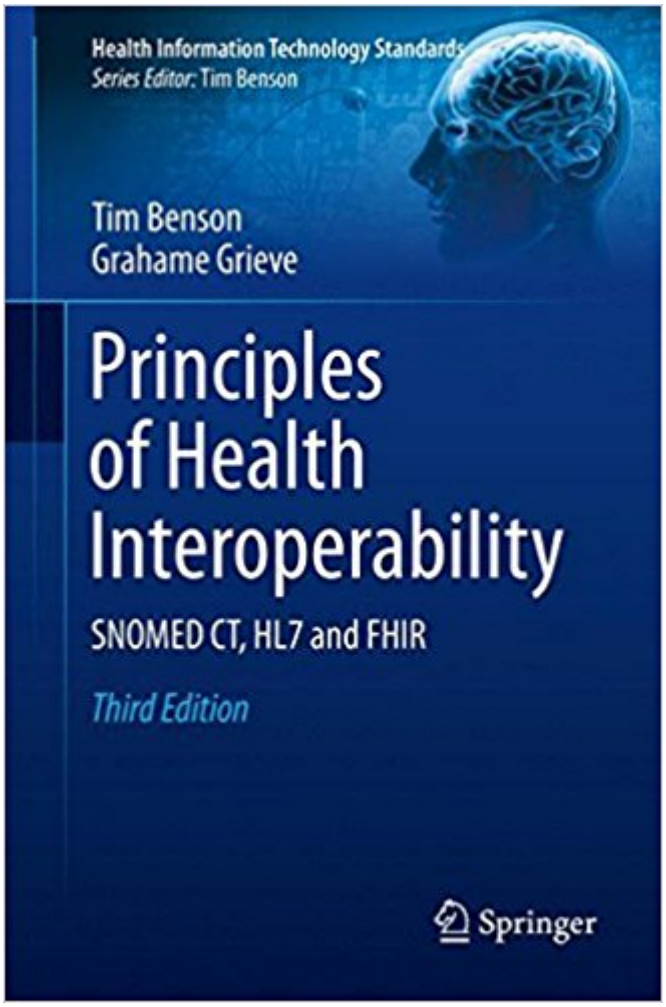
Principles Of Health Interoperability: SNOMED CT, HL7 And FHIR (Health Information Technology Standards)



Synopsis

This book provides an introduction to health interoperability and the main standards used.Ã Â Health interoperability delivers health information where and when it is needed.Ã Â Everybody stands to gain from safer more soundly based decisions and less duplication, delays, waste and errors.Ã Â Ã Â The third edition of Principles of Health Interoperability includes a new part on FHIR (Fast Health Interoperability Resources), the most important new health interoperability standard for a generation. FHIR combines the best features of HL7Ã¢â ¬â„¢s v2, v3 and CDA while leveraging the latest web standards and a tight focus on implementability. FHIR can be implemented at a fraction of the price of existing alternatives and is well suited for use in mobile phone apps, cloud communications and EHRs. The book is organised into four parts. The first part covers the principles of health interoperability, why it matters, why it is hard and why models are an important part of the solution.Ã Â The second part covers clinical terminology and SNOMED CT. The third part covers the main HL7 standards: v2, v3, CDA and IHE XDS.Ã Â The new fourth part covers FHIR and has been contributed by Grahame Grieve, the original FHIR chief.

Book Information

Series: Health Information Technology Standards

Paperback: 451 pages

Publisher: Springer; 3rd ed. 2016 edition (June 23, 2016)

Language: English

ISBN-10: 3319303686

ISBN-13: 978-3319303680

Product Dimensions: 6.1 x 1.1 x 9.2 inches

Shipping Weight: 2 pounds (View shipping rates and policies)

Average Customer Review: 5.0 out of 5 stars 2 customer reviews

Best Sellers Rank: #247,508 in Books (See Top 100 in Books) #49 inÃ Â Books > Medical Books > Medical Informatics #112 inÃ Â Books > Textbooks > Medicine & Health Sciences > Administration & Policy > Medical History & Records #146 inÃ Â Books > Medical Books > Administration & Medicine Economics > Medical History & Records

Customer Reviews

The third edition of this book has been fully revised, reorganized and extended. It provides a clear, readable introduction to healthcare interoperability for the IT professional, student, clinician and healthcare manager. Interoperability between healthcare computer systems depends on the

development, implementation and deployment of appropriate standards working together as a tightly specified language. The five new chapters on Fast Health Interoperability Resources (FHIR) and its implementation in Principles of Health Interoperability: SNOMED CT, HL7 and FHIR, Third Edition cover the most important new healthcare interoperability standard for a generation. FHIR combines the best features of HL7 v2, v3 and CDA, and leverages the latest web standards. In addition, the authors discuss the core principles of healthcare interoperability, SNOMED CT andÃ Â clinical terminology, HL7 and interchange formats.

Tim Benson graduated from the University of Nottingham as a mechanical engineer. He was introduced to healthcare computing at the Charing Cross Hospital, London, where he evaluated the socio-economic benefits of medical computing systems. He founded one of the first GP computer suppliers (Abies Informatics Ltd). There, with James Read and David Markwell, he helped develop the Read Codes, which became the national standard for NHS primary care and one of the two sources of SNOMED CT.Ã Â Tim led the first European project team on open standards for health interoperability, which led to CEN/TC251 and collaboration with HL7, where he was a co-chair of the Education Committee for several years.Ã Â He has also developed a family of short generic patient-reported outcome measures with R-Outcomes Ltd (http://www.r-outcomes.com).Ã Â Grahame Grieve graduated from the University of Auckland as a biochemist, and worked as a clinical diagnostic scientist at St VincentÃ¢â ¬â„¢s Hospital, Melbourne, before spending four years performing medical research in Diabetes, Lipid Metabolism, and Oxidation. He then switched focus, and joined Kestral Computing P/L, a Laboratory and Imaging Information Systems vendor, where he ended up as Chief Technology Officer, before leaving to establish his own consulting business, Health Intersections Ltd (http://www.healthintersections.com.au). A growing involvement in integration, and interoperability, lead him to the HL7 community where he has led committees and edited standards for HL7 v2, v3 and CDA. The outcome of this was the recognition that something new was needed, and this led to the creation of the FHIR specification, which now consumes his life.

This is third edition of Tim Benson’s now standard text on healthcare interoperability. It does focus on the specific technologies listed in the title, but it’s more than just a handbook. Instead, it begins with a careful discussion of interoperability, and why building interoperable solutions in the healthcare domain has proven so difficult. The analysis is insightful, and well worth reading for any healthcare professional, informatics, or developer. The book offers no magic bullets, but

understanding the nature of the problem is key developing solutions.In the second part of the book, Benson moves on to a surprisingly detailed discussion of SNOMED CT, first considering its history and guiding principles, and then delving into the details. It may seem odd that the title of the book only mentions SNOMED. Why not ICD-10, LOINC, or any of the other vocabularies that play such a basic role in EHR systems today? In fact, Benson does discuss ICD_10, LOINC and UMLS. But SNOMED CT is presented as an example of how a vocabulary (really, an ontology) ought to be designed, and is compared in some detail with position dependent coding schemes. In my opinion, this was useful as practical example of the theory discussed in the first part of the book. But it also made me think about software design.The remaining sections of the book focus on HL7, XDS, and FHIR. Unfortunately, the treatment of HL7v2 was brief, almost too brief. But that's also inevitable. It's simply not possible for a book such as this one to cover the protocol in detail. Instead, the book covers enough detail to understand the essentials of message structure, encoding, and the event model. Examples include patient identification (PID) and visit (PV1) But the main focus here is providing a reference point.The next chapters consider HL7 V3, including the Clinical Document Architecture (CDA) and information model (RIM) . The coverage of HL7 V3 was more detailed than I expected, including a discussion of constrained models and the dynamic model. But again, much of the focus was on what has proved successful in HL7 V3, what has not, and why. In this part of the book, as elsewhere, there is a focus on common themes, and we are able to see how different technologies are used to address the same problems.At this point, I'll skip over the section on XDS and move on to FHIR. This shouldn't be taken as a criticism of the chapter on IHE XDS. Rather, I feel less qualified to comment here (and this review is already getting a bit long!)The final part of the book, co-authored with Grahams Grieve, the creator of FHIR, presents Fast Healthcare Interoperability Resources (pronounced "fire") This is a technology based on the principles of REST and agile computing, and which incorporates many of the best ideas of earlier generations of HL7. This book does a good job of presenting the main ideas from scratch, and does not fall prey to th e temptation to leave out important topics such as extensions, conformance and profiles, and implementing FHIR. Of course, there is much about the details of the specification that is not covered, but the book does a good job of presenting the core principles and underlying concepts.In the end, we see enough of these technologies to understand how they can be used to address problems of interoperability, and that is the point.

It should be required reading for anyone working to achieve better quality, healthier people and smarter spending in healthcare.

Principles of Health Interoperability: SNOMED CT, HL7 and FHIR (Health Information Technology Standards) Handbook of Home Health Standards - Revised Reprint: Quality, Documentation, and Reimbursement, 5e (Handbook of Home Health Standards & Documentation Guidelines for Reimbursement) Blockchain: Step By Step Guide To Understanding The Blockchain Revolution And The Technology Behind It (Information Technology, Blockchain For Beginners,Bitcoin, Blockchain Technology) Looking for Information: A Survey of Research on Information Seeking, Needs, and Behavior: 4th Edition (Studies in Information) Looking for Information: A Survey of Research on Information Seeking, Needs, and Behavior (Studies in Information) Private Pilot Airman Certification Standards - Airplane: FAA-S-ACS-6, for Airplane Single- and Multi-Engine Land and Sea (Practical Test Standards series) Commercial Pilot for Airplane Single- and Multi-Engine Land and Sea Practical Test Standards: #FAA-S-8081-12C: June 2012 Edition (Practical Test Standards series) Commercial Pilot Airman Certification Standards - Airplane: FAA-S-ACS-7, for Airplane Single- and Multi-Engine Land and Sea (Airman Certification Standards Series) Health Information Technology Basics: A Concise Guide To Principles And Practice Fundamentals Of Information Systems Security (Information Systems Security & Assurance) - Standalone book (Jones & Bartlett Learning Information Systems Security & Assurance) Science and Technology Resources: A Guide for Information Professionals and Researchers (Library and Information Science Text) Instrument Rating Practical Test Standards for Airplane, Helicopter and Powered Lift: FAA-S-8081-4E (Practical Test Standards series) Information Sources in Science and Technology, 3rd Edition (Library and Information Science Text (Paperback)) Information Sources in Science and Technology (Library and Information Science Text) Architectural Graphic Standards (Ramsey/Sleeper Architectural Graphic Standards Series) Architectural Graphic Standards: Student Edition (Ramsey/Sleeper Architectural Graphic Standards Series) by Charles George Ramsey (Student Edition, 28 Mar 2008) Paperback A First Course in Information Theory (Information Technology: Transmission, Processing and Storage) ISO/IEC 27002:2013, Second Edition: Information technology Security techniques Code of practice for information security controls ISO/IEC 27001:2013, Second Edition: Information technology - Security techniques - Information security management systems - Requirements ISO/IEC 27002:2005, Information technology - Security techniques - Code of practice for information security management (Redesignation of ISO/IEC 17799:2005)