

E-Wine: A Cloud-Driven Architecture for Secure and Scalable Digital Wine Retail

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Abstract: *This paper describes the design and implementation of a dedicated wine vending system for a single vendor, developed fully on a responsive web platform with the help of a secure, cloud-based backend. The solution meets the growing need for wine retailing online with a seamless, friendly, and effective shopping process. The most prominent features of the application are user-friendly product browsing, real-time order handling, and safe online payment support. The backend framework, on one cloud provider, provides high availability, horizontal scale, and guaranteed data storage. Architectural aspects like load balance, automatic backup, and recovery from disasters are addressed to draw attention to the system's ruggedness. Safety is also high on the priority list, and features such as encryption mechanisms, user authentication process, and observance of standardized online transaction behavior are employed. The paper also addresses legal and regulatory factors, including age verification and data protection compliance. It then suggests methods of improving system performance and identifies opportunities for future expansion. This platform is tailored to fit the particular needs of independent wine sellers yet provides a basis for future digital growth.*

Keywords: Wine-selling application, Cloud computing, E-commerce platform, Single-vendor system, Web application, Data security, User authentication, Regulatory compliance

