

T-SHIRT SELLING WEBSITE

A MINI PROJECT REPORT

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In partial fulfillment for the award of the degree of

**BACHELOR OF ENGINEERING
IN
COMPUTER SCIENCE AND ENGINEERING**

**RAJALAKSHMI ENGINEERING COLLEGE (AUTONOMOUS)
THANDALAM
CHENNAI-602105 2024-2025**

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INTRODUCTION

The growing popularity of online retail has made e-commerce an essential platform for businesses to reach their customers. This report outlines the development of a user-friendly and aesthetically pleasing website aimed at selling custom-designed t-shirts. The website seeks to bridge the gap between creativity and commerce by offering unique designs that cater to a variety of customer preferences.

The project focuses on creating an intuitive browsing experience, incorporating features such as smooth scrolling, responsive design, and an engaging hero section to capture customer interest. Additionally, the platform will include efficient categorization, secure payment gateways, and seamless.

ABSTRACT

This report presents the conceptualization and development of an e-commerce platform dedicated to selling t-shirts. The website aims to cater to the evolving needs of modern customers by offering a seamless online shopping experience enriched with personalized design options. It emphasizes aesthetic appeal, ease of navigation, and robust functionality to enhance user satisfaction.

Key features of the platform include dynamic product displays, intuitive browsing capabilities, and secure payment gateways. Advanced web design techniques ensure a responsive interface suitable for various devices, while backend integration supports inventory management and customer feedback. The project aims to establish a distinctive online presence, leveraging user-friendly design and engaging content to attract a diverse audience.

PROBLEM STATEMENT

The modern apparel market, particularly t-shirts, faces growing demand for personalization, convenience, and accessibility in shopping. Traditional retail methods often fail to cater to the diverse preferences of today's tech-savvy consumers who seek a seamless online shopping experience. Additionally, small-scale businesses and independent designers struggle to showcase their creativity and reach a global audience due to a lack of accessible platforms tailored to their needs.

This project aims to address these challenges by developing a comprehensive e-commerce website dedicated to selling t-shirts.

OBJECTIVE

The primary objective of this project is to develop a user-friendly and efficient e-commerce website for selling t-shirts. The platform will focus on delivering a seamless shopping experience while meeting the following goals:

- 1. User Experience Optimization:**

Create a simple and intuitive interface for customers, allowing them to browse, filter, and purchase products with ease.

- 2. Customization Options:**

Enable customers to personalize t-shirt designs with custom text, images, or graphics, providing a unique shopping experience.

- 3. Inventory and Order Management:**

Implement an efficient inventory system that allows easy tracking of stock levels, order processing, and updates in real-time.

- 4. Payment Integration:**

Integrate secure payment gateways for easy, reliable, and safe financial transactions.

- 5. Cross-Platform Accessibility:**

Ensure that the website is responsive and functional across all devices, including mobile phones, tablets, and desktops, to provide a seamless shopping experience at

any time.

6. Marketing and Promotion:

Include tools for promotions, discounts, and sales tracking, enabling the website owner to run targeted marketing campaigns.

7. Business Empowerment:

Provide small businesses and independent designers with a platform to showcase and sell their t-shirt designs, increasing their market reach.

Through these objectives, the website aims to enhance customer satisfaction, boost sales, and foster business growth by streamlining the e-commerce process and improving accessibility for both customers and businesses.

SYSTEM REQUIREMENTS AND SCOPE

System Requirements:

To develop and operate the t-shirt selling e-commerce platform, the following system requirements are needed:

1. Hardware Requirements:

- Server: A web server (e.g., Apache, Nginx) capable of handling multiple users and transactions.
- Storage: Adequate storage to store product images, user data, and order history. A cloud storage solution (e.g., Amazon S3, Google Cloud Storage) is recommended for scalability.
- Network: Reliable internet connection to ensure smooth website operation and uninterrupted access for customers.

2. Software Requirements:

- **Web Development Framework:**

- **Frontend:** HTML, CSS, JavaScript (React, Angular, or Vue.js) for building an interactive and responsive user interface.

- **Backend:** PHP, Python (Django, Flask), or Node.js for managing the server-side logic, including product management, payment processing, and user authentication.
- **Database:** MySQL or PostgreSQL for storing product inventory, user details, and order histories.
- **Payment Gateway:** Integration with secure payment platforms such as PayPal, Stripe, or Razorpay for processing transactions securely.
- **Version Control:** Git for version control to manage code changes and collaboration.

3. Security Requirements:

- **SSL Certificates:** To secure data transactions and ensure customer data privacy.
- **Firewall & Security Software:** To prevent unauthorized access and cyberattacks.
- **Backup Systems:** To ensure regular data backups and disaster recovery.

Scope of the System:

The scope of the e-commerce website includes the following features and functionalities:

1. User Interface and Experience:

- Customers can browse t-shirts by categories, colors, sizes, and designs.
- Search functionality with filters to narrow down product selections.
- A personalized shopping cart and checkout process.
- Responsive design to ensure compatibility across all devices (desktop, tablet, mobile).

2. Product Management:

- Admin can add, remove, and update t-shirt designs, prices, sizes, and inventory levels.
- The system will track product stock in real-time, notifying the admin when stock levels are low.

3. Customization Features:

- Customers can customize t-shirts by adding text, images, or custom designs.
- A preview feature that allows customers to view the customized design before purchase.

4. Order Processing:

- Users can place orders, choose delivery options, and make payments.
- Admin can view and manage orders, including processing, shipping, and generating invoices.

5. Payment Gateway Integration:

- The platform will integrate secure payment gateways to support multiple payment options (credit/debit card, net banking, e-wallets, etc.).
- Support for order confirmation emails and payment receipts.

6. Admin and User Management:

- Admin can manage users, track order status, and generate sales reports.
- User accounts will allow customers to save shipping information, track order status, and view order history.

7. Marketing and SEO Features:

- Discounts, coupons, and promotions for marketing.
- SEO-friendly URLs and metadata to ensure better search engine visibility.

8. Mobile Compatibility:

- Mobile-friendly interface to allow customers to shop via smartphones and tablets seamlessly.

This system will be built with scalability in mind, allowing easy future upgrades and feature additions such as a loyalty program, customer reviews, and more.

NON FUNCTIONAL REQUIREMENTS

Non-functional requirements define the system's performance attributes and constraints, which do not relate directly to specific functionalities but influence the user experience and the overall system efficiency. For the t-shirt selling e-commerce website, the following non-functional requirements are considered:

1. Performance:

- **Load Time:** The website should load within 2-3 seconds to ensure a smooth user experience. Longer load times can result in high bounce rates and lower user satisfaction.
- **Scalability:** The system should be able to handle an increasing number of users, orders, and product listings without degradation in performance. This may involve using cloud-based infrastructure (e.g., AWS, Google Cloud) to scale horizontally.
- **Concurrency:** The platform should support multiple concurrent users accessing the website and making transactions simultaneously, ensuring no performance bottlenecks.

2. Availability:

- **Uptime:** The website should have an uptime of 99.9%, meaning it should be available for users 24/7, with minimal downtime for maintenance or unexpected outages.
- **Backup and Disaster Recovery:** Regular backups of the database and files should be taken, and recovery plans should be in place to ensure data integrity in case of any failure.

3. Security:

- **Data Encryption:** All sensitive data, including personal and payment information, must be encrypted using HTTPS (SSL/TLS) to ensure secure transmission.
- **Authentication and Authorization:** Only authorized users (admins, staff) should have access to sensitive features like order

management and product editing. User sessions should be protected with tokens or cookies to ensure secure logins.

- **Fraud Prevention:** Implement security mechanisms to detect fraudulent transactions or user behavior, ensuring the integrity of transactions and the platform.

4. Usability:

- **User Interface (UI):** The platform should have a clean, intuitive, and easy-to-navigate UI. Customers should easily browse products, make purchases, and track orders without confusion.
- **Accessibility:** The website should comply with WCAG (Web Content Accessibility Guidelines) to ensure that all users, including those with disabilities, can access and use the platform effectively.

5. Maintainability:

- **Code Readability:** The website's codebase should be well-organized, modular, and well-documented to ensure easy maintenance, bug fixing, and future feature additions.
- **Error Handling:** The system should handle errors gracefully, providing clear error messages for users without crashing the application. System logs should be available to track and resolve issues.

6. Interoperability:

- **Payment Gateway Integration:** The website should integrate with multiple payment gateways (e.g., PayPal, Stripe) to offer users a variety of secure payment methods.
- **API Integrations:** The platform should allow for easy integration with third-party tools (e.g., inventory management systems, CRM systems) to enhance functionality.

7. Compliance:

- **Legal Requirements:** The platform should comply with relevant legal requirements, such as data protection regulations (GDPR, CCPA), and e-commerce laws to protect user privacy and rights.

- **Payment Compliance:** Ensure compliance with payment standards like PCI DSS for secure handling of payment information.

By meeting these non-functional requirements, the t-shirt selling e-commerce platform will deliver a secure, fast, and reliable service to users while being easy to maintain and scale in the future.

Software Description and Key Features

Software Description: The T-shirt Selling E-commerce Platform is a web-based application designed to help users browse, select, and purchase custom-designed t-shirts. This platform provides a seamless and intuitive online shopping experience where customers can choose from a variety of designs, sizes, and colors, all while being supported by secure payment and order management systems. The website also allows admins to manage products, track orders, and oversee customer interactions. It serves as a comprehensive e-commerce solution tailored specifically for selling t-shirts.

The platform is built using modern web development technologies, including HTML, CSS, JavaScript, and a backend powered by PHP or similar technologies with a MySQL database. This ensures a responsive, dynamic user interface and a robust backend that can handle inventory management, customer data, and transactions effectively.

Key Features:

1. Product Catalog:

- **Wide Range of T-shirts:** Users can browse through a diverse catalog of t-shirts with various designs, colors, and sizes.
- **Product Filtering and Sorting:** Users can filter products based on size, color, or design and sort them by price, popularity, or new arrivals.
- **Product Details:** Each product listing includes detailed information such as product description, fabric material, available sizes, and pricing.

2. User Account Management:

- **User Registration and Login:** Users can create an account or log in to their existing accounts to save order history, wishlists, and shipping addresses.
- **Profile Management:** Users can update their personal details and view their order history and status through a dedicated account dashboard.

3. Shopping Cart and Checkout:

- **Add to Cart:** Users can add multiple products to their cart, with the ability to update quantities or remove items.
- **Secure Checkout:** The platform provides a secure checkout process where users can review their order and proceed with payment.
- **Multiple Payment Methods:** Users can choose from various payment options, such as credit/debit cards, digital wallets (PayPal, Stripe), or cash on delivery (depending on region).
- **Order Confirmation:** Once an order is placed, users receive an email confirmation along with their order details and estimated delivery time.

4. Search and Navigation:

- **Search Functionality:** Users can quickly find products using the search bar, which filters results based on keywords like design, color, or brand.
- **Responsive Navigation:** The website is designed to be mobile-friendly, offering an optimized experience across all devices (desktop, tablet, and mobile).

5. Admin Panel:

- **Product Management:** Admins can add, edit, or delete products from the catalog, including uploading images and setting prices.
- **Order Management:** Admins can track the status of orders, update order details, and process refunds or cancellations.

- **User Management:** Admins can manage user accounts, including updating customer information or removing accounts if necessary.

6. Customer Support and Reviews:

- **Live Chat or Help Desk:** Users can access a help desk or live chat to get support regarding their orders or products.
- **Product Reviews:** Customers can leave reviews and ratings on products they have purchased, helping other users make informed decisions.
- **Return and Refund Policy:** Clear instructions for users on how to return products or request refunds in case of issues.

7. Security Features:

- **SSL Encryption:** All transactions and sensitive data (user details, payment information) are encrypted to ensure security.
- **Data Protection:** The platform complies with data protection.
- **Sales and Traffic Analytics:** The platform integrates with analytics tools (like Google Analytics) to provide insights into user behavior, sales performance, and inventory tracking.

8. SEO Optimization:

- **Search Engine Optimization (SEO):** The platform is optimized for search engines, ensuring high visibility on search engine result pages (SERPs) for relevant keywords related to t-shirts and apparel.

9. Inventory Management:

- **Stock Monitoring:** The system automatically updates the stock quantity when a purchase is made, preventing overselling of products.
- **Low Stock Alerts:** Admins receive notifications when stock levels of products are low, allowing them to replenish inventory in time.

OUTPUT :

