

Exploration of RFID in Healthcare: A Data Mining Approach

Authors : Shilpa Balan

Abstract : Radio Frequency Identification, also popularly known as RFID is used to automatically identify and track tags attached to items. This study focuses on the application of RFID in healthcare. The adoption of RFID in healthcare is a crucial technology to patient safety and inventory management. Data from RFID tags are used to identify the locations of patients and inventory in real time. Medical errors are thought to be a prominent cause of loss of life and injury. The major advantage of RFID application in healthcare industry is the reduction of medical errors. The healthcare industry has generated huge amounts of data. By discovering patterns and trends within the data, big data analytics can help improve patient care and lower healthcare costs. The number of increasing research publications leading to innovations in RFID applications shows the importance of this technology. This study explores the current state of research of RFID in healthcare using a text mining approach. No study has been performed yet on examining the current state of RFID research in healthcare using a data mining approach. In this study, related articles were collected on RFID from healthcare journal and news articles. Articles collected were from the year 2000 to 2015. Significant keywords on the topic of focus are identified and analyzed using open source data analytics software such as Rapid Miner. These analytical tools help extract pertinent information from massive volumes of data. It is seen that the main benefits of adopting RFID technology in healthcare include tracking medicines and equipment, upholding patient safety, and security improvement. The real-time tracking features of RFID allows for enhanced supply chain management. By productively using big data, healthcare organizations can gain significant benefits. Big data analytics in healthcare enables improved decisions by extracting insights from large volumes of data.

Keywords : RFID, data mining, data analysis, healthcare

Conference Title : ICCIE 2016 : International Conference on Computer and Information Engineering

Conference Location : Los Angeles, United States

Conference Dates : April 05-06, 2016