

Digital Imaging and Communications in Medicine (DICOM): A Practical Introduction and Survival Guide

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Berlin, Germany: Springer-Verlag, 2008, 383 pages, \$119

The goals of DICOM are to achieve compatibility and improve workflow efficiency between imaging systems and other information systems in health care. Every major vendor of diagnostic medical imaging in the world has incorporated some form of the DICOM standard into its product design, and most professional societies throughout the world have supported and are participating in enhancement of the standard. The DICOM standard is structured as a multipart document so that specific parts can be extended and modified without the need to rewrite the entire standard. But this multipart approach can make using and interpreting the standard confusing. People who use medical images and data daily need to rely on someone who understands DICOM, yet many do not know who that person is in their institution. It is usually assumed that information technology personnel, the original equipment manufacturer, or radiology personnel understand DICOM, but unfortunately most of these individuals do not understand even the terminology used in the DICOM standard.

This book covers the structure and application of the DICOM standard in enough detail to be helpful to the general user of medical images, as well as to a programmer who is developing an image management system. Although the preface states that this book is written for anyone "involved in any form of medical work," this subject does require some computer and networking knowledge, and readers without this background would have difficulty understanding the concepts presented. But such would be true for anyone who thinks one can understand DICOM without first understanding how computers and networks can interconnect to each other. A small section in part 2 reviews basic computer systems but is not complete enough to bring a computer-network novice up to speed and is not necessary for the main audience of the book. In my opinion,

the main audience is anyone who has some basic computer-network knowledge and needs to know how DICOM is structured and how it can be used. For these people, this is an excellent text that can be used as a primer for getting started in the DICOM world, but the text can also serve as a reference for those getting more involved with applications that use DICOM or those who want to develop their own DICOM application.

The chapters are well organized and are short enough to be read quickly, making the book easy to pick up and read in small sections or to use as a reference. The author has a writing style that simplifies comprehension of this complex, technical subject. Throughout the book, the author has placed callout boxes that include anecdotal stories or tips. These make the reading more enjoyable, especially since the subject can be tedious and terminology-driven.

The DICOM standard is changing rapidly, and the only way someone can understand its current state is to actually read the standard. This book has the detail needed, is well organized, and so can be a companion to someone undertaking this task. The author's opinion is interjected in some areas of the text, (e.g., section 10.2.1), but such areas are always prefaced as being the author's opinion, an attempt is made to justify the statements, and they do not detract from the content.

In conclusion, I would recommend this book to anyone interested in the DICOM standard. This book would be excellent to read before one attempts to read or use the actual DICOM standard.

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