Design and Implementation of a Real-Time Online Bidding System Using Spring Boot and React JS

Prof. Shubkirti Bodkhe[1], Prof. Mrunali Jadhav[2], Saloni Rajesh Sontakke[3]

Assistant Professor, Department of Computer Science and Engineering[1,2]

U.G. Student, Department of Computer Science and Engineering[3]

Tulsiramji Gaikwad-Patil Institute of Engineering & Technology, Mohgaon, Nagpur, Maharashtra, India

shubhkirtibodkhe@gmail.com, mrunalijadhav2018@gmail.com, salonisontakke26@gmail.com

Abstract: *This paper presents a secure and scalable real-time online bidding system built using React JS for the frontend, Spring Boot for the backend, and MySQL for data management. The platform supports role-based access for buyers, sellers, administrators, and delivery agents. Key features include product listing, real-time bidding via WebSockets, wallet-based transactions, and order tracking. Security is enforced through Spring Security for authentication and authorization. The system is modular and performance- tested to handle multiple users and live transactions efficiently. Future enhancements aim to integrate machine learning for fraud detection and cloud deployment for improved scalability*

Keywords: Online Bidding, Real-Time Auction, Spring Boot, React JS, WebSocket, Digital Wallet, System Security, Scalability