
CAPSTONE PROJECT

E-COMMERCE PRODUCT SHOWCASE

Presented By:

**1. ARYA BHAGAT – Graphic Era deemed to be University – BTech
CSE**

OUTLINE

- **Problem Statement**
- **System Development Approach**
- **Algorithm & Deployment**
- **Result**
- **Conclusion**
- **Future Scope**
- **References**

PROBLEM STATEMENT

Current Challenges:

- Small businesses lack easy-to-use online platforms to display products
- Existing e-commerce solutions are too complex and expensive
- No lightweight, visually appealing product galleries available
- Difficult for customers to browse, filter, and view product details

Our Solution:

- A modern, responsive e-commerce showcase built with pure frontend technologies that provides:
- Easy product management
- Interactive customer experience
- Zero backend dependency
- Cost-effective implementation

SYSTEM APPROACH

Frontend Technologies:

- **HTML5** – Semantic structure and accessibility
- **CSS3** – Advanced styling, animations, and responsive design
- **JavaScript (ES6+)** – Dynamic interactivity and business logic

Design Philosophy:

- Clean, modern interface with gradient aesthetics
- Mobile-first responsive design
- Smooth animations and transitions
- Intuitive user interactions
- Single-page application architecture



Key Features Implemented:

- Dynamic product grid rendering
- Category-based filtering system
- Interactive shopping cart
- Product modal views
- Real-time price calculations





ALGORITHM & DEPLOYMENT

Product Catalog Creation

// Product Schema Definition

```
const productSchema = {  
  id: "Unique identifier",  
  name: "Product title",  
  category: "electronics|fashion|home|sports",  
  price: "Formatted price string",  
  description: "Detailed product description",  
  icon: "Visual representation emoji"  
}
```

Category Architecture

-  **Electronics** (4 products)
 - Wireless Headphones Pro
 - Smart Watch Elite
 - Tech Laptop Backpack
 - Portable Bluetooth Speaker
-  **Fashion** (3 products)
 - Premium Leather Jacket
 - Designer Sunglasses
 - Premium Denim Jeans
-  **Home & Living** (3 products)
 - Smart Coffee Maker
 - Modern LED Table Lamp
 - Luxury Throw Pillows Set
-  **Sports** (2 products)
 - Performance Running Shoes
 - Premium Yoga Mat

Frontend Architecture

- HTML Structure – Semantic layout with modal systems
- CSS Grid & Flexbox – Responsive product layouts
- JavaScript Modules – Cart management, filtering, animations

Interactive Features

- Add-to-Cart Algorithm – Array manipulation with unique IDs
- Filtering System – Real-time category-based filtering
- Modal Management – Dynamic content loading
- Price Calculation – Real-time total updates

Testing & Optimization

- Cross-browser compatibility testing
- Mobile responsiveness validation
- Performance optimization for smooth animations
- User experience testing

Deployment

- **GitHub Repository** - <https://github.com/Aryaaab/ecommerce-product-showcase.git>
- **Repository name** - ecommerce-product-showcase
- **Live website** - <https://aryaaab.github.io/ecommerce-product-showcase/>

RESULT

```
index.html > html > head
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    <title>Arya Bhagat - Product Showcase</title>
7    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.4.0/css/all.min.css">
8    <style>
9      * {
10        margin: 0;
11        padding: 0;
12        box-sizing: border-box;
13      }
14
15      body {
16        font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
17        background: #0a0a0a;
18        overflow-x: hidden;
19      }
20
21      .animated-bg {
22        position: fixed;
23        top: 0;
24        left: 0;
25        width: 100%;
26        height: 100%;
27        z-index: -1;
28        background: linear-gradient(45deg, #667eea, #764ba2, #f093fb, #4facfe);
29        background-size: 400% 400%;
30        animation: gradientShift 15s ease infinite;
31      }
32
33      @keyframes gradientShift {
34        0% { background-position: 0% 50%; }
35        50% { background-position: 100% 50%; }
36        100% { background-position: 0% 50%; }
37      }
38
39      .particles {
40        position: fixed;
41        top: 0;
42        left: 0;
```

```

index.html > html > head
2   <html lang="en">
790 <body>
791   <!-- Cart System -->
792   <div class="cart-icon" onclick="toggleCart()">
793     🛒
794     <div class="cart-count" id="cartCount">0</div>
795   </div>
796
797   <div class="cart-sidebar" id="cartSidebar">
798     <div class="cart-header">
799       <h2 class="cart-title">🛒 Your Cart</h2>
800       <button class="close-cart" onclick="toggleCart()">&times;</button>
801     </div>
802
803     <div class="cart-items" id="cartItems">
804       <!-- Cart items will be dynamically added here -->
805     </div>
806
807     <div class="cart-total">
808       <div class="total-label">Total Amount</div>
809       <div class="total-amount" id="cartTotal">$0.00</div>
810     </div>
811
812     <div class="cart-actions">
813       <button class="checkout-btn" onclick="checkout()">
814         <i class="fas fa-credit-card"></i> Proceed to Checkout
815       </button>
816       <button class="clear-cart-btn" onclick="clearCart()">
817         <i class="fas fa-trash"></i> Clear Cart
818       </button>
819     </div>
820   </div>
821
822   <div class="animated-bg"></div>
823   <div class="particles" id="particles"></div>
824
825   <div class="container">
826     <header>
827       <div class="creator-badge">
828         <i class="fas fa-code"></i> CREATED BY ARYA BHAGAT
829       </div>
830     <h1>🚀 E-Commerce Product Showcase</h1>

```

```

892 createParticles();
893
894 const products = [
895   {
896     id: 1,
897     name: "Wireless Headphones Pro",
898     category: "electronics",
899     price: "$129.99",
900     description: "Premium wireless headphones with active noise cancellation and 30-hour battery life. Experience crystal-clear audio quality w
901     icon: "🎧"
902   },
903   {
904     id: 2,
905     name: "Smart Watch Elite",
906     category: "electronics",
907     price: "$299.99",
908     description: "Advanced fitness tracking, heart rate monitor, ECG, blood oxygen monitoring, and seamless smartphone integration. Stay connecte
909     icon: "⌚"
910   },
911   {
912     id: 3,
913     name: "Premium Leather Jacket",
914     category: "fashion",
915     price: "$179.99",
916     description: "Stylish and comfortable genuine leather jacket with superior craftsmanship. Features a timeless design that works for any sea
917     icon: "🧥"
918   },
919   {
920     id: 4,
921     name: "Performance Running Shoes",
922     category: "sports",
923     price: "$89.99",
924     description: "High-performance running shoes with advanced cushioning technology and breathable mesh. Engineered for maximum comfort, speed
925     icon: "👟"
926   },
927   {
928     id: 5,
929     name: "Smart Coffee Maker",

```



</> CREATED BY ARYA BHAGAT



E-Commerce Product Showcase

Experience Next-Generation E-Commerce Design

 **Edunet Foundation × AICTE Internship Project**

Front-End Web Development | Arya Bhagat | August - October 2025

▼ Filter by Category

 All Products

 Electronics

 Fashion

 Home & Living

 Sports



▼ Filter by Category

🌟 All Products

📺 Electronics

👗 Fashion

🏠 Home & Living

🏃 Sports



electronics

Wireless Headphones Pro

Premium wireless headphones with active noise cancellation and 30-hour battery life. ...

\$129.99



electronics

Smart Watch Elite

Advanced fitness tracking, heart rate monitor, ECG, blood oxygen monitoring, and seam...

\$299.99



electronics

Tech Laptop Backpack

Durable water-resistant backpack with padded laptop compartment up to 17 inches, USB ...

\$59.99



electronics

Portable Bluetooth Speaker

Portable waterproof speaker with 360-degree premium sound and deep bass. Features 12-...

\$69.99

Developed by Arya Bhagat

Edunet Foundation & AICTE Internship - Front-End Web Development

Student ID: STU68627981aae2a1751284097

▼ Filter by Category

🔥 All Products

💻 Electronics

👔 Fashion

🏠 Home & Living

🏃 Sports



fashion

Premium Leather Jacket

Stylish and comfortable genuine leather jacket with superior craftsmanship. Features ...

\$179.99



fashion

Designer Sunglasses

UV-protected designer sunglasses with polarized lenses and lightweight titanium frame...

\$149.99



fashion

Premium Denim Jeans

Classic fit denim jeans with stretch comfort and reinforced stitching. Versatile styl...

\$79.99

Developed by Arya Bhagat

Edunet Foundation & AICTE Internship - Front-End Web Development

Student ID: STU68627981aae2a1751284097

Filter by Category

All Products

Electronics

Fashion

Home & Living

Sports



home

Smart Coffee Maker

Programmable coffee maker with thermal carafe and WiFi connectivity. Brew the perfect...

\$79.99



home

Modern LED Table Lamp

Modern LED table lamp with adjustable brightness (10 levels), color temperature contr...

\$44.99



home

Luxury Throw Pillows Set

Set of 2 decorative throw pillows with premium velvet covers and hypoallergenic filli...

\$29.99

Developed by Arya Bhagat

Edunet Foundation & AICTE Internship - Front-End Web Development

Student ID: STU68627981aae2a1751284097

▼ Filter by Category

🌟 All Products

💻 Electronics

👕 Fashion

🏠 Home & Living

⚽ Sports



sports

Performance Running Shoes

High-performance running shoes with advanced cushioning technology and breathable mes...

\$89.99



sports

Premium Yoga Mat

Non-slip eco-friendly yoga mat made from sustainable materials with carrying strap. E...

\$34.99

Developed by Arya Bhagat

Edunet Foundation & AICTE Internship - Front-End Web Development

Student ID: STU68627981aae2a1751284097



fashion

Premium Leather Jacket

Stylish and comfortable genuine leather jacket with superior craftsmanship. Features a timeless design that works for any season. Made from high-quality materials with attention to every detail.

\$179.99

 Add to Cart



electronics

Portable Bluetooth Speaker

Portable waterproof speaker with 360-degree premium sound and deep bass. Features 12-hour battery life, USB-C charging, and voice assistant integration. Perfect for outdoor adventures.

\$69.99

 Add to Cart

home

Smart Coffee Maker
Programmable coffee maker with thermal carafe and WiFi connectivity. Brew the perfect...
\$79.99

electronics


Tech Laptop Backpack
Durable water-resistant backpack with padded laptop compartment up to 17 inches, USB ...
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sports

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home

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Portable Bluetooth Speaker
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\$69.99




fashion


Premium Denim Jeans
Classic fit denim jeans with stretch comfort and reinforced stitching. Versatile styl...
\$79.99




home


Luxury Throw P Set
Set of 2 decorative throw with premium velvet cove hypoallergenic filli...
\$29.99


 **Your Cart** ×

 Premium Leather Jacket ×
\$179.99

 Portable Bluetooth Speaker ×
\$69.99

Total Amount
\$249.98

 **Proceed to Checkout**

 **Clear Cart**

edunet
foundation

home

Smart Coffee Maker

Programmable coffee maker with thermal carafe and WiFi connectivity. Brew the perfect...

\$79.99

electronics

Tech Laptop Backpack

Durable water-resistant backpack with padded laptop compartment up to 17 inches, USB ...

\$59.99

sports

Premium Yoga Mat

Non-slip eco-friendly yoga mat made from sustainable materials with carrying strap. E...

\$34.99

fashion

Designer Sunglasses


UV-protected designer sunglasses with polarized lenses and lightweight titanium frame...

\$149.99

Order placed
Thank you for shopping
Bhagat Internship Project

Cart cleared!

home




Modern LED Table Lamp

Modern LED table lamp with adjustable brightness (10 levels), color temperature contr...

\$44.99

electronics




Portable Bluetooth Speaker

Portable waterproof speaker with 360-degree premium sound and deep bass. Features 12-...

\$69.99

fashion




Premium Denim Jeans

Classic fit denim jeans with stretch comfort and reinforced stitching. Versatile styl...

\$79.99

home



Luxury Throw Pillows Set

Set of 2 decorative throw pillows with premium velvet covers and hypoallergenic filli...

\$29.99

GITHUB AND DEPLOYMNET LINK

- Attach your Github Link : <https://github.com/Aryaaab/ecommerce-product-showcase>
- Deployment link: <https://aryaaab.github.io/ecommerce-product-showcase/>

CONCLUSION

Project Impact:

- ✓ Cost-effective solution for small businesses
- ✓ Eliminates complex platform dependencies
- ✓ Provides engaging customer experience
- ✓ Demonstrates modern web development skills
- ✓ Showcases frontend engineering capabilities

Key Takeaways:

- Successfully built a production-ready e-commerce showcase
- Implemented advanced CSS animations and JavaScript interactions
- Created a scalable architecture for future enhancements
- Demonstrated problem-solving skills in web development

FUTURE SCOPE

Immediate Enhancements:

- Backend Integration (Node.js/Express) for order management
- User Authentication system for personalized experiences
- Product Search functionality with advanced filters
- Wishlist Feature for saving favorite products

Advanced Features:

- Payment Gateway Integration (Stripe/Razorpay)
- Admin Dashboard for inventory management
- Order Tracking System with status updates
- Customer Reviews and rating system

REFERENCES

Technical Resources:

- **MDN Web Docs** – HTML5, CSS3, JavaScript documentation
- **CSS-Tricks** – Advanced CSS techniques and animations
- [JavaScript.info](#) – Modern JavaScript patterns and practices

Educational Resources:

- **Edunet Foundation × AICTE** – Internship curriculum and guidance
- **Graphic Era deemed to be University** – Academic foundation in Computer Science
- **Online Learning Platforms** – Continuous skill development



THANK YOU