MCA Semester – IV
Interim Report

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Project	E- Commerce WebApplication(Fashion & clothing)
Group	FULL STACK WEB DVELOPMENT
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E Commerce WebApplication(Fashion & clothing)

Research Project submitted to Jain Online (Deemed-to-be University)
In partial fulfillment of the requirements for the award of:

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DECLARATION

I, Pradeep Kumar T, Shaik Gajula Mohammed Ishaq, Sinchana gowda, Lakshmi Prava Borah,Sathyaanbu hereby declare that this Project Report has been prepared by me under the guidance of Faculty name. I declare that this Project is towards the partial fulfillment of the credit requirement for the course "Capstone Project," which is part of the Master of Computer Applications degree given by Jain University, Bengaluru. I declare that the work done by me towards this Project is original in nature and is my own contribution.

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EXECUTIVE SUMMARY

In the dynamic landscape of online retail, our E-commerce Clothing Web Application project is progressing with vigor and purpose. Harnessing the power of Spring Boot, React, and MySQL, our team is shaping a sophisticated platform tailored for seamless clothing shopping experiences. With a foundation rooted in the Agile methodology, our project has reached critical milestones.

The frontend, crafted using React, boasts an intuitive user interface, empowering users to navigate a diverse product catalog effortlessly. On the backend, Spring Boot APIs orchestrate smooth user interactions, secure payment gateways, and efficient order processing. Our meticulous database design using MySQL ensures data integrity and streamlined operations.

Challenges have been met with innovative solutions; integrating third-party payment APIs and optimizing search algorithms are testaments to our problem-solving abilities. Looking ahead, our focus is on refining user experiences, perfecting mobile responsiveness, and ensuring stringent security and performance testing.

The project's trajectory speaks of collaborative excellence, marked by the synergy of technology and design principles. As we move forward, our commitment remains unwavering: to deliver a cutting-edge, user-friendly E-commerce Clothing Web Application that redefines online fashion retailing.

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Introduction

The E-commerce Clothing Web Application project focuses on developing a sophisticated online platform for clothing retail. Leveraging advanced technologies such as Spring Boot for backend development, React for frontend interfaces, and MySQL for database management, the project aims to create a seamless and visually appealing shopping experience for users interested in clothing and fashion accessories.

Project Scope and Objectives

This project encompasses the creation of a comprehensive e-commerce website specifically tailored for clothing and related items. The primary objectives include developing an intuitive and aesthetically pleasing user interface, integrating secure payment gateways, implementing efficient product categorization and search functionalities, and ensuring seamless order processing. The deliverables consist of a fully functional e-commerce platform, detailed technical documentation, and user guides

Admin

1. View User Details: Admin can view details of Customers

2. View Orders: Admin can view all the purchased orders in the system on the dashboard.

3. View Products: Admin can view all the products available in the system, similar to customers and can edit it.

4. No Ordering: Admin cannot place orders within the application.

Customer

1. View Products: Customers should be able to browse and view products based on different categories.

2. Add to Cart: Customers can add products of their choice to their shopping cart.

3. Manage Cart: Customers can add, delete, and modify products in their shopping cart.

4. Place Orders: Customers can place orders by providing essential details such as address, phone number, payment information, net billed amount, and quantities of products.

Common

1. Login: Users should be able to authenticate and log in to the application.

2. Register/Signup: New users should be able to create an account.
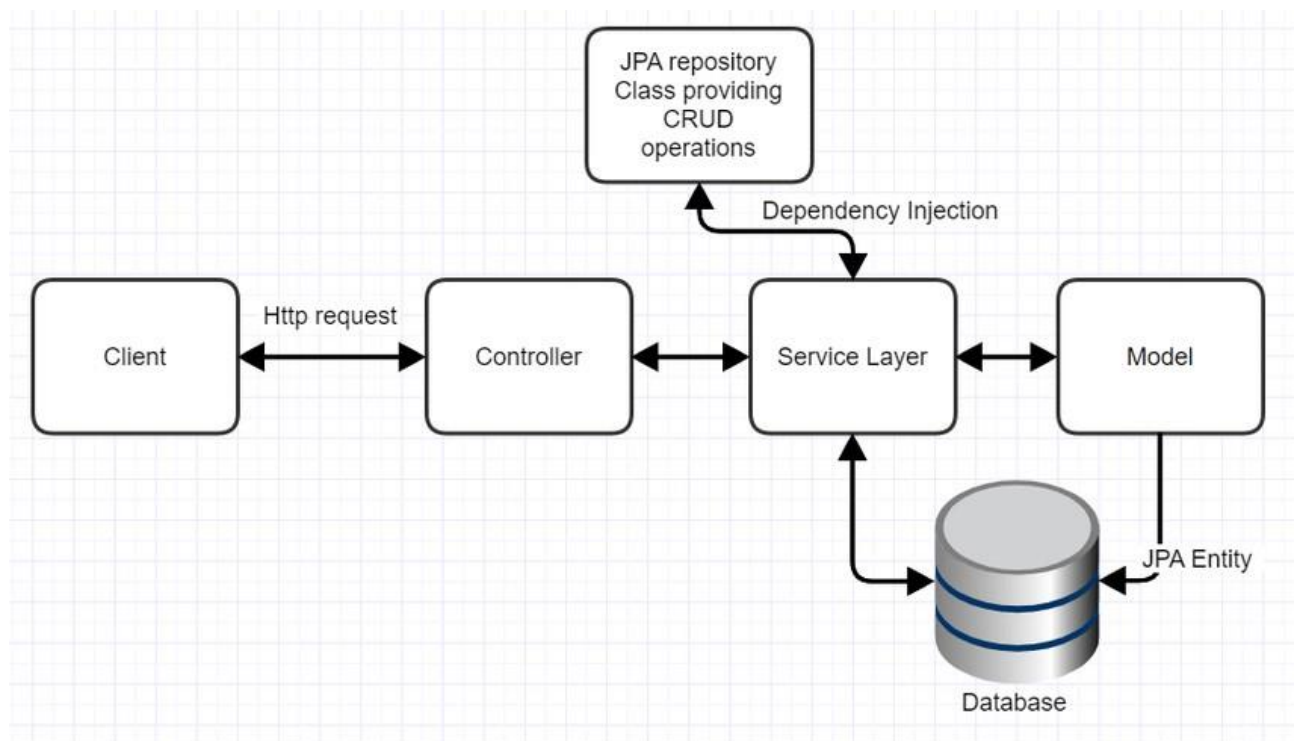

Fig:1 High level diagram

Fig: 2 Backend Data Flow

Fig: 3 Database Data Flow

Methodology

The Agile methodology was adopted, allowing for flexibility and iterative development. Tools like JIRA were utilized for efficient project management. React.js was chosen for its dynamic and responsive frontend capabilities, while Spring Boot facilitated rapid API development for the backend. MySQL, a robust relational database system, was selected for its ability to handle complex data structures effectively.

System Architecture and Design

The application adheres to the Model-View-Controller (MVC) architectural pattern. React components interact with Spring Boot APIs, which communicate with the MySQL database. Design patterns such as Factory and Repository were implemented to enhance modularity and data management. Visual representations, including Entity-Relationship diagrams, were created to illustrate the database schema and system components.

Progress and Accomplishments

In the interim phase, significant progress has been made. The frontend UI framework, including product catalog and user authentication features, has been established using React. Backend APIs for user registration, product management, and order processing were developed using Spring Boot. The MySQL database schema was designed, and basic CRUD operations were successfully implemented. Challenges faced included integrating third-party APIs for payment processing and optimizing search algorithms, which are actively being addressed.

Future Work and Timeline

Remaining tasks involve implementing advanced features such as personalized product recommendations, refining the user interface for mobile responsiveness, and conducting rigorous testing for security and performance. The timeline includes feature completion by Week 8, intensive testing and bug fixes in Week 9, and comprehensive documentation in Week 10. Potential risks, such as data security vulnerabilities and user experience inconsistencies, will be mitigated through thorough testing and user feedback analysis.

Conclusion

The interim phase marks significant progress, with essential components of the e-commerce clothing web application successfully integrated. The collaboration and dedication of the team have played a pivotal role in overcoming initial challenges. Lessons learned include the importance of real-time collaboration and user-centered design principles. The project is well-positioned for successful completion, and the team is confident in delivering a high-quality, user-friendly e-commerce platform. The next steps involve feature finalization, extensive testing, and the preparation of comprehensive documentation for the final project presentation.