

Advanced Solutions for Medical Information Storing: Clinical Data Warehouse

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Abstract

- The paper presents a number of research challenges for medical data storing into Health Information Systems (HIS).
- complex-data modeling features, advanced classification structures, integration of very complex data, and demonstrates how this area may benefit from the functionality offered by data warehousing.

Abstract(Contd...)

- In addition it is presented a case study that configures a data warehouse developed using multi-agent technology that integrates information from heterogeneous sources of a healthcare unit.

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Existing System

- Even if DWs architecture varies depending on the specifics of each organization, you can define a basic architecture model with three main components:
 - 1) data acquisition system from OLTP systems and other sources;
 - 2) data warehouse itself and warehouse management system data;
 - 3) system analysis and presentation of data from the data warehouse.

Limitations of Existing System

- data must provide support for search operations, recognition, sorting and classifying data evaluated.
- We should not overlook the fact that not have any medical educational institutions which manage increasing volumes of large Big Data

Proposed System

- A data warehouse is a subject oriented, integrated, non-volatile and time-variant collection of time in support of management's Decisions
- Demonstrates how this Health Information Systems (HIS), may benefit from the functionality offered by data warehousing.
- In addition it is presented a case study that configures a data warehouse developed using multi-agent technology that integrates information from heterogeneous sources of a healthcare unit.

Advantages of Proposed System

- DW in the ITS Advantages of Cloud benefited of flexibility, adaptability, availability, scalability, virtualization and many others.
- This paper analyses new solutions for better efficiency of linking patient data from many databases into one data warehouse to perform clinical analytics.

Conclusion

- Motivated by the increasing use of large databases for data analysis in complex and wide application areas for example healthcare, this paper has investigated aspects of data modeling and query processing for complex multidimensional data.
- Data size matters and data volume are important parameters to take under consideration when dimensioning the CDW and developing agents.
- A set of applications sharing the data should be available and data warehouse may be adaptive; i.e., to handle rapid change in business environments, activities and strategies.

Conclusion(Contd...)

- It was presented an extended multidimensional data model which could be implemented using standard OLAP technology and techniques such as RDBMSs and pre aggregation around a multi-agent system.
- The system facilitated the integration of OLAP data with complex external data considerably and allowed data to be managed using the most appropriate data model and technology.
- The proposed CDW architecture allows to support at the same time both small transactions, realized by users, and very large transactions, realized by software agents, during the loading of data into the data warehouse.