Analysis Design And Implementation Of A Database Management System For A Generating Technical Medical Reports By Chiropractors

This project details the comprehensive analysis, design, and successful implementation of a specialized database management system. Developed specifically for chiropractors, its core function is to facilitate the efficient and accurate generation of technical medical reports, thereby optimizing practice operations and data management.

Analysis, Design and Implementation of a Database Management System for a Generating Technical/Medical Reports by Chiropractors

A medical center specializing in chiropractic care is burdened with the enormous task of managing numerous patient's records, preparing error free billing statements, and writing official business/medical. This task requires increased attention of staff personnel. The burden of paper file management could be lessened through automation of record keeping, while increasing accuracy, efficiency, and effectiveness. Valuable time for the providers and secretary could be saved through elimination of excessive paperwork which they are required to prepare. Based on the staff requirements, this thesis designs and implements a database management system. The primary objective is to automate the current manual system to allow providers to generate official medical reports. In addition to, this system will also store, sort, and compare data relevant to all patients while minimizing the need to maintain hard copy files. The Chiro Pro 97 (CP97) Database system is designed using Microsoft Access 97.

NTIS Alert

This book provides innovative practical suggestions regarding the production and management of medical records that are designed to address the inconsistencies and errors that have been highlighted especially in relation to national eHealth programs. Challenges and lessons that have emerged from the use of clinical information and the design of medical records are discussed, and principles underpinning the implementation of health IT are critically examined. New trends in the use of clinical data are explored in depth, with analysis of issues relating to integration and sharing of patient information, data visualization, big data analytics, and the requirements of modern electronic health records. The spirit pervading the book is one of co-production, in which the needs of practitioners are taken into account from the outset. Readers will learn the basic concepts of how clinical information emanating

from the doctor–patient relationship can be effectively integrated with genetic and environmental data and analyzed by complex algorithms with the goal of improving medical decision making and patient care. The book, written by European experts and researchers, will be of interest to all stakeholders in the field, including doctors, technicians, and policy makers.

Databases for Health Care

This book trains the next generation of scientists representing different disciplines to leverage the data generated during routine patient care. It formulates a more complete lexicon of evidence-based recommendations and support shared, ethical decision making by doctors with their patients. Diagnostic and therapeutic technologies continue to evolve rapidly, and both individual practitioners and clinical teams face increasingly complex ethical decisions. Unfortunately, the current state of medical knowledge does not provide the guidance to make the majority of clinical decisions on the basis of evidence. The present research infrastructure is inefficient and frequently produces unreliable results that cannot be replicated. Even randomized controlled trials (RCTs), the traditional gold standards of the research reliability hierarchy, are not without limitations. They can be costly, labor intensive, and slow, and can return results that are seldom generalizable to every patient population. Furthermore, many pertinent but unresolved clinical and medical systems issues do not seem to have attracted the interest of the research enterprise, which has come to focus instead on cellular and molecular investigations and single-agent (e.g., a drug or device) effects. For clinicians, the end result is a bit of a "data desert" when it comes to making decisions. The new research infrastructure proposed in this book will help the medical profession to make ethically sound and well informed decisions for their patients.

New Perspectives in Medical Records

A database is in principle just a large collection of related or separate data, systematically stored in a computer. It should be possible for the data to be easily entered into the database-structure and afterwards also easily read, corrected and processed. The later analysis of data from such a database is greatly enhanced by the availability of special query languages and statistical analysis programs, not only for serial items but also for large combinations of data. Query languages, such as SQL (Structured Query Language) developed especially for these purposes, make databases easily accessible, also to researchers who may not be very well versed in computer programming. The cardiological/medical clinician and researcher of today is of necessity confronted more and more with computer-based data storage. Interest is of course focused primarily on the clinical use of such databases more than on the technical design itself, except for some very specific, personalized applications. For the latter approach, there are at present many software packages commercially available, especially designed for use in the personal computer environment. This book is comprised out of a number of contributions by various authors with differing backgrounds and from many different countries. The editors, being a cardiologist and an information scientist, have strived to achieve an equilibrium between these two fields. The chapters in this book form a cross-section of the many approaches to database design and implementation in the area of cardiology.

Secondary Analysis of Electronic Health Records

Typically, analysis, development, and database teams work for different business units, and use different design notations. With UML and the Rational Unified Process (RUP), however, they can unify their efforts -- eliminating time-consuming, error-prone translations, and accelerating software to market. In this book, two data modeling specialists from Rational Software Corporation show exactly how to model data with UML and RUP, presenting proven processes and start-to-finish case studies. The book utilizes a running case study to bring together the entire process of data modeling with UML. Each chapter dissects a different stage of the data modeling process, from requirements through implementation. For each stage, the authors cover workflow and participants' roles, key concepts, proven approach, practical design techniques, and more. Along the way, the authors demonstrate how integrating data modeling into a unified software design process not only saves time and money, but gives all team members a far clearer understanding of the impact of potential changes. The book includes a detailed glossary, as well as appendices that present essential Use Case Models and descriptions. For all software team members: managers, team leaders, systems and data analysts, architects, developers, database designers, and others involved in building database applications for the enterprise.

Databases for Cardiology

With the advancements of semantic web, ontology has become the crucial mechanism for representing concepts in various domains. For research and dispersal of customized healthcare services, a major challenge is to efficiently retrieve and analyze individual patient data from a large volume of heterogeneous data over a long time span. This requirement demands effective ontology-based information retrieval approaches for clinical information systems so that the pertinent information can be mined from large amount of distributed data. This unique and groundbreaking book highlights the key advances in ontology-based information retrieval techniques being applied in the healthcare domain and covers the following areas: Semantic data integration in e-health care systems Keyword-based medical information retrieval Ontology-based query retrieval support for e-health implementation Ontologies as a database management system technology for medical information retrieval Information integration using contextual knowledge and ontology merging Collaborative ontology-based information indexing and retrieval in health informatics An ontology-based text mining framework for vulnerability assessment in health and social care An ontology-based multi-agent system for matchmaking patient healthcare monitoring A multi-agent system for querying heterogeneous data sources with ontologies for reducing cost of customized healthcare systems A methodology for ontology based multi agent systems development Ontology based systems for clinical systems: validity, ethics and regulation

UML for Database Design

Alphabetical listing by vendors. Address, program, and description are included in entries. Contains introductory information and glossary. Miscellaneous indexes.

The Software Encyclopedia

This book trains the next generation of scientists representing different disciplines to leverage the data generated during routine patient care. It formulates a more complete lexicon of evidence-based recommendations and support shared, ethical decision making by doctors with their patients. Diagnostic and therapeutic technologies continue to evolve rapidly, and both individual practitioners and clinical teams face increasingly complex ethical decisions. Unfortunately, the current state of medical knowledge does not provide the guidance to make the majority of clinical decisions on the basis of evidence. The present research infrastructure is inefficient and frequently produces unreliable results that cannot be replicated. Even randomized controlled trials (RCTs), the traditional gold standards of the research reliability hierarchy, are not without limitations. They can be costly, labor intensive, and slow, and can return results that are seldom generalizable to every patient population. Furthermore, many pertinent but unresolved clinical and medical systems issues do not seem to have attracted the interest of the research enterprise, which has come to focus instead on cellular and molecular investigations and single-agent (e.g., a drug or device) effects. For clinicians, the end result is a bit of a "data desert" when it comes to making decisions. The new research infrastructure proposed in this book will help the medical profession to make ethically sound and well informed decisions for their patients.

Database Architectures, a Feasibility Workshop Report

As a result of the Institute of Medicine (IOM) report, To Err Is Human, the Department of Defense (DoD), per the direction of President Clinton, developed an action plan to reduce medical errors. A system to track and trend near misses and adverse safety events for all the medical treatment facilities in the DoD was developed. A standard spreadsheet for data collection through e-mail was created and implemented. A relational database management system was utilized for data analysis. The data reporting system is a qualified success. There are limitations with statistical analysis and variations in the data submitted. The system has helped to identify patterns of patient safety errors and areas where patient safety events warrant further investigation.

Business Software Directory

Databases are an increasingly important part of the everyday life of all healthcare professionals. This straightforward practical guide to creating and using databases is closely tailored to the needs of healthcare practitioners. It covers design and implementation including simple data modelling, normalisation, tables, forms, queries and reports and shows how a database can be integrated with a word processor to produce letters for mailing. The easy to use step-by-step format guides the reader through the text in a user-friendly style by showing what actually appears on the computer and by

making extensive use of screen shots, toolbar icons, mouse and keyboard actions. This clear and concise approachable book is designed for all general practitioners, practice managers and nurses, clinical governance and audit staff, doctors, nurses and other hospital staff, and staff involved in research and development - who need have no prior knowledge of databases.

Ontology-Based Information Retrieval for Healthcare Systems

Book introduces clinicians to SQL and using hands on examples on MIMIC2 - a publicly available, de-identified ICU database from Beth Israel Deaconess Medical Center and MIT Physionet - it enables care providers to query any database of an Electronic Health Record (EHR) and create meaningful reports to support their quality initiatives. IT professionals will benefit from a structured analysis of the main parameters that interest clinicians: diagnosis, procedure, lab, meds, imaging reports, nursing assessments and interventions, scoring systems, mortality, length of stay, readmissions' rate, costs, etc. Using this book, both clinicians and IT professionals can easily retrieve any information from the data in their EHR and discover new clinical insights hidden in their database. 1. A Brief Database Primer 1 2. MIMIC2 Clinical Database 9 3. MySQL Workbench 12 4. Introduction to the Mighty SELECT 21 5. Aggregate / Summary Functions 48 6. Querying Multiple Tables 63 7. Entity Relationship Diagram - ERD 76 8. Systematic information extraction 91 9. Patient 102 10. Mortality 125 11. Length of stay (LOS) 139 12. Readmissions 145 13. Diagnosis 153 14. Sepsis profile 174 15. Lab 200 16. Drug 217 17. Procedure 230 18. Chart, note and much more 239 19. Provider and care unit 248 20. Nursing 259 21. Fluid 267 22. Score and scale 274 Appendix Answers to Questions

Computers in Healthcare

The principles which form the basis for the broad analysis of this book includes Database design methodology considered as structured approach.It uses procedures, techniques, tools, and documentation aids to support and facilitate the process of Database design. This book explores and and analyses the various methodologies with practical examples. This includes three main phases, which are conceptual, logical and physical database design. Chapter I of this book introduces the concept.Chapter II focuses on the Airport Clinic as an enterprise, using the relational data model to develop an object oriented Management Information System. Chapter III discusses the threats to data security and tools available for solution of any such security threats. Chapter IV deals with two emerging trends in the database management systems that are becoming particularly important. Chapter V provides details of the contribution of this book to the subject of DBMS and the Airport Clinic in particular. Chapter VI draws a curtain on the book.

The Software Catalog

Discover How Electronic Health Records Are Built to Drive the Next Generation of Healthcare Delivery The increased role of IT in the healthcare sector has led to the coining of a new phrase "health informatics," which deals with the use of IT for better healthcare services. Health informatics applications often involve maintaining the health records of individuals, in digital form, which is referred to as an Electronic Health Record (EHR). Building and implementing an EHR infrastructure requires an understanding of healthcare standards, coding systems, and frameworks. This book provides an overview of different health informatics resources and artifacts that underlie the design and development of interoperable healthcare systems and applications. Electronic Health Record: Standards, Coding Systems, Frameworks, and Infrastructures compiles, for the first time, study and analysis results that EHR professionals previously had to gather from multiple sources. It benefits readers by giving them an understanding of what roles a particular healthcare standard, code, or framework plays in EHR design and overall IT-enabled healthcare services along with the issues involved. This book on Electronic Health Record: Offers the most comprehensive coverage of available EHR Standards including ISO, European Union Standards, and national initiatives by Sweden, the Netherlands, Canada, Australia, and many others Provides assessment of existing standards Includes a glossary of frequently used terms in the area of EHR Contains numerous diagrams and illustrations to facilitate comprehension Discusses security and reliability of data

Secondary Analysis of Electronic Health Records

This document summarizes the evidence and analysis that support two papers appearing in "Health Affairs," Vol. 24, No. 5, Sept/Oct 2005, by Hillestad et al. and by Taylor et al. Three much more complete technical reports are as follows: (1) Fonkych, K., and R. Taylor, "The State and Pattern of Health

Information Technology Adoption," RAND Corporation, MG-409-HLTH, 2005; Girosi, F., R. Meili, and R. Scoville, "Extrapolating Evidence of Health Information Technology Savings and Costs," RAND Corporation, MG-410-HLTH, 2005; and Bigelow, J. H., K. Fonkych, C. Fung, and J. Wang, "Analysis of Healthcare Interventions that Change Patient Trajectories," RAND Corporation, MG-408-HLTH, 2005. The three sections of this paper summarize these documents in the order listed. Report no. 1 estimates the degree to which hospitals and physician practices have adopted electronic medical records (EMRs), and identifies factors that correlate with adoption. The primary source of data was the Healthcare Information and Management Systems Society (HIMSS)-Dorenfest database for the beginning of 2004, which covers nearly 4,000 acute care community hospitals in the United States (75% of the total number) and most physician practices owned by hospital systems. Report no. 2 quantifies potential national-level efficiency savings that might be obtained with HIT and associated health care changes, and compares them to the costs the nation would incur to realize those savings (efficiency savings are those savings resulting from the ability to perform the same task with fewer resources). A patient trajectory is the sequence of events that involves the patient with the healthcare system. Report no. 3 examines four interventions in the healthcare system that affect patient trajectories, and how HIT may facilitate those interventions.

Database Management Systems

Data integrity is a critical aspect to the design, implementation, and usage of any system which stores, processes, or retrieves data. The overall intent of any data integrity technique is the same: ensure data is recorded exactly as intended and, upon later retrieval, ensure the data is the same as it was when originally recorded. Any alternation to the data is then traced to the person who made the modification. The integrity of data in a patient's electronic health record is critical to ensuring the safety of the patient. This book is relevant to production systems and quality control systems associated with the manufacture of pharmaceuticals and medical device products and updates the practical information to enable better understanding of the controls applicable to e-records. The book highlights the e-records suitability implementation and associated risk-assessed controls, and e-records handling. The book also provides updated regulatory standards from global regulatory organizations such as MHRA, Medicines and Healthcare Products Regulatory Agency (UK); FDA, Food and Drug Administration (US); National Medical Products Association (China); TGA, Therapeutic Goods Administration (Australia); SIMGP, Russia State Institute of Medicines and Good Practices; and the World Health Organization, to name a few.

Data Base Management Systems

The healthcare industry produces a constant flow of data, creating a need for deep analysis of databases through data mining tools and techniques resulting in expanded medical research, diagnosis, and treatment. ""Data Mining and Medical Knowledge Management: Cases and Applications"" presents case studies on applications of various modern data mining methods in several important areas of medicine, covering classical data mining methods, elaborated approaches related to mining in electroencephalogram and electrocardiogram data, and methods related to mining in genetic data. A premier resource for those involved in data mining and medical knowledge management, this book tackles ethical issues related to cost-sensitive learning in medicine and produces theoretical contributions concerning general problems of data, information, knowledge, and ontologies.

Implementation of a Data-Based Medical Event Reporting System in the U.S. Department of Defense

The Naval Security Group currently requires a modem architecture to merge existing command databases into a single Enterprise Information System through which each command may manipulate administrative data. There are numerous technologies available to build and implement such a system. Component-based architectures are extremely well-suited for creating scalable and flexible three-tier Client/Server systems because the data and business logic are encapsulated within objects, allowing them to be located anywhere on a network. The first tier represents the visual aspects of the data on the client side. The middle tier consists of server objects that represent the persistent data and enforce the business logic functions. The third tier maintains the database management systems. The client interacts with the middle-tier server objects via Common Object Request Broker Architecture. CORBA provides a language and platform independent architecture that enables objects to transparently make requests and receive responses in a distributed environment. Java is an object-oriented, multi-threaded, secure mobile code system that allows applications to run on all major computing platforms. This

thesis examines the design of an EIS using Java Applets that use Inter-Orb Protocol to communicate with CORBA middle-tier server objects. The third tier will incorporate Java Database Connectivity to communicate with database management systems.

Healthcare Databases

For adults. There is a pressing need for methodologically sound RCTs to confirm whether such interventions are helpful and, if so, for whom.

Medical Information Extraction and Analysis

With accompanying software! Clinicians manage a lot of data - on assorted bits of paper and in their heads. This book is about better ways to manage and understand large amounts of clinical data. Following on from his ground breaking book, Evaluating the Processes of Neonatal Intensive Care, Joseph Schulman has produced this eminently readable guide to patient data analysis. He demystifies the technical methodology to make this crucial aspect of good clinical practice understandable and usable for all health care workers. Computer technology has been relatively slow to transform the daily work of health care, the way it has transformed other professions that work with large amounts of data. Each day, we do our work as we did it the day before, even though current technology offers much better ways. Here are much better ways to document and learn from the daily work of clinical care. Here are the principles of data management and analysis and detailed examples of how to implement them using computer technology. To show you that the knowledge is scalable and useful, and to get you off to a running start, the book includes a complete point of care database software application tailored to the neonatal intensive care unit (NICU). With examples from the NICU and the pediatric ward, this book is aimed specifically at the neonatal and pediatric teams. The accompanying software can be downloaded on to your system or PDA, so that continual record assessment becomes second nature – a skill that will immeasurably improve practice and outcomes for all your patients.

Cumulated Index Medicus

The Naval Security Group currently requires a modem architecture to merge existing command databases into a single Enterprise Information System through which each command may manipulate administrative data. There are numerous technologies available to build and implement such a system. Component- based architectures are extremely well-suited for creating scalable and flexible three-tier Client/Server systems because the data and business logic are encapsulated within objects, allowing them to be located anywhere on a network. The first tier represents the visual aspects of the data on the client side. The middle tier consists of server objects that represent the persistent data and enforce the business logic functions. The third tier maintains the database management systems. The client interacts with the middle-tier server objects via Common Object Request Broker Architecture. CORBA provides a language and platform independent architecture that enables objects to transparently make requests and receive responses in a distributed environment. Java is an object- oriented, multi-threaded, secure mobile code system that allows applications to run on all major computing platforms. This thesis examines the design of an EIS using Java Applets that use Inter-Orb Protocol to communicate with CORBA middle- tier server objects. The third tier will incorporate Java Database Connectivity to communicate with database management systems.

Data Base Management Systems

"Nurses play a vital role in improving the safety and quality of patient car -- not only in the hospital or ambulatory treatment facility, but also of community-based care and the care performed by family members. Nurses need know what proven techniques and interventions they can use to enhance patient outcomes. To address this need, the Agency for Healthcare Research and Quality (AHRQ), with additional funding from the Robert Wood Johnson Foundation, has prepared this comprehensive, 1,400-page, handbook for nurses on patient safety and quality -- Patient Safety and Quality: An Evidence-Based Handbook for Nurses. (AHRQ Publication No. 08-0043)." - online AHRQ blurb, http://www.ahrq.gov/qual/nurseshdbk/

Principles of Applied Database Management System for Health Sector

This thesis describes the implementation of a prototype for a P2P database management system. This implementation established a master application laid up on local database with main user interface

and four sub applications: network manager, acquaintance manager, rule generating manager, query processing manager. We are interested in the creation of Peer-to-Peer (hereafter P2P) systems that consist of autonomous databases coordinated by event-condition-action (ECA) rules. Such systems could be used for the exchange of information among peers who don't need (or want) wholesale integration of their respective databases. Conversely, the hospital database may automatically get medical data on a patient who has just been admitted. This prototype has been tested with hundreds of queries among four peers. The rule processing time increases depending on the number of peer communications contained. We analyze the performance and characteristics of this prototype through a series of experiments.

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Data Management and Analysis Using JMP®

Electronic Health Record