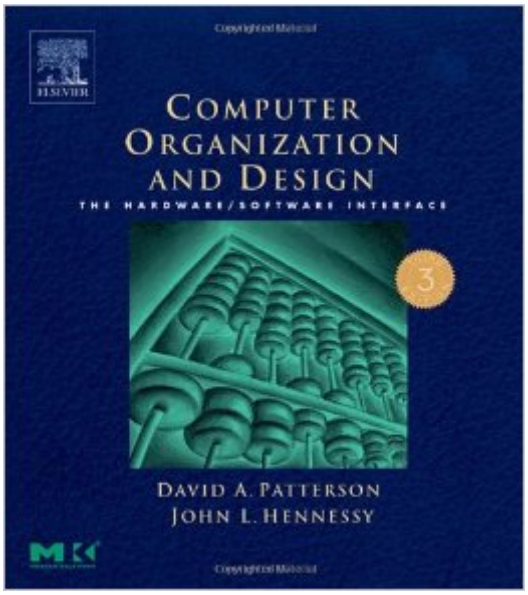
Computer Organization And Design, Third Edition: The Hardware/Software Interface, Third Edition (The Morgan Kaufmann Series In Computer Architecture And Design)



Synopsis

A revised printing for this book will be available in June 2007!What's New in the Third Edition, Revised Printing The same great book gets better! The revised printing features all of the original content along with these additional features:. Appendix A (Assemblers, Linkers, and the SPIM Simulator) has been moved from the CD-ROM into the printed book. Corrections and bug fixesClick here to request a desk copy of the revised printing!About the Third EditionIn addition to thoroughly updating every aspect of the text to reflect the most current computing technology, the third edition*Uses standard 32-bit MIPS 32 as the primary teaching ISA.*Presents the assembler-to-HLL translations in both C and Java.*Highlights the latest developments in architecture in Real Stuff sections:+ Intel IA-32+ Power PC 604+ Google's PC cluster+ Pentium P4+ SPEC CPU2000 benchmark suite for processors+ SPEC Web99 benchmark for web servers+ EEMBC benchmark for embedded systems+ AMD Opteron memory hierarchy+ AMD vs. 1A-64New support for distinct course goalsMany of the adopters who have used our book throughout its two editions are refining their courses with a greater hardware or software focus. We have provided new material to support these course goals:New material to support a Hardware Focus+Using logic design conventions+Designing with hardware description languages+Advanced pipelining+Designing with FPGAs+HDL simulators and tutorials+Xilinx CAD toolsNew material to support a Software Focus+How compilers Work+How to optimize compilers+How to implement object oriented languages+MIPS simulator and tutorial+History sections on programming languages, compilers, operating systems and databasesWhat's New in the Third EditionNew pedagogical featuresUnderstanding Program Performance -Analyzes key performance issues from the programmer's perspective Check Yourself Questions -Helps students assess their understanding of key points of a section Computers In the Real World -Illustrates the diversity of applications of computing technology beyond traditional desktop and serversFor More Practice-Provides students with additional problems they can tackleIn More Depth -Presents new information and challenging exercises for the advanced studentNew reference featuresHighlighted glossary terms and definitions appear on the book page, as bold-faced entries in the index, and as a separate and searchable reference on the CD.A complete index of the material in the book and on the CD appears in the printed index and the CD includes a fully searchable version of the same index.Historical Perspectives and Further Readings have been updated and expanded to include the history of software R&D.CD-Library provides materials collected from the web which directly support the text.On the CDCD-Bars: Full length sections that are introduced in the book and presented on the CDCD-Appendixes: The entire set of appendixesCD-Library: Materials collected

from the web which directly support the textCD-Exercises: For More Practice provides exercises and solutions for self-studyIn More Depth presents new information and challenging exercises for the advanced or curious student Glossary: Terms that are defined in the text are collected in this searchable referenceFurther Reading: References are organized by the chapter they supportSoftware: HDL simulators, MIPS simulators, and FPGA design toolsTutorials: SPIM, Verilog, and VHDLAdditional Support: Processor Models, Labs, Homeworks, Index covering the book and CD contentsInstructor Support+ Instructor Support is provided in a password-protected site to adopters who request the password from our sales representative+ Solutions to all the exercises + Figures from the book in a number of formats+ Lecture slides prepared by the authors and other instructors+ Lecture notesSystem RequirementsOperating SystemMost of the content on this CD can be used under any operating system that includes an HTML browser and a PDF viewer. This includes Windows 98 or later, Mac OS 9 and OS X, and most Linux and Unix systems. Some contributed software on this CD is operating system specific. See the installation instructions on the Software page for details.HTML BrowserThe navigation framework and some of the content on this CD is delivered in HTML and JavaScript. It is recommended that you install the latest version of your favorite HTML browser to view this CD. The content has been verified under Windows 2000 with the following browsers:Internet Explorer 6.0, Mozilla 1.6, Netscape 7.1, Opera 7.23. Under Mac OS X with the following browsers: Internet Explorer 5.2.3, Mozilla 1.6 , Netscape 7.1, Safari 1.2. And under Mandrake Linux with the following browser:Galeon 1.3.8. The content is designed to be viewed in a browser window that is at least 720 pixels wide. You may find the content does not display well if your display is not set to at least 1024x768 pixel resolution.PDF ViewerThe CD material includes PDF documents that you can read with a PDF viewer such as AdobeÂ® AcrobatÂ® or Adobe ReaderÂ®. Recent versions of Adobe Reader for supported platforms are included on the CD. Visit the Adobe Reader home page for more information.Browser PluginsSome of the material on this CD makes use of FlashÂ® animations. To view this material, you will need to have MacromediaÂ® Flash Player installed. You can install the ShockwaveÂ® Player (which includes Flash) on Windows and Macintosh from this CD. Visit the Macromedia homepage for more information. Note that recent versions of some browsers, including Internet Explorer, Netscape, and AOL, already incorporate Flash Player.Some of the material on this CD contains photographic panoramas that can only be viewed with the iseemedia Zoom Viewer browser plugin on Windows and Mac OS 9 platforms. Visit iseemedia’s website for download instructions. For instructor resources click on the grey "companion site" button found on the right side of this page.This new edition represents a major revision. New to this edition:* Entire Text has been updated to reflect new

technology* 70% new exercises.* Includes a CD loaded with software, projects and exercises to support courses using a number of tools * A new interior design presents defined terms in the margin for quick reference * A new feature, "Understanding Program Performance" focuses on performance from the programmer's perspective * Two sets of exercises and solutions, "For More Practice" and "In More Depth," are included on the CD * "Check Yourself" questions help students check their understanding of major concepts * "Computers In the Real World" feature illustrates the diversity of uses for information technology *More detail below...

Book Information

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Customer Reviews

This is a tough book to review. On one hand, it's got an amazing amount of information in it. On the other, it's got a lot of editing problems. It also suffers from a lack of focus on who its audience is. So, splitting the difference, I'm rating this book at 4 stars out of 5.Regarding the book's audience, it's vital that you pay attention to the chart on page xiii of the Preface. It maps your path through the book based on whether you're a software-type or a hardware-type. Assuming I was so brilliant that I could ignore such trivia, I attempted to plow my way through the whole book. Software-type that I am, I had some tough times in a couple of sections and then utterly failed to understand anything when I hit the core of Chapter 5. If I had paid attention to that chart, I would have known to skip that part of the book. However, even for the material that's within the path laid out for you by that chart, a lot of the work seems to assume knowledge on the part of the reader. For instance:- Chapter 2 is about the MIPS assembly language. In the exercises, you're supposed to write various code

snippets. Many of these snippets assume far more familiarity with writing entire assembly programs than is presented.- The exercises at the end of each chapter are broken into three types: regular, "For More Practice," and "In More Depth." Those last two types require far more knowledge than is presented. It looks like the authors culled them from previous editions and, instead of trashing them, just stuck them on the CD and referenced them.- Exercise 3.9 is annotated as requiring Section 3.2.

I have the Second Edition of this text and think rather highly of it, despite some missteps here and there. When I first reviewed the Fourth Edition, I was a bit concerned about the reorganization of the topics because it didn't feel like a natural progression to me, but I was willing to concede that there are a number of ways to come at this material and allowed that what felt "natural" to me was almost certainly influenced by the Second Edition, so I was willing to go with the flow of the new text and see how it played out.Half way through a semester trying to teach from this edition I still feel that there is no coherent flow, but again I'm willing to chalk that up to personal subjective preference.The rest of my objections, however, are much more objective.First, there are TWO versions of The Revised Printing of the 4th Edition! They appear to be the same, including identical copyright pages right down to the printing history. Yet they are not the same. As an example, on page 182 problem 2.4.3 the code in row b is significantly different. As near as I can tell, the errata sheet that is on the publisher's website is the difference -- it's as if part way through the printing run they decided to stop the presses, apply the errata, and then restart the presses and complete the run. This, on top of the fact that the exercises in the Revised Printing do not match those in the basic 4th Edition, makes it very difficult to assign problem sets to students since they are literally not reading from the same page.Second, the authors have taken significant amounts of material out of the text yet have kept many exercises that rely on the removed material.

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