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Performance Metrics: Evaluating Radio Frequency Identification (RFID) Library System

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PERFORMANCE METRICS: EVALUATING RADIO FREQUENCY IDENTIFICATION (RFID) LIBRARY SYSTEM

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Abstract

A significant aspect of design science research is ensuring that the artifact meets the specified requirements, that is, evaluation. The literature indicates that a series of tests have been done to evaluate RFID systems in the supply chain. However a paucity of data exists on RFID Library system. The purpose of this research is to evaluate the performance of the RFID artifact in its operating environment and compare the results to vendors' specification. This paper will apply a design science approach to the evaluation of the artifact and develop test metrics based on the literature. The factors examined include tag location, reader orientation sensitivity, read distance, metal and electromagnetic interference. The findings of this study will be helpful to library practitioners in understanding the behavior of RFID system in a library setting and provide suggestions for best practices.

Keywords: RFID, design science, performance evaluation, metrics