# E-Commerce Electronics Website – Project Documentation

## 🔨 Project Overview

This is an e-commerce platform dedicated to selling electronic items (headphones, mobiles, laptops, Bluetooth devices, fans, etc.). The website features two main panels:
- Admin Panel: For product and order management.
- Customer (User) Panel: For browsing and purchasing products.

## 👥 System Users

### 1. Admin

- Single user
- Controls site settings, products, orders, categories, and offers
- Authenticated login required

### 2. Customer/User

- Can browse, view products, add to cart, checkout, and make payments
- Guest access available for browsing
- Customer details required during checkout

## 🔐 Admin Panel Pages

### Admin Login Page

Secure login form with Email and Password input, full validation, single admin user allowed.

### Product Management Page

Only accessible by admin. Add/Update/Delete/View products. Static image used for products. Fields: ID, Name, Description, Price, Discount, Sale Price.

### Customer Management Page

Admin can view/edit/delete customer details but cannot create new customers.

### Offers / Discount Page

Add discounts category-wise or product-wise. Two discount types (Flat ₹ or %). Validations applied. Date range control for offer validity.

### Orders Page

View all orders, change order status. Shows total orders and today's orders.

### Setting Page

Site maintenance toggle (ON/OFF). When ON, redirects all customer pages to 'Under Maintenance'.

### Category Management Page

Admin can add/update/delete/view product categories.

## 👥 Customer/User Side Pages

### Home Page

Default landing page showing dynamic categories, best-selling products, and category-wise products. Public access allowed.

### Category Page

Shows all products under selected category. Includes View Product and Add to Cart functionality.

### Cart Page

Lists added products with total price. Options to update or remove items and proceed to checkout.

### Customer Detail Page

Before payment, user fills personal info (Name, Phone, Email, Address).

### Checkout Page

Razorpay integration. Validates discounts and offers before payment.

### Thank You Page

Shown after successful order. Sends WhatsApp confirmation using queue system.

## 💳 Integrations & Features

- Razorpay for payment
- WhatsApp confirmation using Event + Listener + Queue
- Dynamic category and product display
- Guest browsing allowed
- Admin-only product and offer management
- Offer validation logic implemented

## 🗂 Database Schema Overview (Brief)

Tables:
- Admins
- Users
- Products
- Categories
- Orders
- Order_Items
- Offers
- Settings
- Cart
- Whatsapp_Queue

## ☑ Key Functional Requirements

Feature | Admin | Customer
--------|--------|---------
Login | ✅ | 🚫
View Products | ✅ | ✅
Manage Products (CRUD) | ✅ | 🚫
View/Add to Cart | 🚫 | ✅
Checkout via Razorpay | 🚫 | ✅
WhatsApp Confirmation | ✅ | ✅
Apply Offers | ✅ | ✅ (auto)
View Orders | ✅ | ✅ (basic)
Maintenance Mode Toggle | ✅ | 🚫
View/Add Categories | ✅ | ✅ (view only)
Create Customers | 🚫 | ✅

## ⚙ Tech Stack Recommendation

- Frontend: HTML5, CSS3, JavaScript, Bootstrap/Tailwind
- Backend: PHP (Laravel or CodeIgniter)
- Database: MySQL/PostgreSQL
- Payment Gateway: Razorpay
- Messaging: WhatsApp Business API
- Queue: Laravel Queues / Redis
- Hosting: Shared/VPS/Cloud

## 🔐 Security Considerations

- CSRF Protection
- Input validation and sanitization
- Razorpay webhook protection
- Password hashing (bcrypt)
- Role-based access control
- Offer/discount logical validation


## 🔨 Final Notes

This documentation serves as a blueprint for the complete system. It ensures clarity across developers, testers, and stakeholders before starting actual implementation.