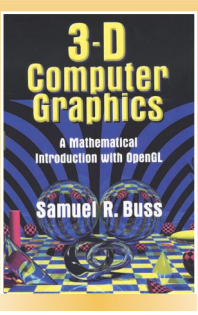
Math-Based Introduction to 3D Graphics

3-D Computer Graphics: A Mathematical Introduction with OpenGL, Samuel R. Buss. This textbook emphasizes the fundamentals and mathematics underlying computer graphics. The author gives a thorough treatment of transformations and viewing, lighting and shading models, interpolation and averaging, Bézier curves and B-splines, ray tracing and radiosity, and intersection testing with rays. The book also includes source code for a ray-tracing software package, 186 line diagrams, eight color plates, and 150 exercises.

Intended for use with any OpenGL programming book, the text briefly covers crucial OpenGL features to give readers a helpful foundation. The minimal prerequisites—a basic knowledge of calculus and vectors plus some programming experience in C++ or C—make the book suitable for self-study or for use as an advanced undergraduate or introductory graduate text.

Cambridge University Press; http://uk.cambridge.org/; 0-521-82103-7; 388 pp.; $65.00.



THINKING TOOLS FOR AGILE DEVELOPMENT

Lean Software Development: An Agile Toolkit, Mary Poppendieck and Tom Poppendieck. This book identifies seven fundamental "lean" principles, adapts them to the world of software development, and shows how they can serve as the foundation for workable agile-development approaches. Along the way, the authors introduce 22 "thinking tools" that can help readers customize the right agile practices for any environment.

The book asserts that several lean principles have already revolutionized manufacturing, logistics, and product development. These include iterating toward excellence, which makes software development an exercise in discovery; managing uncertainty, in which developers build change into the system; and empowering teams and individuals without compromising coordination.

Addison-Wesley; www.awprofessional.com; 0-321-15078-3; 240 pp.; $35.99.

COPYRIGHT VERSUS CREATIVITY

Copyrights and Copywrongs: The Rise of Intellectual Property and How It Threatens Creativity, Siva Vaidhyanathan. This book tracks the history of American copyright law through the 20th century, from Mark Twain's vehement exhortations for "thick" copyright protection to recent lawsuits regarding sampling in rap music and the "digital moment" exemplified by the rise of Napster and MP3 technology.

The author argues persuasively that in its current form, American copyright law hinders cultural production, thereby contributing to the poverty of civic culture. Further, it chokes cultural expression by effectively sanctioning biases against cultural traditions that differ from the Anglo-European model.

Bringing to light the republican principles behind original copyright laws as well as present-day imbalances and future possibilities for freer expression and artistic equity, this book helps unravel the complex web of culture, law, race, and technology in today's global marketplace.

New York University Press; www.nyupress.org; 0-8147-8807-6; 255 pp.; $17.95.

WEB DESIGN WITH SCALABLE VECTOR GRAPHICS

SVG for Web Developers, Ellen Pearlman and Lorien House. Scalable Vector Graphics provides a powerful, XML-based language for describing 2-D graphics with compelling features such as low-bandwidth images that scale without resolution loss, and interactivity via languages such as JavaScript, Java, and Visual Basic. As a text-based format, SVG files can be understood by humans, edited with text editors, and indexed online by search engines.

This book covers the effective use of color, gradients, and other effects. Readers also learn how to add dynamic elements to a Web site and how to use SVG effectively with drawing, database, and other software.

Prentice Hall; www.phptr.com; 0-13-100499-9; 464 pp.; $35.99.

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