Abstract

Healthcare Delivery Organizations (HDOs) in developing countries have been faced with a number of problems due to their mode of operations. Amongst the problems are improper modes of data storage, insecurity of patient medical records, difficulty in accessing quality healthcare services, high cost of medical services, and inaccurate diagnosis and therapy procedures. In recent times, research has identified Cloud Computing (CC) as a new and substantial business model capable of providing efficient services that would benefit the healthcare industry. Despite its numerous advantages, CC has not been able to provide efficient means of securing medical data and it also lacks adequate data mining tools. This research therefore, proposes an enhanced model that integrates HDOs in developing countries into the cloud. The proposed model consists of a Data Security and User Authentication Engine
(DSUAE) which prevents unauthorized access to patient medical records and as well employs standard encryption/decryption techniques to guarantee confidentiality of such records. The model also contains a Data Mining/Analysis and Pattern Prediction Engine (DMAPPE) which provides useful information that aids decision making through standard Data Mining techniques.

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Index Terms

Computer Science  Cloud Computing

Keywords

Cloud Computing  Healthcare Organization  Data Mining  Data Security
Electronic Health Record