ABSTRACT

The digitalization movement has made many organizations build information system applications with the aim of running business processes more effectively and efficiently. One of the information systems is E-commerce Surabaya. E-commerce Surabaya is a website used by Surabaya City Government Employees or the general public to shop for various kinds of daily necessities at Grocery Stores, MSMEs and SWKs available in each District in the City of Surabaya. E-commerce Surabaya's information system has a lot of important and sensitive data that must be maintained. Information system security is very important to ensure data integrity, confidentiality, and availability. This research aims to analyze the security gaps of E-commerce Surabaya's information system using the (Open Worldwide Application Security Project) OWASP Top 10 framework. There are several OWASP stages carried out including Information Gathering, Session Management Testing, Data Validation Testing, and Webservices Testing. Penetration testing is one way to see the level of security of a system, testing is done by simulating attacks on web-based applications to be tested. This research provides recommendations and guidelines that are beneficial for relevant parties to enhance information system security. Therefore, this study contributes positively by assisting these parties in preventing potential information security threats.

Keywords: Information System Security, OWASP TOP 10, Penetration Testing