Programming Mobile Devices

Programming Mobile Devices: An Introduction for Practitioners, Tommi Mikkonen. This book instructs readers on programming mobile devices. The importance of mobile systems programming has emerged as a new domain in software development. Designing software that runs in a mobile device requires developers to combine the rules applicable in embedded environments; memory-awareness; limited performance; security, and limited resources with features necessary in workstation environments; modifiability; runtime extensions; and rapid application development.

Set for publication in April, this book is an introduction to programming mobile systems. The book takes an approach from a platform-independent viewpoint: it does not focus on specific technologies and devices. Instead it evaluates the component areas and issues that are common to all mobile software platforms. The author helps designers program mobile devices by teaching how to master both hardware-aware and application-level software, as well as the main principles that guide their design.

The book discusses issues surrounding mobile systems programming, such as understanding of embedded systems and workstation programming. The author also covers memory management, the concepts of applications, dynamically linked libraries, concurrency, handling local resources, networking and mobile devices, as well as security features.

Readers can learn about generic examples from Java and the Symbian operating system to illustrate the principles of mobile device programming.

The book targets graduate and advanced undergraduate students, academic and industrial researchers in the field, as well as software developers and programmers.


3G Americas

http://www.3gamericas.org/

Founded in January 2002, 3G Americas exists for mobile operators and manufacturers in the Americas to formulate and present a unified voice for the GSM family of wireless technologies: GSM, GPRS, EDGE, and UMTS/HSDPA. The founding members of 3G Americas wanted a single organization that could globally address the converged operator networks and their seamless evolution to future generations.

The main page contains various sources of information, including feature white papers, news, and what’s new on the site. The Technology Center provides technical and statistical information on the GSM family of technologies. The GSM technologies are expected to account for up to 85 percent of next-generation customers. That market share has two key benefits: high volumes of devices and network infrastructure, which translates into lower overhead for operators and affordable devices for customers; and international roaming, allowing GSM customers to enjoy voice and next-generation services throughout the Americas and worldwide.

An industry calendar also provides listings of upcoming events.

Enterprise Wireless Alliance

http://www.enterprisewireless.org/

The Enterprise Wireless Alliance (EWA), formerly ITA and AMTA, works to preserve spectrum rights and access for enterprise wireless customers. As the national advocacy and service organization for enterprise wireless licensees, providers, and manufacturers, EWA represents its membership on issues relating to national telecommunications policy before the Federal Communications Commission, the National Telecommunications and Information Administration, the Office of Management and Budget, the House and Senate Commerce Committees, and the Congressional Budget Office.

The main page offers links to “hot topics,” which are news items related to the wireless industry. Also on the main page are two links to current training courses offered through EWA: IP technology and broadband wireless opportunities.

The organization is promoting its Spectrum Integrity Report Service, available from EWA for a monthly subscription fee of $25. The service helps guard licensed radio spectrums, an important business asset, and provides users a tool for protecting and making informed decisions about private wireless system investment.

Businesses that use spectrum for wireless communications or work with companies that employ wireless communications systems can customize automated reports and receive them by e-mail to secure insight over all the activity in real-time on licensed frequencies.
Mobile & Wireless World
21-23 May 2007
Orlando, Fla.

IT managers from the public and private sector responsible for mobile and wireless initiatives will be interested in this executive forum at Computerworld’s fifth annual Mobile & Wireless World conference.

Conference attendees can hear, discuss, and witness solutions for planning, designing, and building mobile and wireless platforms and solutions, gain experience for understanding and addressing challenges in implementing mobile and wireless in the enterprise, and gain insight to make better mobile and wireless decisions.

The conference tracks will explore developing technologies and the latest tools and applications and examine industry issues and challenges. Attendees can network with other IT executives with similar mobile and wireless mandates and meet potential partners crucial to deploying mobility in an organization.

In response to heightened demand from customers to bring dot-com services into the mobile space, the eBusiness division at Fidelity Investments has launched initiatives that let investors more effectively monitor the markets and manage their portfolios. These initiatives range from enhancing customers’ ability to display and utilize Web-enabled information on a vast range of mobile devices to instant messaging and a pilot project that utilizes multimodal phones. This conference session will discuss the challenges involved in conceptualizing and implementing initiatives for the customer.

http://www.mwwusa.com/

Multimedia Telephony

IMS Multimedia Telephony over Cellular Systems: VoIP Evolution in a Converged Telecommunication World, Shyam Chakraborty, Janne Peisa, Tomas Frankkila, and Per Synnergren. IP Multimedia Subsystem multimedia telephony service has been standardized in 3GPP (3rd Generation Partnership Program) as the replacement of the circuit-switched telephony service in cellular networks. The multimedia telephony service consists of several service components such as voice, video, and text. This book, set for publication 30 March, provides an overview of the service that will enable enriched telephony for mobile users.

Enriched telephony fulfills users’ desire to communicate in new ways, for example by sharing pictures and video clips.

In addition to an overview of the multimedia telephony service, the book focuses on the modern media processing methods, which allow the quality of the packet switched voice and video telephony not only to match but to possibly exceed the quality of circuit-switched telephony. The authors explain components such as adaptive jitter buffering and adaptation of conversational media.

The book offers descriptions of how multimedia telephony sessions are set up and controlled, and the authors offer analysis showing the capacity and quality of VoIP and multimedia telephony in cellular networks.

The book covers other IMS services such as proof of concept code specified by 3GPP and the Open Mobile Alliance, a description of suitable quality of service and radio bearers for multimedia telephony, and an explanation of the modern radio interface, especially High Speed Packet Access, which is based on concepts such as link adaptation and fast hybrid automatic repeat request.

The possibilities for the current and future standards covered in this book make it attractive to engineers, designers, and researchers in VoIP, telecommunication companies, and universities teaching and conducting research in telecommunications. It will also be of interest to managers needing an in-depth knowledge of the engineering and key issues of this complex technology and students aspiring to develop a career in this area.

Wiley; ISBN-10 0470058552; 376 pp.; $120.
WiMAX Demystified

WiMAX: Technology for Broadband Wireless Access, Loutfi Nuaymi. WiMAX broadband wireless access technology, based on the IEEE 802.16 standard, has been touted for its promise for many different markets covering fixed wireless Internet access, backhauling, and mobile cellular networks. WiMAX technology is designed to transmit multimedia services (voice, Internet, e-mail, games, and others) at high data rates (on the order of megabits per second per user).

The WiMAX System is described in thousands of pages of IEEE 802.16 standard and amendments documents and WiMAX Forum documents. This book, set for publication 30 March, provides a global picture of WiMAX and details that attempt to make access to WiMAX documents easier. The author covers aspects of WiMAX and presents illustrations and explanations for all the main procedures of WiMAX.

The book covers topics such as WiMAX genesis and framework, WiMAX topologies, protocol layers, media access control layers, MAC frames, WiMAX multiple access, the physical layer, QoS management, radio resource management, bandwidth allocation, network architecture, mobility, and security.

The author also presents a glossary of abbreviations, definitions, tables, and figures, highlights recent changes including the 802.16e amendment of the standard needed for Mobile WiMAX, and includes technical comparisons of WiMAX to 802.11 (Wi-Fi) and cellular 3G technologies.

This technical introduction to WiMAX, explaining standards (IEEE 802.16-2004 and 802.16e) is useful for engineers, decision-makers and students interested in WiMAX, as well as other researchers and scientists from this evolving field. Wiley; ISBN-10 0470028084; 336 pp.; $63.

Storage Networking World

16-19 April 2007
San Diego, Calif.

IT management and professionals who attend this event can learn about networking and maximize storage capabilities. This conference offers more than 100 educational sessions and the ability to network with peers from around the globe—plus visit with top solutions providers.

The “Improving Technical Team Performance for Maximum Results” presentation will explore how managers can maximize technical team efficiencies by combining the behavioral and technical components of a project. Despite millions spent on technology, the human side of the equation frequently languishes for financial support in a business model. Despite efforts to provide leading-edge products and service to customers, many companies still seem to have issues that technology alone cannot solve. Without clear communication between team members, projects can require reworks or create unscheduled down time, unanticipated capacity requirements, and failed database restores. More importantly, such setbacks can result in end user dissatisfaction and damage the IT organization’s reputation within the company.

The remote office is rapidly becoming the mobile enterprise. Remote users have become “moving targets” who increasingly need—and are expected—to work anywhere and at anytime. According to iGillotResearch, Inc., the US mobile workforce alone currently tops 56 million and is expected to increase to more than 61 million by 2009. This conference will explore how companies can achieve this mobile user IT mandate. Special focus will be placed on evolving the optimized branch-office network connection into the optimized road-warrior lifeline to critical systems and data; technologies that provide real-time mobile user access to online, centralized systems and resources, regardless of location; how to marry this trend toward real-time systems with the advancements in worldwide Wi-Fi infrastructures; ways to bridge the gap between the application and data requirements of the traveling worker; and the technology that is available today to service them.

http://www.snwusa.com/

IT Pro Resources

If you have a book, event, or Web site you’d like IT Professional to include in Resources, send information to itproducts@computer.org for consideration. We can’t promise to include all submissions, but we will review them.
Staring Into a Wireless Crystal Ball

William Webb. Predicting the future is, according to the author, an essential element for the wireless industry. Manufacturers predict the future when they decide on product lines to develop or research to undertake, operators when they buy licenses and deploy networks, and academics when they set PhD topics. The author provides what he believes is a basis on which to make these predictions.

Starting with a description of the current situation and a look at how previous predictions made in 2000 have fared, the book then provides the contributions of six experts from across the wireless industry. Based on their input and a critical analysis of the current situation, it derives detailed forecasts for 2011-2026. This leads to implications across all of the stakeholders in the wireless industry and views on key developments.

The book works to present clear and unambiguous predictions, not a range of scenarios from which the user has to decide. The author provides chapters covering existing wireless systems that provide tutorial material across a wide range of wireless devices, and a range of views of the future from high-profile contributors in various areas of the industry and from around the globe, including contributions from Vodafone and Motorola.

The book can serve as a guide to current technologies, offering analysis of drivers, end user needs, and economic and regulatory constraints.

Strategists working for wireless manufacturers, wireless operators and device manufacturers, regulators and professionals in the telecom industry, as well as those studying the topic or with a general interest in the future of wireless communications will find this book useful.


CTIA Wireless

27-29 March 2007
Orlando, Fla.

This Cellular Telecommunications and Internet Association conference is a telecommunications event dedicated exclusively to wireless, broadband convergence, and mobile computing technologies, covering the industry from network infrastructure to microprocessors to applications to content to end-user hardware.

CTIA’s Educational Sessions address issues facing IT professionals, software developers, media companies, wireless companies, and technology enablers as they work to implement and build wireless data solutions and mobile entertainment products and services. Tracks for this year’s conference include technology roadmap, business ecosystem, emerging opportunities in wireless, and public policy outlook.

“Location Based Services—Tech Talk: Here, There, and Everywhere” is a session that will focus on what are the important technology trends to accomplish interactivity of location information in the mobile ecosystem.

CTIA partners with organizations to deliver unique and relevant content in the areas of mobile entertainment, venture capital, and wireless data applications. Billboard’s Mobile Entertainment Live! is one such event. Guided by Billboard’s global editorial team, CTIA, and an advisory board of industry experts, attendees will discover how they can participate in and profit from the mobile entertainment revolution.

Each of the major nationwide carriers has rolled out new music services in the last year that go far beyond simply delivering ring tones and ring backs. The “Music via the Device: What Technology is now Enabling!” session will take a look at the handset and delivery technology needed to support these services and products.

http://www.ctiawireless.com/info/general_show.cfm

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IBM Redbook: Migration to Linux

Linux Client Migration Cookbook, Version 2: A Practical Planning and Implementation Guide for Migrating to Desktop Linux, IBM. The goal of this IBM Redbook—available for free in .pdf or .html formats—is to provide a technical planning reference for IT organizations considering a migration to Linux-based personal computers. For Linux, there is a tremendous amount of how-to information available online that addresses specific and very technical operating system configuration issues, platform-specific installation methods, and user interface customizations.

This book includes some technical how-to as well, but the overall focus is to walk the reader through some of the important considerations and planning issues that could arise during a migration project. Within the context of a preexisting Microsoft Windows-based environment, the book attempts to present a more holistic, end-to-end view of the technical challenges and methods necessary to complete a successful migration to Linux-based clients.

Anyone interested in using Linux on the desktop could benefit from different portions of this book, and the primary audience for this book is existing business IT environments that need to begin an evaluation of desktop Linux, or in a broader sense, any organization whose strategy is to move toward greater adoption of open source software and open standards.

The IBM Redbook is available at http://www.redbooks.ibm.com/abstracts/sg246380.html?Open. Most IBM Redbooks can be ordered online using the “Order Hardcopy” link located below the Redbook title of every Redbook abstract page.


Linux Toolbox

The Linux Programmer’s Toolbox, John Fusco. Linux comes with a collection of power tools for C and C++ developers. The Linux Programmer’s Toolbox helps you leverage all that power and productivity—without mastering endless syntax options, tracking down hard-to-find documentation, or reading kernel source code. The author presents what he believes are the best open source tools, explaining which to choose, where to find them, how to use them, and why they’re desirable.

Readers start by walking through installing, patching, and managing software development tools on a Linux system. Next, the book presents tools to solve real-world problems at every stage of a project, from coding to revision control, debugging to performance optimization.

The book covers maximizing productivity with editors, revision control tools, source code browsers, and “beautifiers,” what programmers should know about the kernel, and how to interpret tools. The author seeks to help readers understand processes—the tools available for managing them and how to debug IPC with shell commands, signals, pipes, sockets, files, and IPC objects; how to optimize program code with sar; vmstat, iostat, and other tools; and how to trace and resolve application bottlenecks with gprof and valgrind.

The book explores using printf, gdb, and other essential debugging tools, streamlining and automating the documentation process, and finding help, solutions, and workarounds when necessary.


Cover Pages

http://xml.coverpages.org

The Cover Pages is an online reference collection supporting the XML family of markup language standards, XML vocabularies, and related structured information standards. Edited by Robin Cover since 1986, this public access knowledge base promotes and enables the use of open, interoperable, standards-based information and data processing.

The Cover Pages Web site provides reference material on enabling technologies compatible with SGML/XML descriptive markup language standards and applications: object modeling, semantic nets, ontologies, authority lists, document production systems, and conceptual modeling. It also supplies references for social aspects of distributed and public sector concerns: privacy, open standards, patented technology embedded in standards, and so on.

The collection provides information on implementations in different jurisdictions (academic, government, and industry) and application areas in technology, science, humanities, and religion. The standards themselves are awarded primacy, with extensive coverage of SGML, XML, W3C XML Schema, other XML Schema Languages, XSL, XSLT, XPath, XLink, XML Query, XHTML, DOM, XPIdentifier, HyTime, RDF, Topic Maps, DSSSL, CSS, SPDL, SVG, CGM, and ISO-HTML.
Ubuntu Primer

The Official Ubuntu Book, Benjamin Mako Hill, Jono Bacon, Corey Burger, Jonathan Jesse, and Ivan Krstic. Ubuntu is a complete, free operating system that emphasizes community, support, and ease of use. It touts itself as “Linux for human beings”—designed for everyone from computer novices to experts. According to the authors, Ubuntu is the most in-demand Linux distribution, and this guide will get readers up and running.

Readers can learn how to seamlessly install and customize Ubuntu for a home or small business. It can be used in schools, government, or by corporations, and is suitable for both desktop and server use. The Ubuntu community is built on the premise that software should be available free of charge, and that people should have the freedom to customize and alter their software in whatever way they see fit.

Written by leading Ubuntu community members, this book covers the latest version of Ubuntu—Ubuntu 6.06LTS, as well as every standard desktop application from word processing, spreadsheets, Web browsing, e-mail, instant messaging, music, video, and games, all the way to software development, databases, and other server applications.

The book includes real-world troubleshooting advice contributed by Ubuntu users from around the world, and discusses the extended Ubuntu community, which includes translators; software developers; teachers; people who love to hand out CDs and help friends try free software; artists; people who write documentation, tips, and guides; accountants; and even lawyers.

The authors explain Ubuntu Server installation and basic administration, complete with advanced installer features such as LVM and RAID, and it comes with a version of Ubuntu that can run right off the DVD, as well as the complete set of supported packages for Ubuntu, including Kubuntu. Readers can try out Ubuntu on the DVD and install it directly from the desktop.


Open-Source Image Manipulator GIMP

Beginning GIMP: From Novice to Professional, Akkana Peck. The author explains how to use the open source image manipulation program, GIMP version 2.4. Readers can learn how to install GIMP on Windows, Linux, and Mac OS X platforms.

After application installation, readers can learn about the interface and configuration options, and then jump into a project for more familiarity.

The book explains how to prepare camera images for display on Web pages—including functions such as rescaling, cropping, and balancing color. The book also explains with great detail how to utilize layers, paths, and masks. Readers will also learn how to draw lines and shapes, use patterns and gradients, and even create individualized brushes, patterns, and gradients.

The author covers touchups: how to smudge away blemishes, fix red-eye, and stitch panoramic images. The book also explains filters, effects, and plug-ins that are available and how to automate tasks using scripts. The entire book is laid out in a project-based manner, so as readers progress through the book, they find projects to help solidify newly acquired abilities.

Apress; ISBN-10 1590595874; 552 pp.; $34.49.

London Tech Days ‘07

13-15 March 2007
London

Conference attendees can share thoughts, ideas, and experiences on development technologies. The event will explore topics such as application development innovations, OS advancements, open-source technologies, and hardware innovation.

Several tracks will be available at the event. The Java Development Track 1 covers Java EE 5 and Glassfish; Sun Java DB, a small, easy to use, pure Java RDBMS; JAX-WS and WSIT: tangoing with .NET; technologies and tools for Web 2.0: JSF and Creator; and an in-depth session on EJB 3.0 and Java Persistence APIs.

The Solaris Development Track will explore building high-performance applications on multicore systems using Sun Studio compilers and tools, how Sun cluster complements Oracle RAC in providing higher availability, how to develop Solaris parallel applications, and a session called CodeCamp, which will explore Solaris built-in tools, DTrace, and the Sun Studio performance analyzer and race detection tool.