T-STORE

Tanzeela Ghafoor

Kashaf Akram

Tayyiba Sohail

Supervised By

Prof. Yasir Arfat

Submitted for the partial fulfillment of BS Computer Science degree to the Faculty of Computer Science

GOVT. COLLEGE UNIVERSITY FAISALABAD

JUNE 10, 2024

Introduction

This proposal outlines the development of a T-Shirt E-commerce web application. The application will provide users with a seamless and intuitive interface for browsing, selecting, and purchasing T-shirts. The front-end will be built using React.js, and the back-end will be powered by MongoDB.

Objectives

- Develop a user-friendly e-commerce platform specifically for T-shirts.
- Implement a responsive and attractive front-end using React.js.
- Create a robust and scalable back-end using MongoDB.
- Ensure secure user authentication and payment processing.
- Optimize the application for performance and SEO.
- Provide analytics and reporting tools for sales and user behavior.

Project Scope

Front-End

Technology: React.js

1. **User Interface Design**
    - **Home Page:** Display featured products, categories, and promotions.
    - **Product Listing Page:** Show list of T-shirts with filtering options (size, color, price, etc.).
    - **Product Detail Page:** Provide detailed information about a selected T-shirt, including images, descriptions, reviews, and purchase options.
    - **Cart Page:** Allow users to view items in their cart and proceed to checkout.
    - **Checkout Page:** Facilitate the purchase process with forms for shipping information and payment details.
    - **User Account Page:** Enable users to view their order history, manage addresses, and update personal information.
    - **Admin Dashboard:** Allow administrators to manage products, categories, orders, and user accounts.
    - **Social Sharing:** Enable users to share their purchases on social media platforms (Facebook, Instagram, Twitter) directly from the confirmation page

- **Influencer Integration:** Display T-shirts endorsed by influencers, allowing users to see which items are recommended by their favorite social media personalities.

2. **User Experience (UX)**
    - **Responsive Design:** Ensure the website is fully responsive and accessible on various devices (desktop, tablet, mobile).
    - **Intuitive Navigation:** Provide easy and clear navigation throughout the website.
    - **Search Functionality:** Implement a robust search feature for users to find products quickly.
3. **Performance Optimization**
    - **Code Splitting:** Use code splitting to improve load times.
    - **Lazy Loading:** Implement lazy loading for images and other heavy resources.

Back-End

Technology: MongoDB

1. **Database Design**
    - Use MongoDB to manage the database.
    - Design database schemas for users, products, orders, reviews, and categories.
    - Include schemas to manage influencer information and their endorsements.
2. **API Development**
    - Create RESTful APIs for all front-end interactions.
    - Implement CRUD operations for products, orders, and user accounts.
    - Develop APIs to handle social media sharing functionality
3. **User Authentication**
    - Implement secure user authentication and authorization.
    - Use JWT (JSON Web Tokens) for session management.
4. **Payment Gateway Integration**
    - Integrate with popular payment gateways (e.g., Stripe, PayPal) to handle transactions securely.
5. **Order Management**
    - Develop features for managing orders, including order creation, status updates, and cancellations.

6. **Admin Panel**
    - Create an admin panel for managing products, categories, orders, and user accounts.
    - Implement role-based access control for different admin levels.
7. **Analytics and Reporting**
    - Integrate tools for tracking sales, user behavior, and other key metrics.
    - Provide detailed reports for administrators.

Security

- Implement HTTPS for secure data transmission.
- Protect against common web vulnerabilities such as SQL injection, XSS, and CSRF.
- Ensure data encryption for sensitive information (e.g., passwords, payment details).
- Regular security audits and updates to address emerging threats.

Testing and Quality Assurance

- Conduct thorough testing (unit testing, integration testing, and end-to-end testing) to ensure the application is bug-free and performs well.
- Perform user acceptance testing (UAT) to gather feedback and make necessary adjustments.
- Implement automated testing to streamline the QA process.

Deployment and Maintenance

- Set up a reliable hosting environment (e.g. Digital Ocean).
- Use CI/CD pipelines for continuous integration and deployment.
- Provide ongoing maintenance and support to ensure the application remains up-to-date and secure.
- Monitor the application for performance issues and optimize as needed.

Milestones

- Phase1:Planning and Design(4weeks)
- Phase2:Development (8 weeks)
- Phase3:Testing and Deployment(4 weeks)

References

1. **React.js Documentation:** React - A JavaScript library for building user interfaces (React.js Official Site).
2. **MongoDB Documentation:** PHP: Hypertext Preprocessor (MongoDB.com).
3. **NodeJs Documentation:** MySQL Database (Nodejs Official Site).
4. **ExpressJs Documentation:** MySQL Database (Expressjs Official Site).
5. **Stripe Documentation:** Online payment processing for internet businesses (Stripe Official Site).
6. **Web Security Guidelines:** OWASP Top Ten Web Application Security Risks (OWASP Official Site).

CERTIFICATE

Dated: _____

Final Approval

It is certified that project report titled**,**"**T-Store**" submitted by **Tanzeela Ghafoor, Tayyiba Sohail, Kashaf Akram** for the partial fulfillment of the requirement of "**Bachelors Degree in Computer Science**" is approved.

SCOPE DOCUMENT REVSION HISTORY

No.	Comment	Action

Supervisor Signature: _____

Date: _____

DECLARATION

We hereby declare that our dissertation is entirely our work and genuine / original. We understand that in case of discovery of any PLAGIARISM at any stage, our group will be assigned an F (FAIL) grade and it may result in withdrawal of our Bachelor's degree.

Group Members	Signature
1.Tanzeela Ghafoor	_____
2.Tayyiba Sohail	_____
3.Kashaf Akram	_____