

Digital Interactive Tv And Metadata Future Broadcast Multimedia Signals And Communication Technology By Arthur Lugmayr 2004 06 22

The evolution of technology has set the stage for the rapid growth of the video Web: broadband Internet access is ubiquitous, and streaming media protocols, systems, and encoding standards are mature. In addition to Web video delivery, users can easily contribute content captured on low cost camera phones and other consumer products. The media and entertainment industry no longer views these developments as a threat to their established business practices, but as an opportunity to provide services for more viewers in a wider range of consumption contexts. The emergence of IPTV and mobile video services offers unprecedented access to an ever growing number of broadcast channels and provides the flexibility to deliver new, more personalized video services. Highly capable portable media players allow us to take this personalized content with us, and to consume it even in places where the network does not reach. Video search engines enable users to take advantage of these emerging video resources for a wide variety of applications including entertainment, education and communications. However, the task of information extraction from video for retrieval applications is challenging, providing opportunities for innovation. This book aims to first describe the current state of video search engine technology and second to inform those with the requisite technical skills of the opportunities to contribute to the development of this field. Today's Web search engines have greatly improved the accessibility and therefore the value of the Web.

This book constitutes the refereed proceedings of the 6th European Conference on Interactive Television, EuroITV 2008, held in Salzburg, Austria, in July 2008. The 42 revised full papers were carefully reviewed and selected from 156 submissions. The contributions cover significant aspects of the interactive television domain including submissions on user studies, technical challenges related to new developments as well as new kind of formats. The papers are organized in topical sections on interactive TV, interactive authoring, personalisation and recommender systems, mobile TV, social TV, new TV environments, iTV architectures and systems, user interfaces and interaction design, user studies, and accessibility.

Digital Interactive TV and MetadataFuture Broadcast MultimediaSpringer Science & Business Media

This book is a groundbreaking resource that covers both algorithms and technologies of interactive videos. It presents recent research and application work for building and browsing interactive digital videos. The book deals mainly with low-level semi-automatic and full-automatic processing of the video content for intelligent human computer interaction. There is a special focus on eye tracking methods.

Satellite Communications and Navigation Systems publishes the proceedings of the 2006 Tyrrhenian International Workshop on Digital Communications. The book focuses on the integration of communication and navigation systems in satellites.

Algorithmic Information Theory treats the mathematics of many important areas in digital information processing. It has been written as a read-and-learn book on concrete mathematics, for teachers, students and practitioners in electronic engineering, computer science and mathematics. The presentation is dense, and the examples and exercises are numerous. It is based on lectures on information technology (Data Compaction, Cryptography, Polynomial Coding) for engineers.

This volume addresses issues revolving around the production of mediated cultural products across borders. More specifically, the authors consider cross-border cultural production in the film and television industries and how it affects and is affected by media centers, and, more recently, established production locations. The film and television industries have long been recognized as playing important economic, political and cultural roles. And while it could be argued that, historically, these forms of cultural production often have been international endeavors, the choice of production sites has become an especially contentious issue during the last few decades as global production has expanded. While some factions, notably from the US film and television industries, refer to this issue as "runaway production," this book takes a much broader look at the implications and consequences of this phenomenon. Basically, cross-border production involves the expansion of production away from traditional centers, whether to other countries or to other locations within the same country. Thus, this study covers a wide range of issues involving economic and political considerations, as well as creative and aesthetic decision-making.

This book is the condensed result of an extensive European project developing the future of 3D-Television. The book describes the state of the art in relevant topics: Capture of 3D scene for input to 3DTV system; Abstract representation of captured 3D scene information in digital form; Specifying data exchange format; Transmission of coded data; Conversion of 3DTV data for holographic and other displays; Equipment to decode and display 3DTV signal.

Recent years have brought many changes to the world of mass media. The Internet and mobile communications technology have provided consumers with interactive digital services. Television is catching up with this trend through the digitalization process. Digital television is a hybrid platform combining elements from classical analog television and the Internet, providing modern multimedia services on a familiar platform. In short, digital TV is a gateway to the world of interactive digital media. Digital TV brings consumers into the television service arena and offers them new degrees of freedom. However, as the service and multimedia content types diversify and the services and their content increase, television is facing many of the same challenges of complexity and information overflow faced by other digital media. Metadata can handle the diverse services and content of digital TV efficiently and in a consumer-friendly way. Metadata means that the data are accompanied by other data which describe them. As data about data, meta data can provide an insight into syntactically and semantically complex data by

distilling their essence to a set of simple descriptors. Metadata also helps to structure and manage information in diverse settings. The use of metadata in broadcast multimedia should not be restricted to being merely a tool for coping with the challenges of a complex networked multimedia environment. Instead, metadata offers new opportunities for the development of innovative services.

"This publication covers the latest innovative research findings involved with the incorporation of technologies into everyday aspects of life"--Provided by publisher.

Telecommunication systems and human-machine interfaces have begun using multiple microphones and loudspeakers to render interaction more lifelike, and more efficient. This raises acoustic signal processing problems under multiple-input multiple-output (MIMO) scenarios, encompassing distant speech acquisition, sound source localization and tracking, echo and noise control, source separation and speech dereverberation, and many others. The book opens with an acoustic MIMO paradigm, establishing fundamentals, and linking acoustic MIMO signal processing with classical signal processing and communication theories. The second part of the book presents a novel analysis of acoustic applications carried out in the paradigm to reinforce the fundamentals of acoustic MIMO signal processing.

Multimedia Content Analysis: Theory and Applications covers the latest in multimedia content analysis and applications based on such analysis. As research has progressed, it has become clear that this field has to appeal to other disciplines such as psycho-physics, media production, etc. This book consists of invited chapters that cover the entire range of the field. Some of the topics covered include low-level audio-visual analysis based retrieval and indexing techniques, the TRECVID effort, video browsing interfaces, content creation and content analysis, and multimedia analysis-based applications, among others. The chapters are written by leading researchers in the multimedia field.

"Addressing the issues that managers in the multimedia industry have confronted while developing and implementing this innovative technology, this book focuses on the latest research and findings in digital television technologies. Covered are the major issues surrounding digital convergence including the digital metamarket and new digital media devices and their potential for IT convergence at the macro level. Also addressed are multimedia and interactive digital television and the economic implications of these technologies. Additionally, the managerial implications of interactive digital television are covered, including branding strategies for digital television channels and the critical role of content media management."

Grid architectures, which are viewed as tools for the integration of distributed resources, play a significant role as managers of computational resources, but also as aggregators of measurement instrumentation and pervasive large-scale data acquisition platforms. The functionality of a grid architecture allows managing, maintaining, and exploiting heterogeneous instrumentation and acquisition devices in a unified way by providing standardized interfaces and common work environments to their users. This result is achieved through the properties of isolation from the physical network and from the peculiarities of the instrumentation granted by standard middleware together with secure and flexible mechanisms which seek, access, and aggregate distributed resources. This book focuses on a number of aspects related to the effective exploitation of remote instrumentation on the grid. These include middleware architecture, high speed networking in support of grid applications, wireless grid for acquisition devices and sensor networks, quality of service provisioning for real time control, and measurement instrumentation.

"This book focuses on the definition of ambient and ubiquitous media from a cross-disciplinary viewpoint, covering the fields of commerce, science, research affecting citizens"--Provided by publisher.

Treating VB approximation in signal processing, this monograph is for academic and industrial research groups in signal processing, data analysis, machine learning and identification. It reviews distributional approximation, showing that tractable algorithms for parametric model identification can be generated in off-line and on-line contexts.

This book constitutes the refereed proceedings of the 4th Iberoamerican Conference on Applications and Usability of Interactive TV, jAUTI 2015, and the 6th Congress on Interactive Digital TV, CTVDI 2015, held in Palma de Mallorca, Spain, in October 2015. The 10 revised full papers and two short papers presented together with an invited talk were carefully reviewed and selected for this volume from 30 accepted submissions. The papers are organized in topical sections on Second Screen Applications Immersive TV; Video Consumption Development Tools; IDTV Interoperability; IDTV User Experience; Audiovisual Accessibility.

This book focuses on practical computational electrodynamics, guiding the reader step-by-step through the modeling process from the initial "what question must the model answer?", through the setting up of a computer model, to post processing, validation and optimization. The book offers a realistic view of the capabilities and limits of current 3-D field simulators and how to apply this knowledge efficiently to EM analysis and design of RF applications in modern communication systems.

This book treats important topics in "Acoustic Echo and Noise Control" and reports the latest developments. Methods for enhancing the quality of transmitted speech signals are gaining growing attention in universities and in industrial development laboratories. This book, written by an international team of highly qualified experts, concentrates on the modern and advanced methods.

Imaging for Forensics and Security: From Theory to Practice provides a detailed analysis of new imaging and pattern recognition techniques for the understanding and deployment of biometrics and forensic techniques as practical solutions to increase security. It contains a collection of the recent advances in the technology ranging from theory, design, and implementation to performance evaluation of biometric and forensic systems. This book also contains new methods such as the multiscale approach, directional filter bank, and wavelet maxima for the development of practical solutions to biometric problems. The book introduces a new forensic system based on shoeprint imagery with advanced techniques for use in forensics applications. It also presents the concept of protecting the originality of biometric images stored in databases against intentional and unintentional attacks and fraud detection data in order to further increase the security.

The developments in digital television technology provide the unprecedented opportunity to drastically extend the role of television as a content delivery channel. E-health, e-

commerce, e-government, and e-learning are only a few examples of value-added services provided over digital televisions infrastructures. These changes in the television industry challenge companies to adjust their strategies in order to meet the opportunities and threats in this new environment. Interactive Digital Television: Techniques and Applications presents the developments in the domain of interactive digital television covering both technical and business aspects. This book focuses on analyzing concepts, research issues, and methodological approaches, presenting existing solutions such as systems and prototypes for researchers, academicians, scholars, professionals and practitioners.

In this study, Baltruschat calls attention to dramatic changes in worldwide media production. Her work provides new insights into industry re-organization, digital media, and audience interactivity as pivotal relationships are redrawn along the entire value chain of production, distribution, and consumption. Based on an international study, she details how cultural agents now negotiate a media landscape through collaborative ventures, co-productions and format franchising. These varied collaborations define the new global media economy and affect a shift across the entire field of cultural production. Through detailing the intricacies of globally networked production ecologies, Baltruschat elucidates the shifting power relations in media production, especially in regards to creative labor and trade of intellectual properties. In the new global economy, "content" has become the "new currency." As a result, relational dynamics between cultural agents emerge as key forces in shaping worldwide cultural production, now increasingly characterized by flexible production and consumption. The blurring of lines in international media developments require new parameters, which define creativity and intellectual property in relation to interactive audiences and collaboratively produced content. Baltruschat clearly maps and defines these new dynamics and provides solutions as to how creative labor constellations can advance and enrich the new media economy. This is especially pertinent as global film and TV production does not necessarily result in greater media diversity. On the contrary, interdependencies in policy regimes, prioritization of certain genres, and branded entertainment epitomize how current networked ecologies reflect broader trends in cultural and economic globalization.

-Presents state-of-the-art in visual media retrieval. -Coverage of adaptive content-based retrieval systems and techniques in image and video database applications. -Includes a novel machine-controlled interactive retrieval (MCIR) method that optimizes image search in distributed digital libraries over the Internet.

Software-based cryptography can be used for security applications where data traffic is not too large and low encryption rate is tolerable. But hardware methods are more suitable where speed and real-time encryption are needed. Until now, there has been no book explaining how cryptographic algorithms can be implemented on reconfigurable hardware devices. This book covers computational methods, computer arithmetic algorithms, and design improvement techniques needed to implement efficient cryptographic algorithms in FPGA reconfigurable hardware platforms. The author emphasizes the practical aspects of reconfigurable hardware design, explaining the basic mathematics involved, and giving a comprehensive description of state-of-the-art implementation techniques.

The Media Convergence Handbook sheds new light on the complexity of media convergence and the related business challenges. Approaching the topic from a managerial, technological as well as end-consumer perspective, it acts as a reference book and educational resource in the field. Media convergence at business level may imply transforming business models and using multiplatform content production and distribution tools. However, it is shown that the implementation of convergence strategies can only succeed when expectations and aspirations of every actor involved are taken into account. Media consumers, content producers and managers face different challenges in the process of media convergence. Volume I of the Media Convergence Handbook encourages an active discourse on media convergence by introducing the concept through general perspective articles and addressing the real-world challenges of conversion in the publishing, broadcasting and social media sectors.

This introductory volume provides a systematic overview of WiMAX technology, demystifying the technology and providing technical advice on various system trade-offs. Much of the material is based on the practical experiences of the authors in building new systems. Coverage includes the IEEE 802.16 standard, a tutorial on implementation and tips on controlling cost of WiMAX network ownership. This is a must read book for professionals involved in broadband fixed wireless access.

This book constitutes the refereed proceedings of the 10th International Conference on Database Systems for Advanced Applications, DASFAA 2005, held in Beijing, China in April 2005. The 67 revised full papers and 15 revised short papers presented were carefully reviewed and selected from 302 submissions. The papers are organized in topical sections on bioinformatics, watermarking and encryption, XML query processing, XML coding and metadata management, data mining, data generation and understanding, music retrieval, query processing in subscription systems, extending XML, Web services, high-dimensional indexing, sensor and stream data processing, database performance, clustering and classification, data warehousing, data mining and Web data processing, moving object databases, temporal databases, semantics, XML update and query patterns, join processing and view management, spatial databases, enhancing database services, recovery and correctness, and XML databases and indexing.

This second edition provides easy access to important concepts, issues and technology trends in the field of multimedia technologies, systems, techniques, and applications. Over 1,100 heavily-illustrated pages — including 80 new entries — present concise overviews of all aspects of software, systems, web tools and hardware that enable video, audio and developing media to be shared and delivered electronically.

The second edition of Human Factors and Voice Interactive Systems, in addition to updating chapters from the first edition, adds in-depth information on current topics of major interest to speech application developers. These topics include use of speech technologies in automobiles, speech in mobile phones, natural language dialogue issues in speech application design, and the human factors design, testing, and evaluation of interactive voice response (IVR) applications.

This volume contains papers describing state-of-the-art technology for advanced multimedia systems. It presents applications in broadcasting, copyright protection of multimedia content, image indexing and retrieval, and other topics related to computer vision. The proceedings have been selected for coverage in: OCo Index to Scientific & Technical Proceedings- (ISTP- / ISI Proceedings) OCo Index to Scientific & Technical Proceedings (ISTP CDRom version / ISI Proceedings)"

This book constitutes the refereed proceedings of the 5th European Conference on Interactive Television, EuroITV 2007, held in Amsterdam, The Netherlands, May 2007. The volume covers a wide range of areas such as media studies, audiovisual design, multimedia, HCI, and management. The papers are organized in topical sections on social TV systems, user studies, the future of TV, social TV evaluation, personalization, and mobile TV.

This book explores the optimization potential of cross-layer design approaches for wireless ad hoc and sensor network performance, covering both theory and practice. A theoretical section provides an overview of design issues in both strictly layered and cross-layer approaches. A practical section builds on these issues to explore three case studies of diverse ad hoc and sensor network applications and communication technologies.

The Evolution of TV Systems, Content, and Users towards Interactivity provides an overview of the evolution of TV systems, TV content, and TV users towards interactivity, with a special focus on sociability aspects. Three basic concepts are introduced, namely, content editing, content sharing, and content control. Content editing corresponds to the activity of developing or organizing multimedia material, traditionally the domain of professionals but also including user-generated content. Content sharing refers to all kinds of social activities that might occur around television watching, such as chatting about television content and sharing content. Finally, content control corresponds to the activity of deciding what to watch and how to watch it. A simple taxonomy (edit-share-control) is proposed as an evolutionary step over the established hierarchical produce-deliver-consume paradigm. The Evolution of TV Systems, Content, and Users towards Interactivity looks at how research in the area has spanned a rather diverse set of scientific subfields, such as multimedia, HCI, CSCW, UIST, user modeling, media and communication sciences. It demonstrates how each disciplinary effort has contributed and why the full potential of interactive TV has not yet been fulfilled. Finally, it describes how interdisciplinary approaches could provide solutions to some notable contemporary research issues. The Evolution of TV Systems, Content, and Users towards Interactivity is aimed at students and researchers, practitioners and developers. It assumes a basic understanding of past and current practices on the design of computer applications, networks and media content.

Electronic Noise and Interfering Signals is a comprehensive reference book on noise and interference in electronic circuits, with particular focus on low-noise design. The first part of the book deals with mechanisms, modelling, and computation of intrinsic noise which is generated in every electronic device. The second part analyzes the coupling mechanisms which can lead to a contamination of circuits by parasitic signals and provides appropriate solutions to this problem. The last part contains more than 100 practical, elaborate case studies. The book requires no advanced mathematical training as it introduces the fundamental methods. Moreover, it provides insight into computational noise analysis with SPICE and NOF, a software developed by the author. The book addresses designers of electronic circuits as well as researchers from electrical engineering, physics, and material science. It should also be of interest for undergraduate and graduate students.

The Media Convergence Handbook sheds new light on the complexity of media convergence and the related business challenges. Approaching the topic from a managerial, technological as well as end-consumer perspective, it acts as a reference book and educational resource in the field. Media convergence at business level may imply transforming business models and using multiplatform content production and distribution tools. However, it is shown that the implementation of convergence strategies can only succeed when expectations and aspirations of every actor involved are taken into account. Media consumers, content producers and managers face different challenges in the process of media convergence. Volume II of the Media Convergence Handbook tackles these challenges by discussing media business models, production, and users' experience and perspectives from a technological convergence viewpoint.

Developing usable, useful, and appealing solutions for the customer or user experience requires customization according to specific users' needs amidst frequently changing physical and social environments. Complex design problems like these require interdisciplinary perspectives that cover software functionality, human interaction and communication experiences, and perceived value. After defining and summarizing current research and development, this book focuses on Mobile TV experience in everyday life, innovative conceptual and participatory design methods, contextual analysis methods, social context for interactive multimedia systems, advanced interaction with mobile digital content, and future trends for the wide range of products and services that will be offered in the decade to come. The Editors have carefully balanced the theoretical and empirical approaches providing a valuable insight into principles and methods, as well as actionable guidelines and recommendations for all those interested in exploring how to achieve the core objectives of usability, usefulness, and social appeal of this new mobile-video technology. The book answers many questions, and raises some new ones that only future technology development and deployment in mobile human-computer interaction and communication can answer.

This book is intended for students and professionals who are interested in the field of digital signal processing of delta-sigma modulated sequences. The overall focus is on the development of algorithms and circuits for linear, non-linear, and mixed mode processing of delta-sigma modulated pulse streams. The material presented here is directly relevant to applications in digital communication, DSP, instrumentation, and control.

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