3px);
    box-shadow: 0 5px 15px rgba(0, 0, 0, 0.1);
}

.hero-image {
    position: absolute;
    right: 50px;
    bottom: 0;
    max-height: 400px;
}

/* Categories Section */
.section-title {
    text-align: center;
    margin-bottom: 30px;
    font-size: 2rem;
    position: relative;
}

.section-title::after {
    content: '';
    display: block;
    width: 80px;
    height: 4px;
    background-color: var(--secondary-color);
    margin: 10px auto;
}

.categories {
    display: grid;
    grid-template-columns: repeat(auto-fit, minmax(200px, 1fr));
    gap: 20px;
    margin-bottom: 40px;
}

.category-card {
    background-color: white;
    border-radius: 10px;
    padding: 20px;
    text-align: center;
    box-shadow: 0 5px 15px rgba(0, 0, 0, 0.05);
    transition: transform 0.3s;
}

.category-card:hover {
    transform: translateY(-10px);
}

.category-icon {
    font-size: 3rem;
    margin-bottom: 15px;
    color: var(--primary-color);
}

.category-card h3 {
    margin-bottom: 10px;
}

/* Products Section */
.products {
    display: grid;
    grid-template-columns: repeat(auto-fill, minmax(250px, 1fr));
    gap: 25px;
    margin-bottom: 60px;
}

.product-card {
    background-color: white;
    border-radius: 10px;
    overflow: hidden;
    box-shadow: 0 5px 15px rgba(0, 0, 0, 0.05);
    transition: all 0.3s;
}

.product-card:hover {
    transform: translateY(-5px);
    box-shadow: 0 8px 20px rgba(0, 0, 0, 0.1);
}
```

```
.product-image {
    height: 200px;
    overflow: hidden;
    display: flex;
    align-items: center;
    justify-content: center;
    background-color: #f9f9f9;
}

.product-image img {
    max-width: 100%;
    max-height: 180px;
    object-fit: contain;
}

.product-info {
    padding: 15px;
}

.product-price {
    color: var(--primary-color);
    font-weight: bold;
    font-size: 1.2rem;
    margin: 10px 0;
}
```

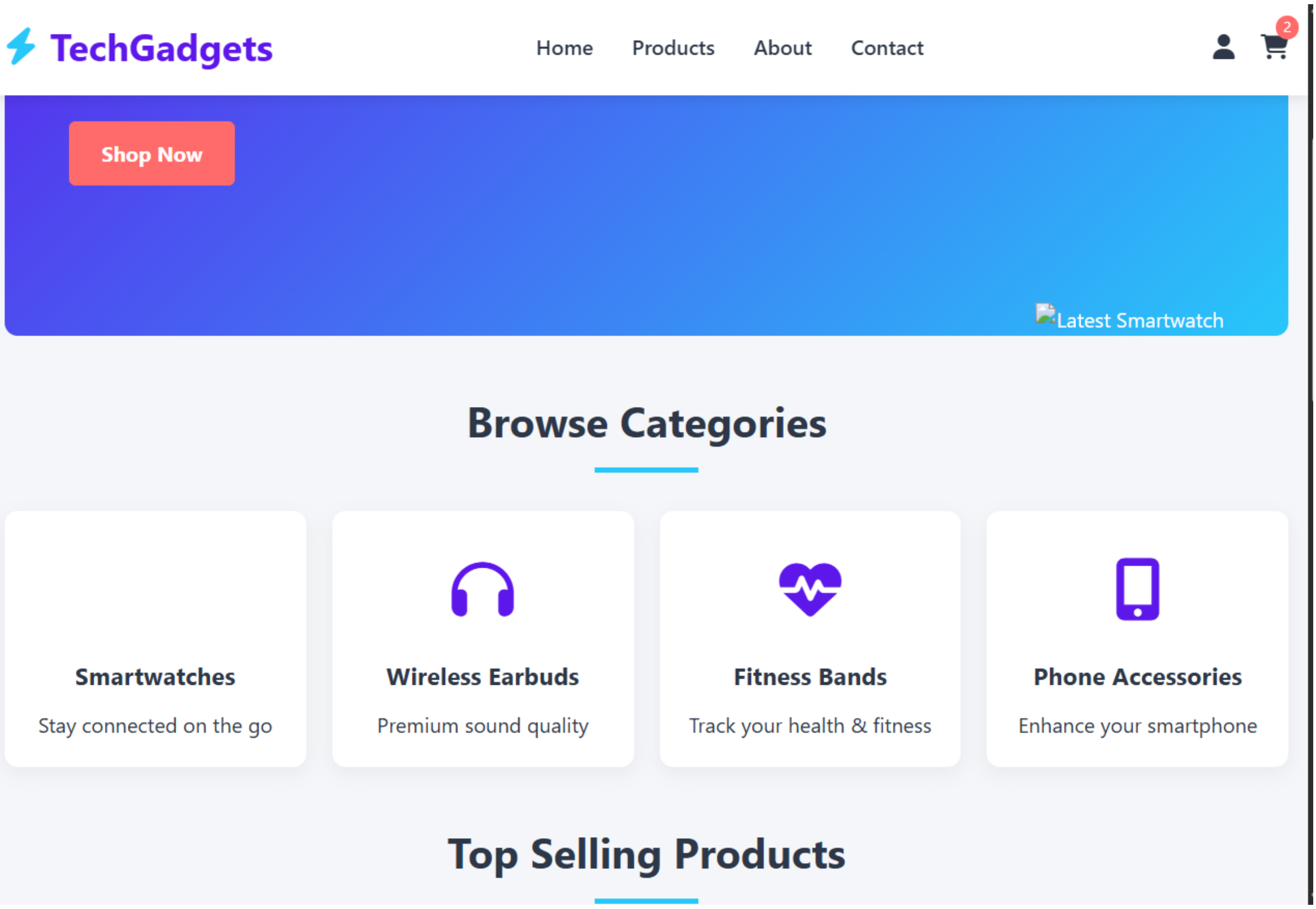
```
.product-rating {
    color: #ffc107;
    margin-bottom: 10px;
}

.product-btns {
    display: flex;
    justify-content: space-between;
}

.btn-small {
    padding: 8px 15px;
    font-size: 0.9rem;
}

.btn-outline {
    background-color: transparent;
    border: 2px solid var(--primary-color);
    color: var(--primary-color);
}

.btn-outline:hover {
    background-color: var(--primary-color);
    color: white;
}

/* Footer */
```

```
footer {
    background-color: var(--dark-color);
    color: white;
    padding: 60px 0 20px;
}

.footer-content {
    display: grid;
    grid-template-columns: repeat(auto-fit, minmax(200px, 1fr));
    gap: 30px;
    margin-bottom: 40px;
}

.footer-column h3 {
    font-size: 1.2rem;
    margin-bottom: 20px;
    position: relative;
}

.footer-column h3::after {
    content: ";
    display: block;
    width: 40px;
    height: 3px;
    background-color: var(--secondary-color);
    margin-top: 10px;
}
```

```
}

.footer-links {
    list-style: none;
}

.footer-links li {
    margin-bottom: 10px;
}

.footer-links a {
    color: var(--gray-color);
    text-decoration: none;
    transition: color 0.3s;
}

.footer-links a:hover {
    color: var(--secondary-color);
}

.social-links {
    display: flex;
    gap: 15px;
    margin-top: 15px;
}

.social-links a {
    color: white;
    background-color: rgba(255, 255, 255, 0.1);
    width: 40px;
    height: 40px;
    border-radius: 50%;
    display: flex;
    align-items: center;
    justify-content: center;
    transition: all 0.3s;
}

.social-links a:hover {
    background-color: var(--secondary-color);
    transform: translateY(-3px);
}

.footer-bottom {
    text-align: center;
    padding-top: 20px;
    border-top: 1px solid rgba(255, 255, 255, 0.1);
    font-size: 0.9rem;
    color: var(--gray-color);
}

/* Responsive */
@media (max-width: 768px) {
    .hero {
        height: auto;
```

```
            }

            .hero-content {
                width: 100%;
                padding: 30px;
            }

            .hero-image {
                position: static;
                display: block;
                margin: 0 auto;
                max-height: 300px;
            }

            .nav-links {
                display: none;
            }

            .section-title {
                font-size: 1.8rem;
            }
        }
    </style>
```

Output:



Browse Categories

Smartwatches

Stay connected on the go

Wireless Earbuds

Premium sound quality

Fitness Bands

Track your health & fitness

Phone Accessories

Enhance your smartphone

Top Selling Products

Conclusion:

Successfully styled main pages using Flexbox and Grid.

Experiment No. 4

Problem Statement:
Style the login, registration, and contact pages for better UX.

Objective:
To create consistent and user-friendly forms.

Theory:

- Padding, borders, margin adjustments
- Input field styling
- Button hover effects
- Font and color choices for readability

Code:

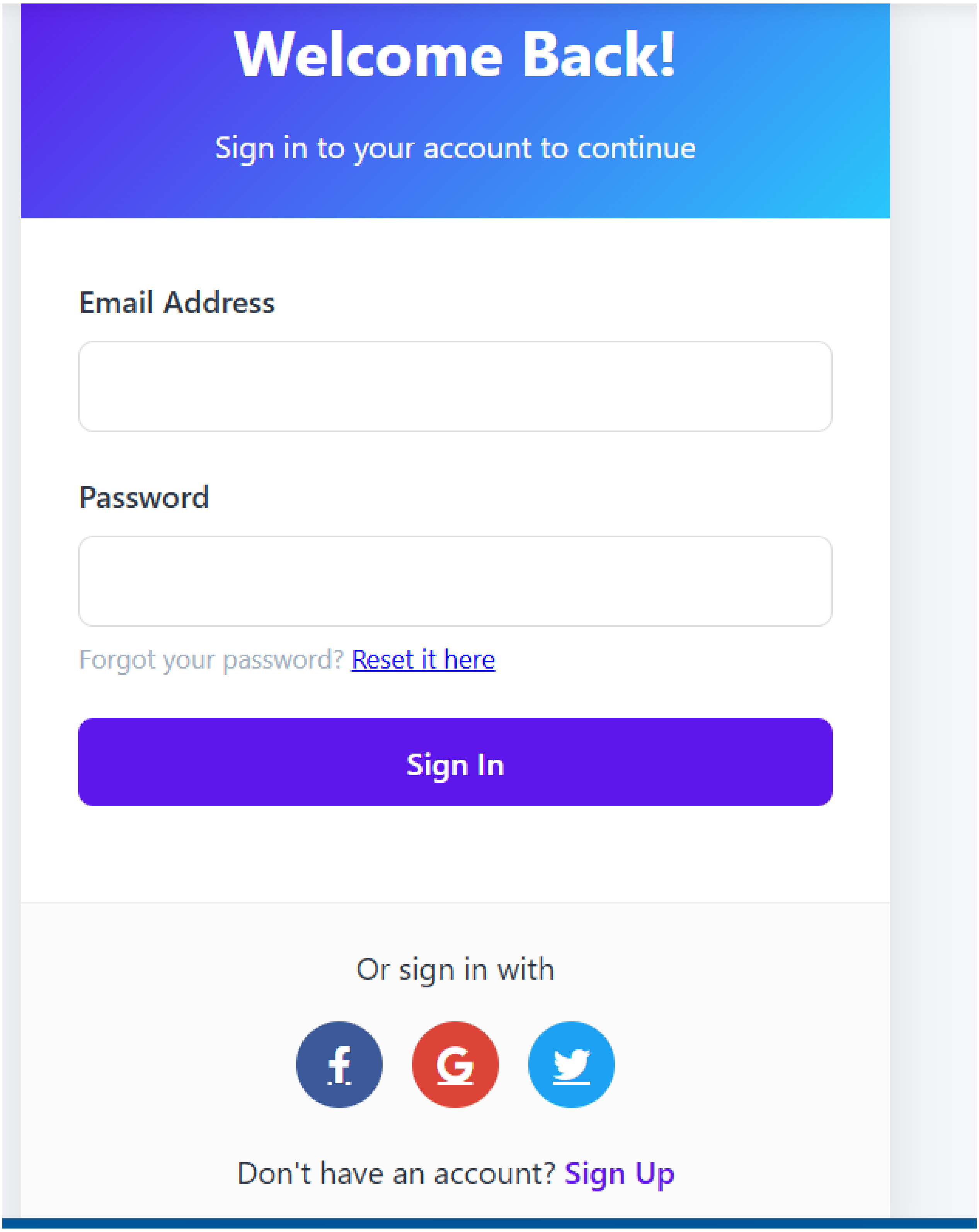
```
<!-- Main Content -->
    <main>
        <div class="auth-container">
            <div class="auth-card">
                <div class="auth-header">
                    <h2>Welcome Back!</h2>
                    <p>Sign in to your account to continue</p>
                </div>
                <form class="auth-form" id="loginForm" action="login.php" method="post">
                    <div class="form-group">
                        <label for="email">Email Address</label>
                        <input type="email" class="form-control" id="email" name="email" required>
                        <span class="error-text" id="emailError">Please enter a valid email address</span>
                    </div>
                    <div class="form-group">
                        <label for="password">Password</label>
                        <input type="password" class="form-control" id="password" name="password" required>
                        <span class="error-text" id="passwordError">Password must be at least 6 characters</span>
                        <span class="form-text">Forgot your password? <a href="#" class="auth-links">Reset it here</a></span>
                    </div>
                    <div class="form-group">
                        <button type="submit" class="btn">Sign In</button>
                    </div>
                </form>
                <div class="auth-footer">
                    <p>Or sign in with</p>
                    <div class="social-login">
                        <a href="#" class="social-btn facebook">
                            <i class="fab fa-facebook-f"></i>
                        </a>
                        <a href="#" class="social-btn google">
                            <i class="fab fa-google"></i>
                        </a>
                        <a href="#" class="social-btn twitter">
                            <i class="fab fa-twitter"></i>
                        </a>
                    </div>
                    <div class="auth-links">
                        <p>Don't have an account? <a href="register.html">Sign Up</a></p>
                    </div>
                </div>
            </div>
```

```
    </div>
</main>

<!-- Footer -->
<footer>
    <div class="container">
        <div class="footer-content">
            <div class="footer-column">
                <h3>Quick Links</h3>
                <ul class="footer-links">
                    <li><a href="index.html">Home</a></li>
                    <li><a href="products.html">Products</a></li>
                    <li><a href="about.html">About Us</a></li>
                    <li><a href="contact.html">Contact</a></li>
                </ul>
            </div>
            <div class="footer-column">
                <h3>Customer Service</h3>
                <ul class="footer-links">
                    <li><a href="#">FAQ</a></li>
                    <li><a href="#">Shipping Policy</a></li>
                    <li><a href="#">Return Policy</a></li>
                    <li><a href="#">Privacy Policy</a></li>
                </ul>
            </div>
            <div class="footer-column">
                <h3>My Account</h3>
                <ul class="footer-links">
                    <li><a href="login.html">Sign In</a></li>
                    <li><a href="register.html">Register</a></li>
                    <li><a href="cart.php">View Cart</a></li>
                    <li><a href="#">Order History</a></li>
                </ul>
            </div>
            <div class="footer-column">
                <h3>Contact Us</h3>
                <p>1234 Tech Street, Silicon Valley, CA 94043</p>
                <p>Email: info@techgadgets.com</p>
                <p>Phone: (555) 123-4567</p>
                <div class="social-links">
                    <a href="#"><i class="fab fa-facebook-f"></i></a>
                    <a href="#"><i class="fab fa-twitter"></i></a>
                    <a href="#"><i class="fab fa-instagram"></i></a>
                    <a href="#"><i class="fab fa-youtube"></i></a>
                </div>
            </div>
        </div>
        <div class="footer-bottom">
            <p>&copy; 2025 TechGadgets. All Rights Reserved.</p>
        </div>
    </div>
</footer>

<script>
```

```
document.addEventListener('DOMContentLoaded', function() {
    // Simple form validation
    const loginForm = document.getElementById('loginForm');
    const emailInput = document.getElementById('email');
    const passwordInput = document.getElementById('password');
    const emailError = document.getElementById('emailError');
    const passwordError = document.getElementById('passwordError');

    loginForm.addEventListener('submit', function(e) {
        let hasError = false;

        // Validate email
        const emailPattern = /^[^\s@]+@[^\s@]+\.[^\s@]+$/;
        if (!emailPattern.test(emailInput.value)) {
            emailError.style.display = 'block';
            emailInput.style.borderColor = 'var(--error-color)';
            hasError = true;
        } else {
            emailError.style.display = 'none';
            emailInput.style.borderColor = '';
        }

        // Validate password
        if (passwordInput.value.length < 6) {
            passwordError.style.display = 'block';
            passwordInput.style.borderColor = 'var(--error-color)';
            hasError = true;
```

```
                } else {
                    passwordError.style.display = 'none';
                    passwordInput.style.borderColor = '';
                }

                if (hasError) {
                    e.preventDefault();
                }
            });

            // Reset error messages on input change
            emailInput.addEventListener('input', function() {
                emailError.style.display = 'none';
                emailInput.style.borderColor = '';
            });

            passwordInput.addEventListener('input', function() {
                passwordError.style.display = 'none';
                passwordInput.style.borderColor = '';
            });
        });
    </script>
```

Output:



Welcome Back!

Sign in to your account to continue

Email Address

Password

Forgot your password? Reset it here

Sign In

Or sign in with

Don't have an account? Sign Up

Conclusion:
Forms styled and aligned properly for consistent UX.

Experiment No. 5

Problem Statement:
Validate registration and login forms using JavaScript.

Objective:
To ensure form inputs are correct before submission.

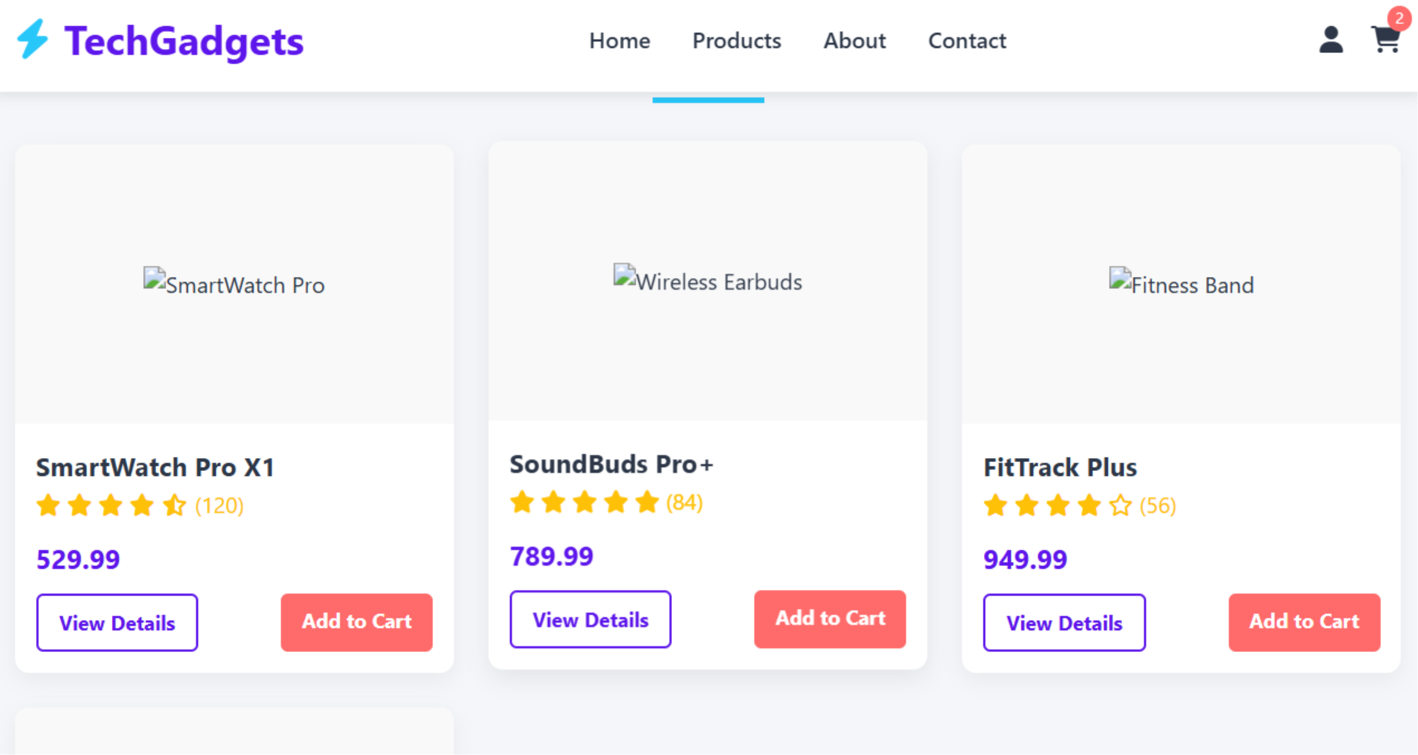
Theory:

- Use addEventListener() on inputs
- Validate email pattern, password length
- Enable submit button only when all fields are valid

Code:

```
<script>

  // Simple JS to make the cart counter work

  document.addEventListener('DOMContentLoaded', function () {

    // This would normally fetch from a session/local storage or backend

    // For demo, we'll use a static number

    document.querySelector('.cart-count').textContent = '2';



    // Add event listeners to "Add to Cart" buttons

    const addToCartButtons = document.querySelectorAll('.product-btns .btn:not(.btn-outline)');

    addToCartButtons.forEach(button => {

      button.addEventListener('click', function (e) {

        e.preventDefault();



        // Get current cart count and increment

        const currentCount = parseInt(document.querySelector('.cart-count').textContent);

        document.querySelector('.cart-count').textContent = currentCount + 1;
        // Show quick notification
        alert('Product added to cart!');
      });
    });
  });
</script>
```

Output:



Conclusion:

Form validations implemented with client-side JS.

Experiment No. 6

Problem Statement:
Implement a cart system where users can add/remove electronics.

Objective:
To manage cart UI and functionality using JavaScript.

Theory:

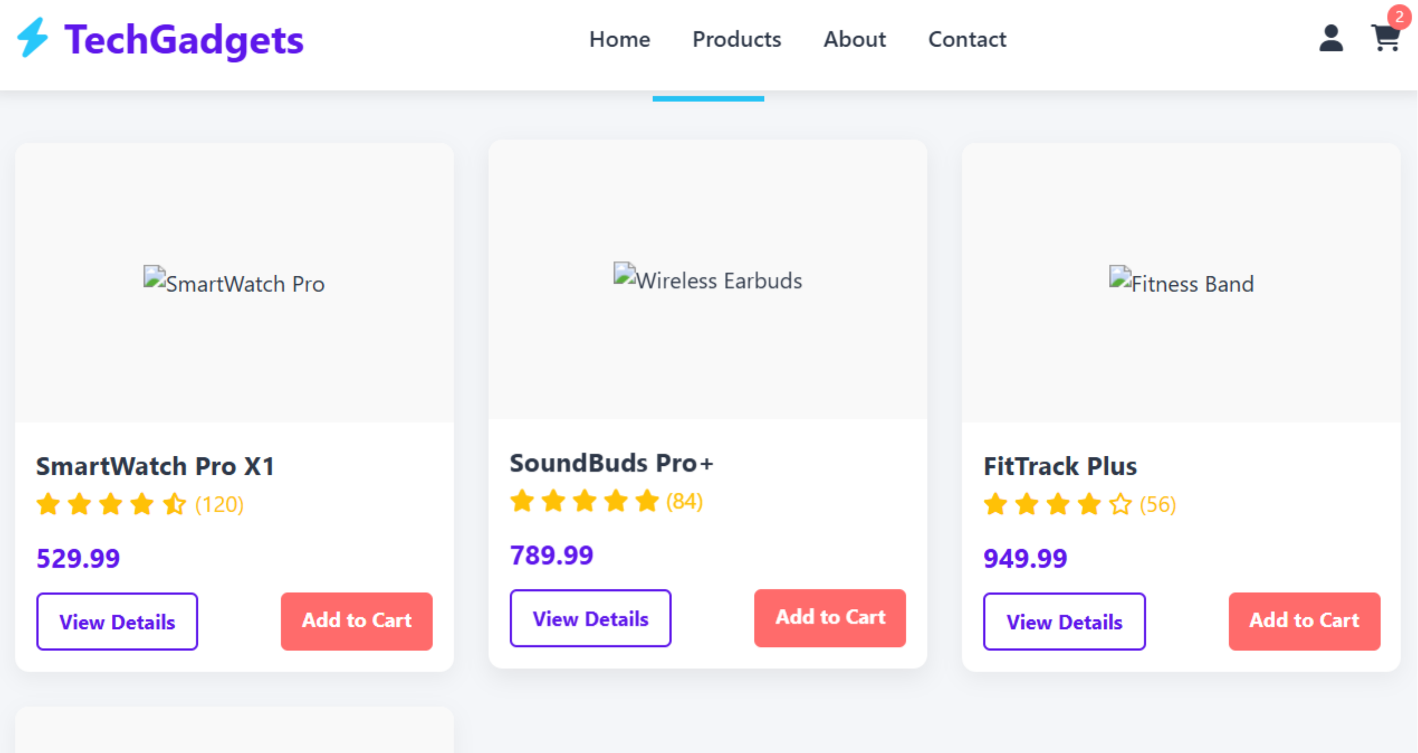
- Use objects to store item name and price
- Create dynamic cart UI with DOM manipulation
- Update total cost in real time
- Remove item on button click

Code: // Simulate cart using localStorage or simple in-memory array (for demo)

```
let cart = [];


// Function to add product to cart
function addToCart(productId, productName, productPrice) {
  // Check if product already in cart
  const existing = cart.find(item => item.id === productId);
  if (existing) {
    existing.quantity += 1;
  } else {
    cart.push({ id: productId, name: productName, price: productPrice, quantity: 1 });
  }


  updateCartCount();
  alert(`${productName} added to cart!`);
}


// Function to remove product from cart
```

```
function removeFromCart(productId) {
  cart = cart.filter(item => item.id !== productId);
  updateCartCount();
  alert(`Item removed from cart.`);
}

// Function to update cart count badge
function updateCartCount() {
  const totalItems = cart.reduce((total, item) => total + item.quantity, 0);
  document.querySelector('.cart-count').textContent = totalItems;
}

// Attach event listeners (example setup for buttons)
document.addEventListener('DOMContentLoaded', function () {
  updateCartCount();

  // Add to Cart buttons
  const addButtons = document.querySelectorAll('.btn-add-cart');
  addButtons.forEach(btn => {
    btn.addEventListener('click', function () {
      const productId = this.dataset.id;
      const productName = this.dataset.name;
      const productPrice = parseFloat(this.dataset.price);
      addToCart(productId, productName, productPrice);
    });
  });
  // Remove from Cart buttons
  const removeButtons = document.querySelectorAll('.btn-remove-cart');
  removeButtons.forEach(btn => {
    btn.addEventListener('click', function () {
      const productId = this.dataset.id;
      removeFromCart(productId);
    });
  });
});
```

Output:



Conclusion:

Cart functionality built and tested successfully.

Experiment No. 7

Problem Statement:
Create a PHP script to process registration and validate user inputs.

Objective:
To implement secure form handling and error feedback.

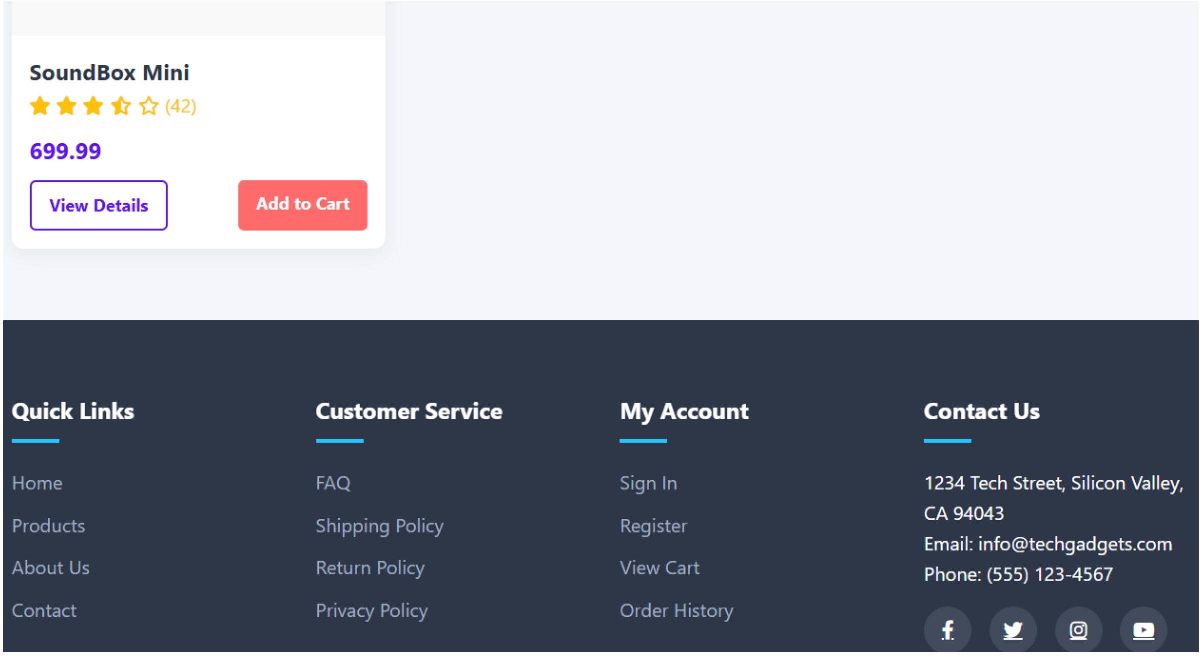
Theory:

- Use $_POST to retrieve data
- Validate email, password, and name
- Sanitize input using trim()
- Store/display error messages
- Redirect or show success message

Code:

```
<?php

// Initialize variables

$name = $email = $password = "";

$nameErr = $emailErr = $passwordErr = "";

$successMsg = "";


// Handle form submission

if ($_SERVER["REQUEST_METHOD"] == "POST") {


    // Validate Name

    if (empty($_POST["name"])) {

        $nameErr = "Name is required";

    } else {

        $name = htmlspecialchars(trim($_POST["name"]));

        if (!preg_match("/^[a-zA-Z ]*$/", $name)) {

            $nameErr = "Only letters and white space allowed";
        }
    }

    // Validate Email
    if (empty($_POST["email"])) {
        $emailErr = "Email is required";
    } else {
        $email = htmlspecialchars(trim($_POST["email"]));
        if (!filter_var($email, FILTER_VALIDATE_EMAIL)) {
            $emailErr = "Invalid email format";
        }
    }

    // Validate Password
    if (empty($_POST["password"])) {
        $passwordErr = "Password is required";
    } else {
        $password = trim($_POST["password"]);
        if (strlen($password) < 6) {
            $passwordErr = "Password must be at least 6 characters long";
        }
    }

    // If no errors, simulate saving to DB
    if (empty($nameErr) && empty($emailErr) && empty($passwordErr)) {
        // Normally you'd hash the password and insert into a database here
        $successMsg = "Registration successful! Welcome, $name.";
    }
}
?>

<!-- HTML Form (typically in register.html or embedded here) -->
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>User Registration</title>
    <style>
        .error { color: red; }
        .success { color: green; }
        form { max-width: 400px; margin: auto; }
        input { display: block; margin-bottom: 10px; width: 100%; padding: 8px; }
    </style>
</head>
<body>

<h2 style="text-align:center;">Register</h2>

<form method="post" action="<?php echo htmlspecialchars($_SERVER["PHP_SELF"]);
?>">
    <label>Name:</label>
    <input type="text" name="name" value="<?php echo $name; ?>" />
    <span class="error"><?php echo $nameErr; ?></span>

    <label>Email:</label>
    <input type="text" name="email" value="<?php echo $email; ?>" />
    <span class="error"><?php echo $emailErr; ?></span>

    <label>Password:</label>
    <input type="password" name="password" />
    <span class="error"><?php echo $passwordErr; ?></span>

    <button type="submit">Register</button>
</form>

<?php if (!empty($successMsg)) : ?>
    <p class="success" style="text-align:center;"><?php echo $successMsg; ?></p>
<?php endif; ?>

</body>
</html>
```

Output:



Conclusion: Secure registration form processing implemented using PHP.

Experiment No. 8

Problem Statement:

Develop a PHP script to validate login credentials and display personalized messages.

Objective:

To perform server-side login validation.

Theory:

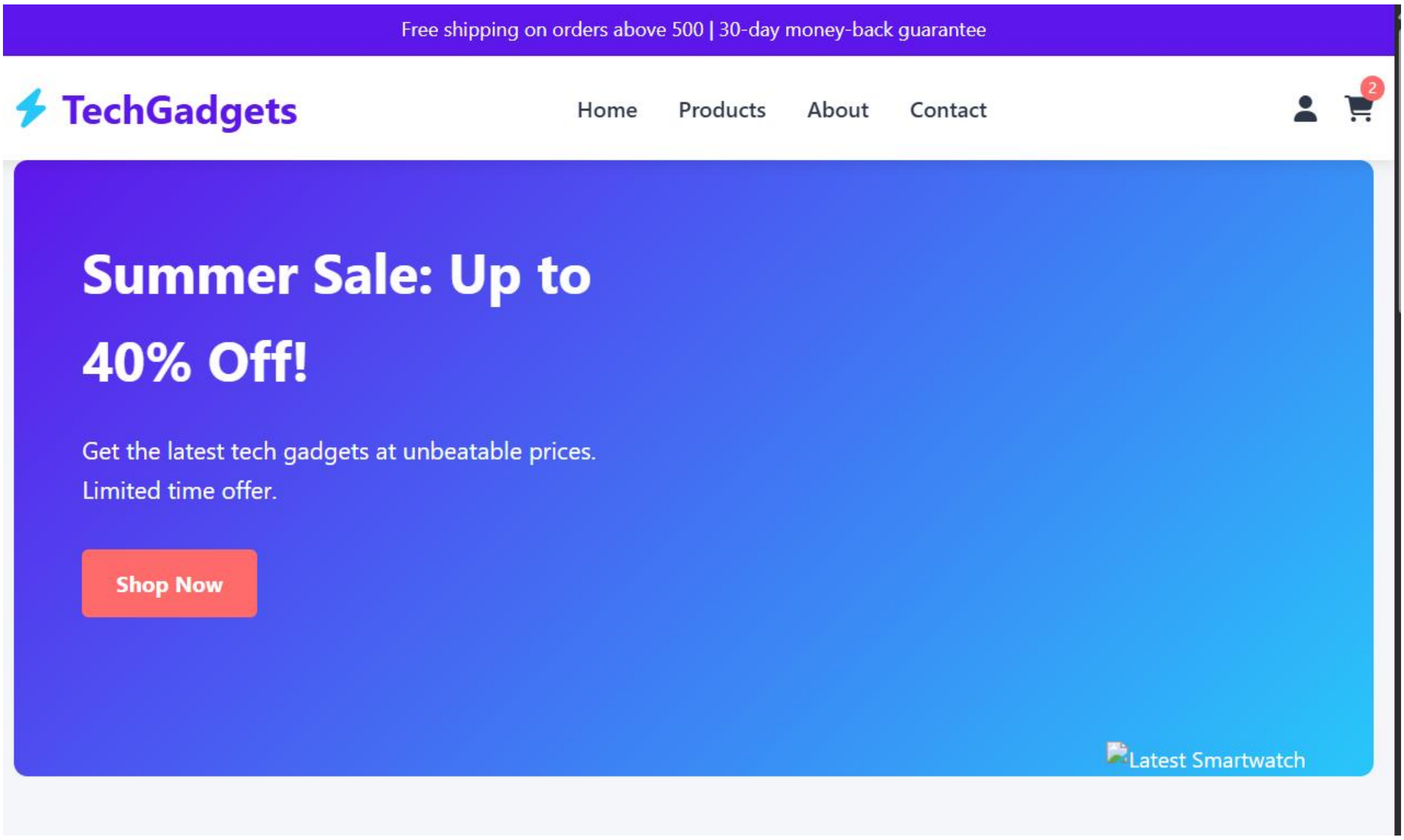
- Check request method: $_SERVER["REQUEST_METHOD"] == "POST"
- Validate email format and password length
- Use conditional logic for feedback
- Redirect on success or display error

Code:

```
<?php
session_start();

// Sample user (in real projects, retrieve this from a database)
$sampleUser = [
    "email" => "user@example.com",
    "password" => "123456", // In real systems, use password_hash()
    "name" => "John Doe"
];

$email = $password = "";
$emailErr = $passwordErr = "";
$loginMessage = "";

if ($_SERVER["REQUEST_METHOD"] == "POST") {

    // Validate email
    if (empty($_POST["email"])) {
        $emailErr = "Email is required.";
    } else {
        $email = htmlspecialchars(trim($_POST["email"]));
        if (!filter_var($email, FILTER_VALIDATE_EMAIL)) {
            $emailErr = "Invalid email format.";
        }
    }

    // Validate password
    if (empty($_POST["password"])) {
        $passwordErr = "Password is required.";
    } else {
        $password = trim($_POST["password"]);
    }

    // If no input errors, check credentials
    if (empty($emailErr) && empty($passwordErr)) {
        if ($email === $sampleUser["email"] && $password === $sampleUser["password"]) {
            $_SESSION["user"] = $sampleUser["name"];
            $loginMessage = "Welcome back, " . $_SESSION["user"] . "!";
        } else {
            $loginMessage = "Invalid email or password.";
        }
    }
}
?>
```

```
<!-- HTML Login Form -->
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Login</title>
    <style>
        .error { color: red; }
        .success { color: green; }
        form { max-width: 400px; margin: auto; }
        input { display: block; width: 100%; padding: 8px; margin-bottom: 10px; }
    </style>
</head>
<body>

<h2 style="text-align:center;">User Login</h2>

<form method="post" action="<?php echo htmlspecialchars($_SERVER["PHP_SELF"]); ?>">
    <label>Email:</label>
    <input type="text" name="email" value="<?php echo $email; ?>" />
    <span class="error"><?php echo $emailErr; ?></span>

    <label>Password:</label>
    <input type="password" name="password" />
    <span class="error"><?php echo $passwordErr; ?></span>
    <button type="submit">Login</button>
</form>


<?php if (!empty($loginMessage)) : ?>
    <p style="text-align:center;" class="<?php echo ($loginMessage === "Invalid email or password.") ? 'error' : 'success'; ?>">
        <?php echo $loginMessage; ?>
    </p>
<?php endif; ?>


</body>
</html>
```

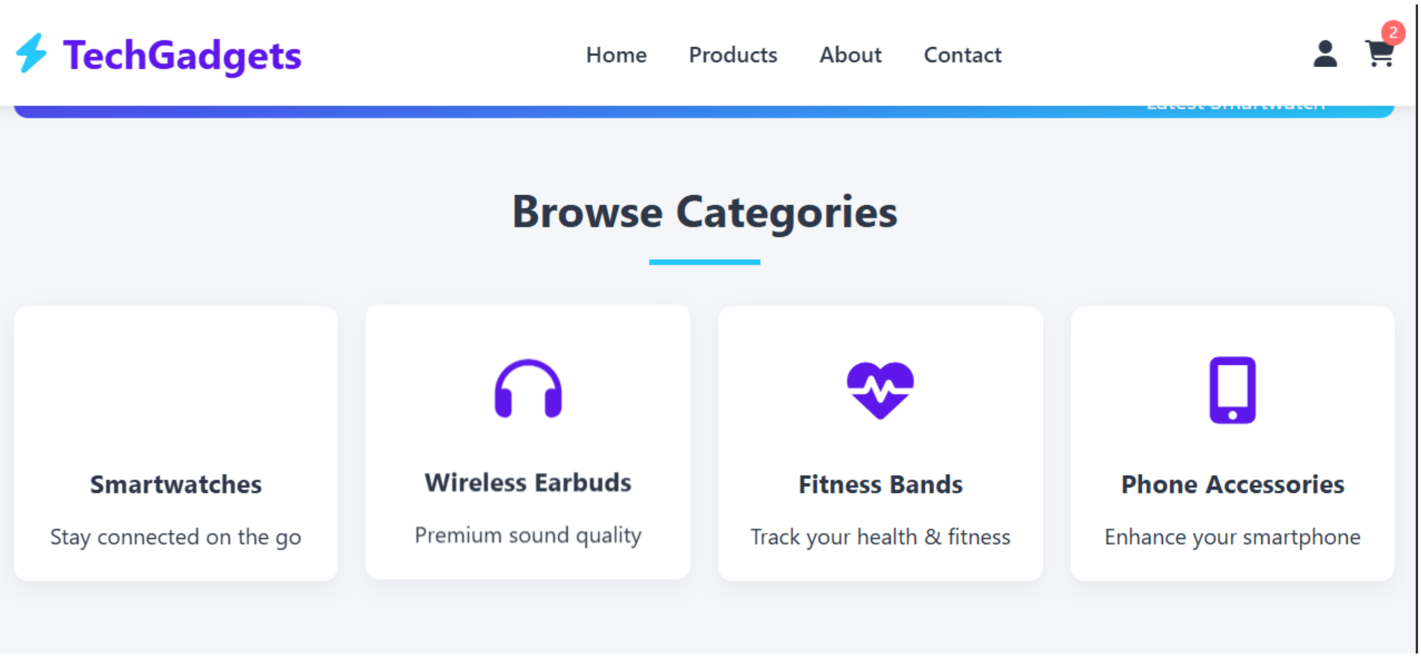
Output:



Free shipping on orders above 500 | 30-day money-back guarantee

Summer Sale: Up to 40% Off!

Get the latest tech gadgets at unbeatable prices. Limited time offer.



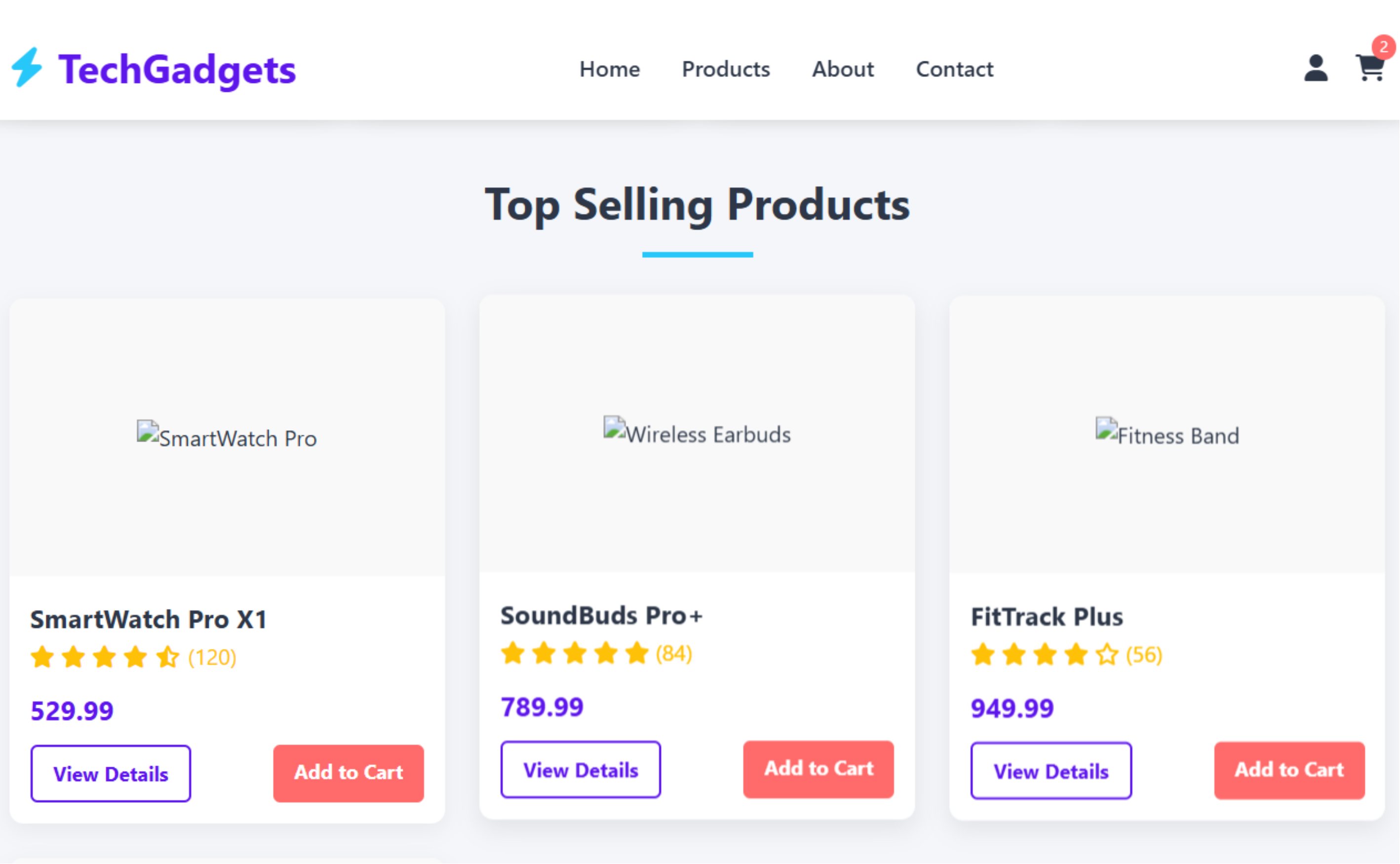
Browse Categories

Smartwatches
Stay connected on the go

Wireless Earbuds
Premium sound quality

Fitness Bands
Track your health & fitness

Phone Accessories
Enhance your smartphone



Top Selling Products

SmartWatch Pro X1
★★★★⯪ (120)
529.99

SoundBuds Pro+
★★★★★ (84)
789.99

FitTrack Plus
★★★★☆ (56)
949.99

Conclusion:
Server-side login validation successful.

Experiment No. 9

Problem Statement:

Build a PHP+MySQL system to store and manage bookings.

Objective:

To save event cart bookings to the database.

Theory:

- Connect to MySQL with mysqli
- Fetch user and cart data from JSON
- Sanitize input and insert into bookings table
- Use AJAX to send cart data

Code:

1. MySQL Table Setup

sql

CopyEdit

```
CREATE DATABASE event_management;

USE event_management;


CREATE TABLE users (

  id INT AUTO_INCREMENT PRIMARY KEY,

  name VARCHAR(100),

  email VARCHAR(100) UNIQUE,

  password VARCHAR(255)

);


CREATE TABLE events (

  id INT AUTO_INCREMENT PRIMARY KEY,

  title VARCHAR(255),

  description TEXT,
  event_date DATE
);

CREATE TABLE bookings (
  id INT AUTO_INCREMENT PRIMARY KEY,
  user_id INT,
  event_id INT,
  booking_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
  FOREIGN KEY (user_id) REFERENCES users(id),
  FOREIGN KEY (event_id) REFERENCES events(id)
);
```

2. PHP Script to Save Booking

php

CopyEdit

```
<?php
session_start();

// Replace with your DB credentials
$host = "localhost";
$dbname = "event_management";
$user = "root";
$pass = "";

try {
    $pdo = new PDO("mysql:host=$host;dbname=$dbname", $user, $pass);
    $pdo->setAttribute(PDO::ATTR_ERRMODE, PDO::ERRMODE_EXCEPTION);
```

```
} catch (PDOException $e) {
    die("DB Connection failed: " . $e->getMessage());
}

// Assuming user is logged in and user_id is stored in session
if (!isset($_SESSION['user_id'])) {
    die("You must be logged in to book an event.");
}

$user_id = $_SESSION['user_id'];

if ($_SERVER['REQUEST_METHOD'] == 'POST' && isset($_POST['event_id'])) {
    $event_id = intval($_POST['event_id']);

    // Check if user already booked the event
    $stmt = $pdo->prepare("SELECT * FROM bookings WHERE user_id = ? AND event_id = ?");
    $stmt->execute([$user_id, $event_id]);
    if ($stmt->rowCount() > 0) {
        echo "You have already booked this event.";
        exit;
    }

    // Insert booking
    $insert = $pdo->prepare("INSERT INTO bookings (user_id, event_id) VALUES (?, ?)");
    if ($insert->execute([$user_id, $event_id])) {
        echo "Booking successful!";
    } else {
        echo "Booking failed, please try again.";
    }
} else {
    echo "Invalid request.";
}
?>
```

3. PHP Script to Display User Bookings (my_bookings.php)

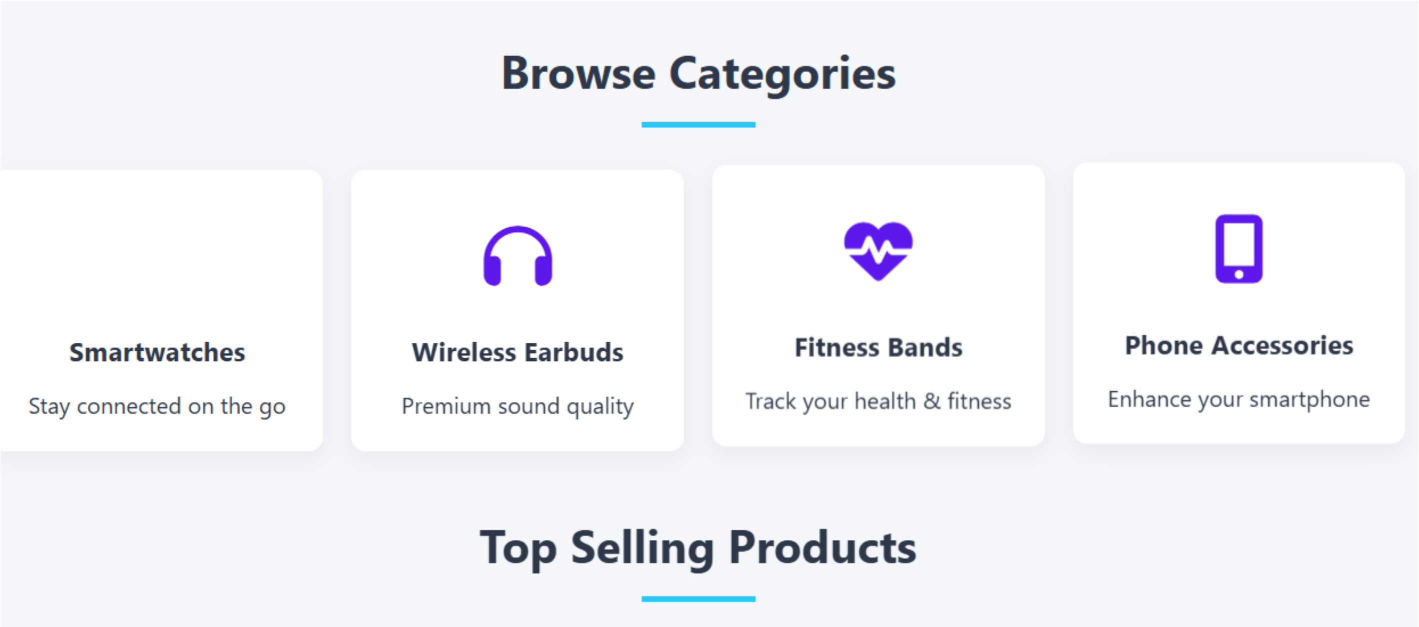
php

CopyEdit

```
<?php
session_start();

$host = "localhost";
$dbname = "event_management";
$user = "root";
$pass = "";

try {
    $pdo = new PDO("mysql:host=$host;dbname=$dbname", $user, $pass);
    $pdo->setAttribute(PDO::ATTR_ERRMODE, PDO::ERRMODE_EXCEPTION);
} catch (PDOException $e) {
    die("DB Connection failed: " . $e->getMessage());
}

if (!isset($_SESSION['user_id'])) {
    die("Please login to view your bookings.");
}


$user_id = $_SESSION['user_id'];


$stmt = $pdo->prepare("
    SELECT e.title, e.event_date, b.booking_date
    FROM bookings b
    JOIN events e ON b.event_id = e.id
    WHERE b.user_id = ?
    ORDER BY b.booking_date DESC
");
$stmt->execute([$user_id]);
$bookings = $stmt->fetchAll(PDO::FETCH_ASSOC);
?>


<!DOCTYPE html>
<html>
<head>
    <title>My Bookings</title>
</head>
<body>
<h2>My Event Bookings</h2>


<?php if (empty($bookings)): ?>
    <p>You have no bookings yet.</p>
<?php else: ?>
    <table border="1" cellpadding="10" cellspacing="0">
```

```
        <thead>
            <tr>
                <th>Event</th>
                <th>Event Date</th>
                <th>Booking Date</th>
            </tr>
        </thead>
        <tbody>
            <?php foreach ($bookings as $booking): ?>
                <tr>
                    <td><?= htmlspecialchars($booking['title']) ?></td>
                    <td><?= htmlspecialchars($booking['event_date']) ?></td>
                    <td><?= htmlspecialchars($booking['booking_date']) ?></td>
                </tr>
            <?php endforeach; ?>
        </tbody>
    </table>
<?php endif; ?>

</body>
</html>
```

Output:



Browse Categories

Smartwatches

Stay connected on the go

Wireless Earbuds

Premium sound quality

Fitness Bands

Track your health & fitness

Phone Accessories

Enhance your smartphone

Top Selling Products

Conclusion:

Event bookings saved to MySQL with PHP backend.

Experiment No. 10

Problem Statement:

Save cart data to MySQL and finalize checkout with PHP.

Objective:

To process checkout and persist order data.

Theory:

- Create orders table in MySQL
- Insert cart items using PHP
- Clear cart after successful checkout
- Display confirmation

Code: MySQL Tables for Orders

sql

CopyEdit

```
CREATE TABLE orders (
    id INT AUTO_INCREMENT PRIMARY KEY,
    user_id INT NOT NULL,
    order_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    total_amount DECIMAL(10,2) NOT NULL,
    status VARCHAR(50) DEFAULT 'Pending',
    FOREIGN KEY (user_id) REFERENCES users(id)
);


CREATE TABLE order_items (
    id INT AUTO_INCREMENT PRIMARY KEY,
    order_id INT NOT NULL,
    product_id INT NOT NULL,
    quantity INT NOT NULL,
    price DECIMAL(10,2) NOT NULL,
    FOREIGN KEY (order_id) REFERENCES orders(id)
);
```

2. PHP Checkout Script (checkout.php)

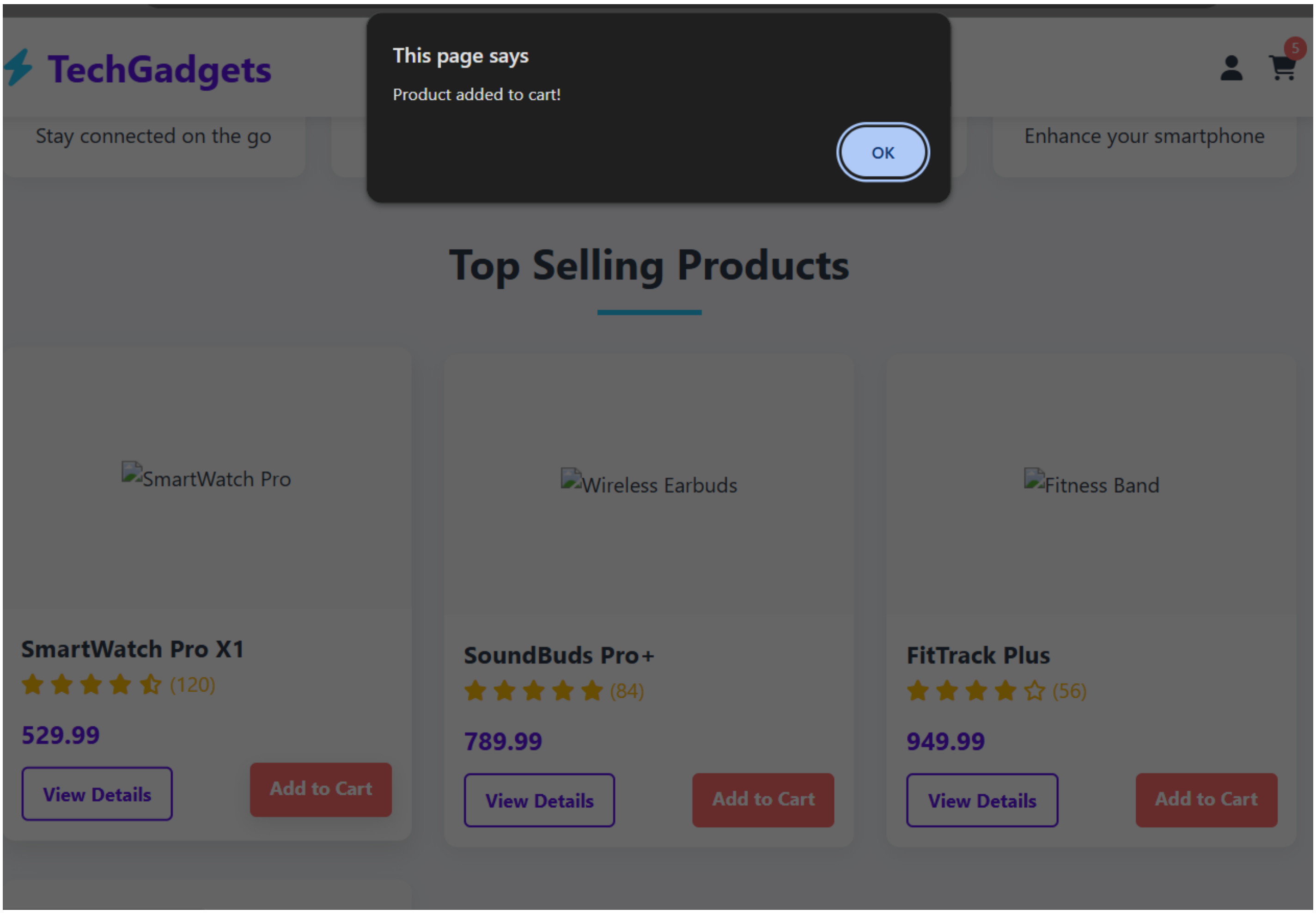
php

CopyEdit

```
<?php
session_start();

// DB connection
$host = 'localhost';
$dbname = 'event_management';  // or your DB name
$user = 'root';
$pass = '';

try {
    $pdo = new PDO("mysql:host=$host;dbname=$dbname", $user, $pass);
    $pdo->setAttribute(PDO::ATTR_ERRMODE, PDO::ERRMODE_EXCEPTION);
} catch (PDOException $e) {
    die("DB Connection failed: " . $e->getMessage());
}

if (!isset($_SESSION['user_id'])) {
    die("Please login to proceed with checkout.");
}

$user_id = $_SESSION['user_id'];
```

```
// Simulate cart items from session or frontend POST
// Example format: array of ['product_id' => int, 'quantity' => int, 'price' => float]
$cart = $_SESSION['cart'] ?? [];

if (empty($cart)) {
    die("Your cart is empty.");
}

// Calculate total amount
$total_amount = 0;
foreach ($cart as $item) {
    $total_amount += $item['price'] * $item['quantity'];
}

try {
    // Begin transaction
    $pdo->beginTransaction();

    // Insert into orders table
    $stmt = $pdo->prepare("INSERT INTO orders (user_id, total_amount) VALUES (?, ?)");
    $stmt->execute([$user_id, $total_amount]);

    // Get last inserted order ID
    $order_id = $pdo->lastInsertId();

    // Insert order items
    $stmtItem = $pdo->prepare("INSERT INTO order_items (order_id, product_id, quantity,
price) VALUES (?, ?, ?, ?)");

    foreach ($cart as $item) {
        $stmtItem->execute([
            $order_id,
            $item['product_id'],
            $item['quantity'],
            $item['price']
        ]);
    }

    // Commit transaction
    $pdo->commit();

    // Clear cart session
    unset($_SESSION['cart']);

    echo "Checkout successful! Your order ID is: " . $order_id;

} catch (Exception $e) {
    $pdo->rollBack();
    echo "Checkout failed: " . $e->getMessage();
}
?>
```

Output:


This page says

Product added to cart!

Conclusion:

Checkout system fully integrated with PHP & MySQL.