Chapter 12 Distributed Web Based Systems

Network Management: Principles And Practice is a reference book that comprehensively covers various theoretical and practical concepts of network management. It is divided into four units. The first unit gives an overview of network management. The

Utilizing an incremental development method called knowledge scaffolding--a proven educational technique for learning subject matter thoroughly by reinforced learning through an elaborative rehearsal process--this new resource includes coverage on threats to confidentiality, integrity, and availability, as well as countermeasures to preserve these.

There are many books on computers, networks, and software engineering but none that integrate the three with applications. Integration is important because, increasingly, software dominates the performance, reliability, maintainability, and availability of complex computer and systems. Books on software engineering typically portray software as if it exists in a vacuum with no relationship to the wider system. This is wrong because a system is more than software. It is comprised of people, organizations, processes, hardware, and software. All of these components must be considered in an integrative fashion when designing systems. On the other hand, books on computers and networks do not demonstrate a deep understanding of the intricacies of developing software. In this book you will learn, for example, how to quantitatively analyze the performance, reliability, maintainability, and availability of computers, networks, and software in relation to the total system. Furthermore, you will learn how to evaluate and mitigate the risk of deploying integrated systems. You will learn how to apply many models dealing with the optimization of systems. Numerous quantitative examples are provided to help you understand and interpret model results. This book can be used as a first year graduate course in computer, network, and software engineering; as an on-the-job reference for computer, network, and software engineers; and as a reference for these disciplines.

In recent years, we have witnessed an explosive growth in multimediacomputing, communication and applications. This revolution istransforming the way people live, work and interact with each other, and is impacting the way business, government services, education, entertainment and health care operate. This important book summarizes recent research topics, focusing onfour major areas: (1) intelligent content-based information retrievaland virtual world, (2) quality-of-services of multimedia data, (3)intelligent techniques for distance education, and (4) intelligentagents for e-commerc

Software testing is indispensable and is one of the most discussed topics in software development today. Many companies address this issue by assigning a dedicated software testing phase towards the end of their development cycle. However, quality cannot be tested into a buggy application. Early and continuous unit testing has been shown to be crucial for high quality software and low defect rates. Yet current books on testing ignore the developer's point of view and give little guidance on how to bring the overwhelming amount of testing theory into practice. Unit Testing in Java represents a practical introduction to unit testing for software developers. It introduces the basic test-first approach and then discusses a large number of special issues and problem cases. The book instructs developers through each step and motivates them to explore further. Shows how the discovery and avoidance of software errors is a demanding and creative activity in its own right and can build confidence early in a project. Demonstrates how automated tests can detect the unwanted effects of small changes in code within the entire system. Discusses how testing works with persistency, concurrency, distribution, and web applications. Includes a discussion of testing with C++ and Smalltalk.

No less than a revolutionary transformation of the research enterprise is underway. This transformation extends beyond the natural sciences, where 'e-research' has become the modus operandi, and is penetrating the social sciences and humanities, sometimes with differences in accent and label. Many suggest that the very essence of scholarship in these areas is changing. The everyday procedures and practices of traditional forms of scholarship are affected by these and other features of e-research. This volume, which features renowned scholars from across the globe who are active in the social sciences and humanities, provides critical reflection on the overall emergence of e-research, particularly on its adoption and adaptation by the social sciences and humanities.

This book offers an unified treatment of the problems solvedby publish/subscribe, how to design and implement thesolutions In this book, the author provides an insight into thepublish/subscribe technology including the design, implementation,and evaluation of new systems based on the technology. Thebook also addresses the basic design patterns and solutions, anddiscusses their application in practical application scenarios.Furthermore, the author examines current standards and industrybest practices as well as recent research proposals in the area.Finally, necessary content matching, filtering, and aggregationalgorithms and data structures are extensively covered as well asthe mechanisms needed for realizing distributed publish/subscribeacross the Internet. Key Features: Addresses the basic design patterns and solutions Covers applications and example cases including; combiningPublish/Subscribe with cloud, Twitter, Facebook, mobile push (appstore), Service Oriented Architecture (SOA), Internet of Things andmultiplayer games Examines current standards and industry best practices as wellas recent research proposals in the area Covers content matching, filtering, and aggregation algorithmsand data structures as well as the mechanisms needed for realizingdistributed publish/subscribe across the Internet Publish/Subscribe Systems will be an invaluableguide for graduate/postgraduate students and specialists in the ITindustry, distributed systems and enterprise computing, softwareengineers and programmers working in social computing and mobilecomputing, researchers. Undergraduate students will also find thisbook of interest.

Application Performance Management (APM) in the Digital Enterprise enables IT professionals to be more successful in managing their company’s applications. It explores the

fundamentals of application management, examines how the latest technological trends impact application management, and provides best practices for responding to these changes. The recent surge in the use of containers as a way to simplify management and deploy applications has created new challenges, and the convergence of containerization, cloud, mobile, virtualization, analytics, and automation is reshaping the requirements for application management. This book serves as a guide for understanding these dramatic changes and how they impact the management of applications, showing how to create a management strategy, define the underlying processes and standards, and how to select the appropriate tools to enable management processes. Offers a complete framework for implementing effective application management using clear tips and solutions for those responsible for application management Draws upon primary research to give technologists a current understanding of the latest technologies and processes needed to more effectively manage large-scale applications Includes real-world case studies and business justifications that support application management investments

As a new generation of technologies, frameworks, concepts and practices for information systems emerge, practitioners, academicians, and researchers are in need of a source where they can go to educate themselves on the latest innovations in this area. Semantic Web Information Systems: State-of-the-Art Applications establishes value-added knowledge transfer and personal development channels in three distinctive areas: academia, industry, and government. Semantic Web Information Systems: State-of-the-Art Applications covers new semantic Web-enabled tools for the citizen, learner, organization, and business. Real-world applications toward the development of the knowledge society and semantic Web issues, challenges and implications in each of the IS research streams are included as viable sources for this challenging subject.

The political process is seeing the impact of disruptive technologies that are leading to dramatic changes in the marketplace of ideas and action. Crossing the River: The Coming of Age of the Internet in Politics and Advocacy, Karen A.B. Jagoda, Editor, documents how attitudes changed about the convergence of the Internet and politics from 1998 through the 2004 election. Until only recently, the Internet played no role in campaigns as television advertising, direct mail and phone banks took the vast majority of campaign budget dollars. By 2004, candidates effectively used Internet tools for fundraising, persuasion, and mobilization. The focus of this collection of provocative essays and research from a broad range of leading political online strategists and Republican and Democratic insiders is on the most effective use of online tools in order to better allocate valuable campaign resources. Candidates, political strategists, campaign mangers, media planners and buyers, fundraisers, grassroots organizers, public affairs experts, Web publishers, political scientists, and entrepreneurs will gain insights into this new political landscape through the lessons learned and predictions from some of the political and advocacy online pioneers of the 21st Century.

"This book provides relevant theoretical frameworks and the latest empirical research finding to improve understanding of geospatial discovery methodologies and technologies, as well as techniques to design and deploy geospatial resources in Information Infrastructures"--Provided by publisher.

Discover one of the most comprehensive introductions to information systems hardware and software in business today with Burd’s SYSTEMS ARCHITECTURE, 7E. This new edition remains an indispensable tool for current and future IS (Information Systems) professionals with a managerial, broad systems perspective that provides a holistic approach to systems architecture. This edition has been thoroughly updated to ensure all concepts, examples and applications reflects the latest in today’s new and emerging technologies. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

An official, self-paced training program for MCP Exam 70-015 presents a series of lessons and hands-on exercises designed to teach students how to design and implement distributed client/server solutions using Microsoft Visual C++ version 6.0. (Advanced)

This first-ever valuation guide shows how to select and managenetwork-based services to ensure maximum return on investment Explains how to manage the costs and tradeoffs betweendistributed and centralized management structures Shows how to avoid risking too much for too little return dueto unpredictable overall market conditions Covers network-based services such as Internet access,application management, hosting, voice and data services, and thenew breed of SOAP/XML Web services

Condition modelling and control is a technique used to enable decision-making in manufacturing processes of interest to researchers and practising engineering. Condition Monitoring and Control for Intelligent Manufacturing will be bought by researchers and graduate students in manufacturing and control and engineering, as well as practising engineers in industries such as automotive and packaging manufacturing.

This IBM® Redbooks® publication describes how to build production topologies for IBM Business Process Manager V8.0. This book is an update of the existing book IBM Business Process Manager V7.5 Production Topologies, SG24-7976. It is intended for IT Architects and IT Specialists who want to understand and implement these topologies. Use this book to select the appropriate production topologies for an environment, then follow the step-by-step instructions to build those topologies. Part 1 introduces IBM Business Process Manager and provides an overview of basic topology components, and Process Server and Process Center. This part also provides an overview of the production topologies described in this book, including a selection criteria for when to select a topology. IBM Business Process Manager security and the presentation layer are also addressed in this part. Part 2 provides a series of step-by-step instructions for creating production topology environments by using deployment environment patterns. This process includes topologies that incorporate IBM Business Monitor. This part also describes advanced topology topics. Part 3 covers post installation instructions for implementing production topology environments such as configuring IBM Business Process Manager to use IBM HTTP Server and WebSphere® proxy server.

Information systems development underwent many changes as systems transitioned onto web-based forums. Complemented by advancements in security and technology, internet-based systems have become an information mainstay. The Handbook of Research on Contemporary Perspectives on Web-Based Systems is a critical scholarly resource that examines relevant theoretical frameworks, current practice guidelines, industry standards, and the latest empirical research findings in web-based systems.

Featuring coverage on a wide range of topics such as data integration, mobile applications, and semantic web, this publication is geared toward computer engineers, IT specialists, software designers, professionals, researchers, and upper-level students seeking current and relevant research on the prevalence of these systems and advancements made to them.

Umar provides a collection of powerful services to support the e-business andm-business initiatives of today and tomorrow. (Computer Books)

Pro Python System Administration, Second Edition explains and shows how to apply Python scripting in practice. It will show you how to approach and resolve real-world issues that most system administrators will come across in their careers. This book has been updated using Python 2.7 and Python 3 where appropriate. It also uses various new and relevant open source projects and tools that should now be used in practice. In this updated edition, you will find several projects in the categories of network administration, web server administration, and monitoring and database management. In each project, the author will define the problem, design the solution, and go through the more interesting implementation steps. Each project is accompanied by the source code of a fully working prototype, which you'll be able to use immediately or adapt to your requirements and environment. This book is primarily aimed at experienced system administrators whose day-to-day tasks involve looking after and managing small-to-medium-sized server estates. It will also be beneficial for system administrators who want to learn more about automation and want to apply their Python knowledge to solve various system administration problems. Python developers will also benefit from reading this book, especially if they are involved in developing automation and management tools.

Written by international researchers in the field of Distributed User Interfaces (DUIs), this book brings together important contributions regarding collaboration and usability in Distributed User Interface settings. Throughout the thirteen chapters authors address key questions concerning how collaboration can be improved by using DUIs, including: in which situations a DUI is suitable to ease the collaboration among users; how usability standards can be used to evaluate the usability of systems based on DUIs; and accurately describe case studies and prototypes implementing these concerns. Under a collaborative scenario, users sharing common goals may take advantage of DUI environments to carry out their tasks more successfully because DUIs provide a shared environment where the users are allowed to manipulate information in the same space and at the same time. Under this hypothesis, collaborative DUI scenarios open new challenges to usability evaluation techniques and methods. Distributed User Interfaces: Collaboration and Usability presents an integrated view of different approaches related to Collaboration and Usability in Distributed User Interface settings, which demonstrate the state of the art, as well as future directions in this novel and rapidly evolving subject area.

Explore the military and combat applications of modeling andsimulation Engineering Principles of Combat Modeling and DistributedSimulation is the first book of its kind to address the threeperspectives that simulation engineers must master forsuccessful military and defense related modeling: the operationalview (what needs to be modeled); the conceptual view (how to docombat modeling); and the technical view (how to conductdistributed simulation). Through methods from the fields ofoperations research, computer science, and engineering, readers areguided through the history, current training practices, and modernmethodology related to combat modeling and distributed simulationsystems. Comprised of contributions from leading internationalresearchers and practitioners, this book provides a comprehensiveoverview of the engineering principles and state-of-the-art methodsneeded to address the many facets of combat modeling anddistributed simulation and features the following foursections: Foundations introducesrelevant topics and recommended practices, providing the neededbasis for understanding the challenges associated with combatmodeling and distributed simulation. Combat Modeling focuses onthe challenges in human, social, cultural, and behavioral modelingsuch as the core processes of "move, shoot, look, and communicate"within a synthetic environment and also equips readers with theknowledge to fully understand the related concepts andlimitations. Distributed Simulationintroduces the main challenges of advanced distributed simulation,outlines the basics of validation and verification, and exhibitshow these systems can support the operational environment of thewarfighter. Advanced Topics highlightsnew and developing special topic areas, including mathematicalapplications fo combat modeling; combat modeling with high-levelarchitecture and base object models; and virtual and interactivedigital worlds. Featuring practical examples and applications relevant toindustrial and government audiences, Engineering Principles ofCombat Modeling and Distributed Simulation is an excellentresource for researchers and practitioners in the fields ofoperations research, military modeling, simulation, and computerscience. Extensively classroom tested, the book is also ideal forcourses on modeling and simulation; systems engineering; and combatmodeling at the graduate level.

As organizations, businesses, and other institutions work to move forward during a new era of ubiquitous modern technology, new computing and technology implementation strategies are necessary to harness the shared knowledge of individuals to advance their organizations as a whole. Intelligent and Knowledge-Based Computing for Business and Organizational Advancements examines the emerging computing paradigm of Collective Intelligence (CI). The global contributions contained in this publication will prove to be essential to both researchers and practitioners in the computer and information science communities as these populations move toward a new period of fully technology-integrated business.

Component-based software development (CBD) is an emerging discipline that promises to take software engineering into a new era. Building on the achievements of object-oriented software construction, CBD aims to deliver software engineering from a cottage industry into an industrial age for Information Technology, wherein software can be assembled from components, in the manner that hardware systems are currently constructed from kits of parts. This volume provides a survey of the current state of CBD, as

reflected by activities that have been taking place recently under the banner of CBD, with a view to giving pointers to future trends. The contributions report case studies - self-contained, fixed-term investigations with a finite set of clearly defined objectives and measurable outcomes - on a sample of the myriad aspects of CBD. The book includes chapters dealing with COTS (commercial off-the-shelf) components; methodologies for CBD; compositionality, i.e. how to calculate or predict properties of a composite from those of its constituents; component software testing; and grid computing.

A comparative analysis of Ethernet, TCP/IP, and Fibre Channel in the context of SCSI Introduces network administrators to the requirements of storage protocols Explains the operation of network protocols to storage administrators Compares and contrasts the functionality of Ethernet, TCP/IP, and Fibre Channel Documents the details of the major protocol suites, explains how they operate, and identifies common misunderstandings References the original standards and specifications so you can get a complete understanding of each protocol Helps you understand the implications of network design choices Discusses advanced network functionality such as QoS, security, management, and protocol analysis Corporations increasingly depend on computer and communication technologies to remain competitive in the global economy. Customer relationship management, enterprise resource planning, and e-mail are a few of the many applications that generate new data every day. Effectively storing, managing, and accessing that data is a primary business challenge in the information age. Storage networking is a crucial component of the solution to meet that challenge. Written for both storage administrators who need to learn more about networking and network administrators who need to learn more about storage, Storage Networking Protocol Fundamentals is a concise introduction to storage networking protocols. The book picks up where Storage Networking Fundamentals left off by focusing on the networking protocols that underlie modern open systems: block-oriented storage networks. The first part of the book introduces you to the field of storage networking and the Open Systems Interconnection (OSI) reference model. The second part compares networked storage technologies, including iSCSI (Small Computer Systems Interface over IP) and Fibre Channel. It also examines in detail each of the major protocol suites layer-by-layer within the OSI reference model. The third part discusses advanced functionalities of these technologies, such as quality of service (QoS), load-balancing functions, security, management, and protocol analysis. You can read this book cover to cover or use it as a reference, directly accessing the particular topics of interest to you. “Storage networking is a critical concept for today’s businesses, and this book provides a unique and helpful way to better understand it. Storage networking is also continuously evolving, and as such this book may be seen as an introduction to the information technology infrastructures of the future.” —from the foreword by Claudio DeSanti, vice-chairman of the ANSI INCITS T11 Technical Committee

Both authors have taught the course of “Distributed Systems” for many years in the respective schools. During the teaching, we feel strongly that “Distributed systems” have evolved from traditional “LAN” based distributed systems towards “Internet based” systems. Although there exist many excellent textbooks on this topic, because of the fast development of distributed systems and network programming/protocols, we have difficulty in finding an appropriate textbook for the course of “distributed systems” with orientation to the requirement of the undergraduate level study for today’s distributed technology. Specifically, from - to-date concepts, algorithms, and models to implementations for both distributed system designs and application programming. Thus the philosophy behind this book is to integrate the concepts, algorithm designs and implementations of distributed systems based on network programming. After using several materials of other textbooks and research books, we found that many texts treat the distributed systems with separation of concepts, algorithm design and network programming and it is very difficult for students to map the concepts of distributed systems to the algorithm design, prototyping and implementations. This book intends to enable readers, especially postgraduates and senior undergraduate level, to study up-to-date concepts, algorithms and network programming skills for building modern distributed systems. It enables students not only to master the concepts of distributed network system but also to readily use the material introduced into implementation practices.

“An outstanding depth-and-breadth resource for IT architects and Java professionals to understand and apply the marriage of SOA and modern Java.” --Antonio Bruno, Enterprise Architecture and Strategy, digitalStrom “A great self-contained book on SOA using flexible Java implementations....” --Roger Stoffers, Hewlett Packard “Provides clarity on abstract concepts and is filled with concrete examples of implementing SOA principles in Java environments.” --Sanjay Singh, Certified SOA Architect “...provides a holistic, comprehensive view on leveraging SOA principles and architecture for building and deploying performant Java services.” --Suzanne D'Souza, KBACE Technologies “Thomas Erl's series of books on services technology have shaped, influenced, and strengthened a whole community of enterprise and solution architects' thinking and solution development, and the much awaited SOA with Java book is an excellent addition to the series. It is a must-read.” --Lalatendu Rath, Wipro Technologies The Definitive Guide to Building Service-Oriented Solutions with Lightweight and Mainstream Java Technologies Java has evolved into an exceptional platform for building Web-based enterprise services. In SOA with Java, Thomas Erl and several world-class experts guide you in mastering the principles, best practices, and Java technologies you need to design and deliver high-value services and service-oriented solutions. You'll learn how to implement SOA with lightweight frameworks, mainstream Java services technologies, and contemporary specifications and standards. To demonstrate real-world examples, the authors present multiple case study scenarios. They further demystify complex concepts with a plain-English writing style. This book will be valuable to all developers, analysts, architects, and other IT professionals who want to design and implement Web-based service-oriented architectures and enterprise solutions with Java technologies. Topic Areas Applying modern service-orientation principles to modern Java technology platforms Leveraging Java infrastructure extensions relevant to service-oriented solutions Exploring key concepts associated with SOA and service-orientation within the context of Java Reviewing relevant Java platforms, technologies, and APIs Understanding the standards and conventions that REST and SOAP services are built upon in relation to Java implementations Building Java Web-based services with JAX-WS and JAX-RS Applying the eight key principles of service-orientation design using Java tools and technologies Creating Java utility services: architectural, design, and implementation issues Constructing effective entity services: service contracts, messages, data access, and processing Constructing task services, including detailed guidance on service composition Using ESBs to support infrastructure requirements in complex services ecosystems

Recent advances in science and engineering have led to the proliferation of cyber-physical systems. Now viewed as a pivotal area of research, the application of CPS has expanded into several new and innovative areas. Challenges, Opportunities, and Dimensions of Cyber-Physical Systems explores current trends and enhancements of CPS, highlighting the critical need for further research and advancement in this field. Focusing on architectural fundamentals, interdisciplinary functions, and futuristic implications, this book is an imperative reference source for scholars, engineers, and students in the scientific community interested in the current and future advances in CPS.

Decision support systems (DSS) have evolved over the past four decades from theoretical concepts into real world computerized applications. DSS architecture contains three key components: knowledge base, computerized model, and user interface. DSS simulate cognitive decision-making functions of humans based on artificial intelligence methodologies (including expert systems, data mining, machine learning, connectionism, logistical reasoning, etc.) in order to perform decision support functions. The applications of DSS cover many domains, ranging from aviation monitoring, transportation safety, clinical diagnosis, weather forecast, business management to internet search strategy. By combining knowledge bases with inference rules, DSS are able to provide suggestions to end users to improve decisions and outcomes. This book is written as a textbook so that it can be used in formal courses examining decision support systems. It may be used by both undergraduate and graduate students from diverse computer-related fields. It will also be of value to established professionals as a text for self-study or for reference.

What is this book about? Professional Java builds upon Ivor Horton?s Beginning Java to provide the reader with an understanding of how professionals use Java to develop software solutions. Pro Java starts with an overview of best methods and tools for developing Java applications. It then examines the the more sophisticated and nuanced parts of the Java JDK. The final and most extensive part of the book shows how to implement these ideas to build real–world applications, using both Java APIs as well as related Java open source tools. In short, this book provides a comprehensive treatment of the professional Java development process, without losing focus in exhaustive coverage of isolated features and APIs.

Building Distributed Applications with Visual Basic.NET provides corporate developers with the .NET Framework techniques necessary to build distributed and reusable business systems in VB.NET. Covered topics include: VB.NET and the .NET Framework architecture and language concepts; building distributed applications with VB.NET using ADO.NET, XML, ASP.NET, SOAP, and COM+; and enterprise integration using the Services Framework.

Learn how to design and develop distributed web services in Java, using RESTful architectural principles and the JAX-RS 2.0 specification in Java EE 7. By focusing on implementation rather than theory, this hands-on reference demonstrates how easy it is to get started with services based on the REST architecture. With the book’s technical guide, you’ll learn how REST and JAX-RS work and when to use them. The RESTEasy workbook that follows provides step-by-step instructions for installing, configuring, and running several working JAX-RS examples, using the JBoss RESTEasy implementation of JAX-RS 2.0. Learn JAX-RS 2.0 features, including a client API, server-side asynchronous HTTP, and filters and interceptors Examine the design of a distributed RESTful interface for an e-commerce order entry system Use the JAX-RS Response object to return complex responses to your client (ResponseBuilder) Increase the performance of your services by leveraging HTTP caching protocols Deploy and integrate web services within Java EE7, servlet containers, EJB, Spring, and JPA Learn popular mechanisms to perform authentication on the Web, including client-side SSL and OAuth 2.0

As Web service technologies have matured in recent years, an increasing number of geospatial Web services designed to deal with spatial information over the network have emerged. Geospatial Web Services: Advances in Information Interoperability provides relevant theoretical frameworks and the latest empirical research findings and applications in the area. This book highlights the strategic role of geospatial Web services in a distributed heterogeneous environment and the life cycle of geospatial Web services for building interoperable geospatial applications.

Social networking has made one thing clear: websites and applications need to provide users with experiences tailored to their preferences. This in-depth guide shows you how to build rich social frameworks, using open source technologies and specifications. You'll learn how to create third-party applications for existing sites, build engaging social graphs, and develop products to host your own socialized experience. Programming Social Apps focuses on the OpenSocial platform, along with Apache Shindig, OAuth, OpenID, and other tools, demonstrating how they work together to help you solve practical issues. Each chapter uncovers a new layer in the construction of highly viral social applications and platforms. Learn how to build applications on top of social containers, and leverage existing user data Map user relationships with a social graph, and extend social links between users Customize your application with user profile information and encourage growth through friendships Build a scalable social application container with OpenSocial and Shindig Dive into advanced OpenSocial topics such as templating and data pipelining methods Protect your container and its users against malicious code

Distilling a vast amount of knowledge into an easy-to-read volume covering the full range of Oracle's features and technologies, this title includes an overview of Oracle 10g, along with recent releases 9i and 8i. It provides everything you should need to install and run the Oracle databases.

"This book summarizes the challenges inherent in leading distributed teams and explores practices that are emerging to optimize distributed team performance"--Provided by publisher.

Information fusion refers to the merging of information from disparate sources with differing conceptual, contextual and typographical representations. Rather than focusing on traditional data fusion applications which have been mainly concerned with physical military targets, this unique resource explores new human-centered trends, such as locations, identity, and interactions of individuals and groups (social networks). Moreover, the book discusses two new major sources of information: human observations and web-based information.This cutting-edge volume presents a new view of multi-sensor data fusion that seeks to address these new developments, explicitly considering the active role of a human user/analyst. Professionals become knowledgeable about the key inputs into this innovative information fusion process, including traditional sensing resources (S-space), dynamic communities of human observers (H-space), and resources such as archived sensor data, blogs, and dynamic news reports from citizen reporters via the Internet (I-space).

Visual Studio .NET and Online Application Development was written to give students exposure to the various languages that comprise Visual Studio.NET. This text begins by giving students a clear explanation of various development tools and how they are integrated making up VS.NET. The text then shows students how to apply those tools to Web Services, Web Applications, and Project Management.

Practical and easy to understand, DATABASE SYSTEMS: DESIGN, IMPLEMENTATION, AND MANAGEMENT, Eleventh Edition, gives students a solid foundation in database design and implementation. Filled with visual aids such as diagrams, illustrations, and tables, this market-leading text provides in-depth coverage of database design, demonstrating that the key to successful database implementation is in proper design of databases to fit within a larger strategic view of the data environment. Renowned for its clear, straightforward writing style, this text provides students with an outstanding balance of theory and practice. The eleventh edition has been updated to include expanded relational algebra coverage, updated business vignettes showing the impact of database tech in the real world, updated coverage of cloud data services, expanded coverage of Big Data and related Hadoop technologies, SQL coverage expanded to include MySQL databases, and many other improvements! In addition, new review questions, problem sets, and cases have been added throughout the book so that students have multiple opportunities to test their understanding and develop real and useful design skills. Important Notice: Media content referenced within the product description or the product text may not be

available in the ebook version.