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RFID Laptop Monitoring and Management System

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Abstract : This paper describes the design of an RFID laptop monitoring and management system. Laptops embedded with RFID chips are monitored and tracked to provide a monitoring system for the purpose of tracking as well as monitoring movement of the laptops in and out of a building. The proposed system is implemented with both hardware and software components. The hardware architecture consists of RFID passive tag, RFID module (reader), and a server hosting the application and database. The RFID readers are distributed at major exits of a building or premises. The tags are programmed with owner laptop details are concealed in the laptops. The software architecture consists of application software that has the APIs (Applications Programming Interface) necessary to interface the RFID system with the PC, to achieve automated laptop monitoring system. A friendly graphic user interface (GUI) and a database that saves all readings and owners details. The system is capable of reducing laptop theft especially in students' hostels as laptops can be monitored as they are taken either in or out of the building.

Keywords : asset tracking, GUI, laptop monitoring, radio frequency identification, passive tags
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