

## Spatial Data Infrastructure And Voluntary Geographic

"This reference explores some of the most recent developments in sustainability, delving into topics beyond environmental science to cover issues of sustainable economic, political, and social development"—Provided by publisher.

This book constitutes the refereed proceedings of the IFIP WG 8.4/8.9 International Cross Domain Conference and Workshop on Availability, Reliability and Security - Multidisciplinary Research and Practice for Business, Enterprise and Health Information Systems, ARGES 2011, held in Vienna, Austria, in August 2011. The 29 revised papers presented were carefully reviewed and selected for inclusion in the volume. The papers concentrate on the many aspects of availability, reliability and security for information systems as a discipline bridging the application fields and the well-defined computer science field. They are organized in three sections: multidisciplinary research and practice for business, enterprise and health information systems; massive information sharing and integration and electronic healthcare; and papers from the colocated International Workshop on Security and Cognitive Informatics for Homeland Defense.

Open access to information of geographic places and spatial relationships provides an essential part of the analytical processing of spatial data. Access to connected geospatial programs allows for improvement in teaching and understanding science, technology, engineering, and mathematics. Emerging Trends in Open Source Geographic Information Systems provides emerging research on the applications of free and open software in geographic information systems in various fields of study. While highlighting topics such as data warehousing, hydrological modeling, and software packages, this publication explores the assessment and techniques of open software functionality and interfaces. This book is an important resource for professionals, researchers, academicians, and students seeking current research on the different types and uses of data and data analysis in geographic information systems.

The phenomenon of volunteered geographic information is part of a profound transformation in how geographic data, information, and knowledge are produced and circulated. By situating volunteered geographic information (VGI) in the context of big-data deluge and the data-intensive inquiry, the 20 chapters in this book explore both the theories and applications of crowdsourcing for geographic knowledge production with three sections focusing on 1). VGI, Public Participation, and Citizen Science; 2). Geographic Knowledge Production and Place Inference; and 3). Emerging Applications and New Challenges. This book argues that future progress in VGI research depends in large part on building strong linkages with diverse geographic scholarship. Contributors of this volume situate VGI research in geography’s core concerns with space and place, and offer several ways of addressing persistent challenges of quality assurance in VGI. This book positions VGI as part of a shift toward hybrid epistemologies, and potentially a fourth paradigm of data-intensive inquiry across the sciences. It also considers the implications of VGI and the exafford for further time-space compression and new forms, degrees of digital inequality, the renewed importance of geography, and the role of crowdsourcing for geographic knowledge production.

Researching Voluntary Action

11th IFIP WG 8.5 International Conference, EGOV 2012, Kristiansand, Norway, September 3-6, 2012, Proceedings

Citizen Empowered Mapping

Computational Science and Its Applications - ICCSA 2016

Mobile Information Systems Leveraging Volunteered Geographic Information for Earth Observation

Discovery of Geospatial Resources: Methodologies, Technologies, and Emergent Applications

User Centric E-Government

The popularity of an increasing number of mobile devices, such as PDAs, laptops, smart phones, and tablet computers, has made the mobile device the central method of communication in many societies. These devices may be used as electronic wallets, social networking tools, or may serve as a person’s main access point to the World Wide Web. The Handbook of Research on Mobile Software Engineering: Design, Implementation, and Emergent Applications highlights state-of-the-art research concerning the key issues surrounding current and future challenges associated with the software engineering of mobile systems and related emergent applications. This handbook addresses gaps in the literature within the area of software engineering and the mobile computing world. Developments in the Theory and Practice of Cybercartography—awarded an Honorable Mention in Earth Science at the Association of American Publishers’ 2015 PROSE Awards—examines some of the recent developments in the theory and practice of cybercartography and the substantial changes which have taken place since the first edition published in 2005. It continues to examine the major elements of cybercartography and emphasizes the importance of interaction between theory and practice in developing a paradigm which moves beyond the concept of Geographic Information Systems (GIS) and Geographical Information Science. Cybercartography is a new paradigm for maps and mapping in the information era. Defined as "the organization, presentation, analysis and communication of spatially referenced information on a wide variety of topics of interest to society," cybercartography is presented in an interactive, dynamic, multisensory format with the use of multimedia and multimodal interfaces. The seven major elements of cybercartography outlined in the first edition have been supplemented by six key ideas and the definition of cybercartography has been extended and expanded. The new practice of mapping traditional knowledge in partnership with indigenous people has led to new theoretical understanding as well as innovative cybercartographic atlases. Featuring more than 90% new and revised content, this volume is a result of a multidisciplinary team effort and has benefited from the input of partners from government, industry and aboriginal non-governmental organizations. Honorable Mention in the the 2015 PROSE Awards in Earth Science from the Association of American Publishers Highlights the relationship between cybercartography and critical geography Incorporates several new cybercartographic atlases produced in cooperation with Inuit and First Nations groups Showcases legal, ethical, consent and policy implications of mapping local and traditional knowledge Features an interactive companion web site containing links to related sites, additional color images and illustrations, plus important information to capture the dynamic and interactive elements of cybercartography: <http://booksite.elsevier.com/9780444627131/>

Natural and human activities change the environment we are living in and consequently impact the quality of life. Analysing these dynamics leads to a better understanding of urban change and facilitates urban development. Research related to the management of urban data has a long tradition. Through the years a variety of challenging research quest

This book promotes the exploitation of novel and emerging approaches for mapping environmental and urban informatics empowered by citizens. Chapters are grouped in three sections representing the main subjects. The first section describes data acquisition and modeling. The second section focuses on the quality and reliability of data. The final section presents different methods of environmental monitoring and perception. The book includes diverse case studies from Mexico, the United States and Czech Republic. Topics covered in Citizen Empowered Mapping are of interest for research scholars, practitioners, postgraduates, and professionals from a variety of disciplines including geography, environmental science, geographic information science, social science, and computer science.

Deep Maps and Spatial Narratives

Availability, Reliability and Security for Business, Enterprise and Health Information Systems

Concepts, Methodologies, Tools, and Applications

Theory and Application

Spatial Data Infrastructures at Work

Geographic Information Systems and Web 2.0

Applications and Indigenous Mapping

*Studies from around the world show how the social media tools of Web 2.0 are shaping engagement with cities, communities, and spaces. Web 2.0 tools, including blogs, wikis, and photo sharing and social networking sites, have made possible a more participatory Internet experience. Much of this technology is available for mobile phones, where it can be integrated with such device-specific features as sensors and GPS. From Social Butterfly to Engaged Citizen examines how this increasingly open, collaborative, and personalizable technology is shaping not just our social interactions but new kinds of civic engagement with cities, communities, and spaces. It offers analyses and studies from around the world that explore how the power of social technologies can be harnessed for social engagement in urban areas. Chapters by leading researchers in the emerging field of urban informatics outline the theoretical context of their inquiries, describing a new view of the city as a hybrid that merges digital and physical worlds; examine technology-aided engagement involving issues of food, the environment, and sustainability; explore the creative use of location-based mobile technology in cities from Melbourne, Australia, to Dhaka, Bangladesh; study technological innovations for improving civic engagement; and discuss design research approaches for understanding the development of sentient real-time cities, including interesting case studies on one such city.*

*This book provides user studies and theories related to user-centered technology design processes for e-government projects. The book mainly discusses inherent issues of technology design implications, user experiences, and guidelines for technology appropriation. Ethnographic studies focusing on real life examples will enable readers to understand the problems in an effective way. Furthermore, the theories and results will help researchers and practitioners to handle these challenges in an efficient way. E-Government is about harnessing the information revolution to improve the efficiency of government processes and the lives of citizens. It aims at a citizen centered approach to governance through effective use of the Internet and Information and Communication Technologies (ICTs). E-Government promotes transparency and effectiveness of a government’s processes as well as citizens’ participation (e-participation) in the affairs of the government. Whereas e-government projects are huge undertakings for government departments, a user-centric approach requires citizens’ participation in the design and delivery of e government services. In both these respects, there are huge challenges and governments require long term committment as well as correct planning and availability of financial resources to address them. System design for e-governmental applications is inherently a complex process. In successful e-government projects, appropriately designed technology infrastructure plays a pivotal role. The technology appropriation process requires that e-government technologies should be in line with the work practices of end users, so that successful usage of these technologies can be realized. E-governmental systems which fail to take into account such human factors result in failure and wasting huge amounts of public money as well as a loss of confidence of the public in such technological infrastructures. It is highly important that citizens are enabled to have access to the appropriate information technology, have knowledge and skills to use the available technology, and have the positive commitment to affect the government’s strategies. So, enabling citizens to effectively participate is much more difficult. This book addresses these inherent challenges and available opportunities with respect to user-centric e-government.*

*The Third Edition of this bestselling textbook has been fully revised and updated to include the latest developments in the field and still retains its accessible format to appeal to a broad range of students. Now divided into five clear sections the book investigates the unique, complex and difficult problems that are posed by geographic information and together they build into a holistic understanding of the key principles of GIS. This is the most current, authoritative and comprehensive treatment of the field, that goes from fundamental principles to the big picture of: GIS and the New World Order security, health and well-being; digital differentiation in GIS consumption the core organizing role of GIS in Geography the growing of GIS grand challenges of GIScience science and explanation Key Features: Four-colour throughout Associated website with free online resources Teacher’s manual available for lecturers A complete learning resource, with accompanying instructor links, free online lab resources and personal syllabi Includes learning objectives and review boxes throughout each chapter New in this edition: Completely revised with a new five part structure: Foundations; Principles; Techniques; Analysis; Management and Policy All new personality boxes of current GIS practitioners New chapters on Distributed GIS, Map Production, Geovisualization, Modeling, and Managing GIS*

*Deep maps are finely detailed, multimedia depictions of a place and the people, buildings, objects, flora, and fauna that exist within it and which are inseparable from the activities of everyday life. These depictions may encompass the beliefs, desires, hopes, and fears of residents and help show what ties one place to another. A deep map is a way to engage evidence within its spatio-temporal context and to provide a platform for a spatially-embedded argument. The essays in this book investigate deep mapping and the spatial narratives that stem from it. The authors come from a variety of disciplines: history, religious studies, geography and geographic information science, and computer science.*

*Each applies the concepts of space, time, and place to problems central to an understanding of society and culture, employing deep maps to reveal the confluence of actions and evidence and to trace paths of intellectual exploration by making use of a new creative space that is visual, structurally open, multi-media, and multi-layered.*

*Berkshire Encyclopedia of Sustainability 6/10*

*Urban and Regional Data Management*

*Measurements, Indicators, and Research Methods for Sustainability*

*Urban Informatics, Social Media, Ubiquitous Computing, and Mobile Technology to Support Citizen Engagement*

*Geoinformatics for Climate Change Studies*

*From Social Butterfly to Engaged Citizen*

*Big Data in the Arts and Humanities*

*Expert perspectives on SDI theory and practice The spatial data infrastructure (SDI) concept continues to evolve and become an increasingly important element of the infrastructure that supports economic development, environmental management, and social stability. Because of its dynamic and complex nature, however, it remains a fuzzy concept*

*Human activities as well as various natural phenomena change the environment and impact on the quality of life. Analysis of those dynamics is required for a better understanding of urban modifications, and to facilitate urban growth and development. Research related to the management of urban data has a long tradition. Through the years a variety of challenging research questions has been investigated related to the collection, storage, use and visualisation of the data representing the urban phenomena in a computer-based environment. The role of the citizens and their wellbeing has become a critical aspect in all research and development activities. Since 1971, the Urban Data Management Society (UDMS) has organized international symposia across Europe to promote the development of information systems at a local government level. Initially, the focus of these symposia was mostly on urban applications, but both regional and rural issues have grown in importance over the years. Nowadays, an important aim of UDMS is to provide a forum for people to discuss new approaches, to consider new technologies, and to share practical experiences in the field of urban data management. This book contains a selection of the best 19 out of 42 full papers that were submitted for UDMS 2011. The topics covered represent current trends in urban and regional data management. Urban and Regional Data Management 2011 is divided in four parts: (1) 3D modeling and applications; (2) Data management for local government; (3) Environmental monitoring and assessment; (4) Remote sensing for urban applications, and will proof to be a useful source of information for urban, regional and rural data-related professionals, such as scholars, GIS engineers, geographic professionals, photogrammetrists, land surveyors, mapping specialists, urban planners and researchers, as well as for postgraduate students and lecturers.*

*Developments in technologies have evolved in a much wider use of technology throughout science, government, and business; resulting in the expansion of geographic information systems. GIS is the academic study and practice of presenting geographical data through a system designed to capture, store, analyze, and manage geographic information. Geographic Information Systems: Concepts, Methodologies, Tools, and Applications is a collection of knowledge on the latest advancements and research of geographic information systems. This book aims to be useful for academics and practitioners involved in geographical data.*

*. This book is an updated version of a well-received book previously published in Chinese by Science Press of China (the first edition in 2006 and the second in 2013). It offers a systematic and practical overview of spatial data mining, which combines computer science and geo-spatial information science, allowing each field to profit from the knowledge and techniques of the other. To address the spatiotemporal specialties of spatial data, the authors introduce the key concepts and algorithms of the data field, cloud model, mining view, and Deren Li methods. The data field method captures the interactions between spatial objects by diffusing the data contribution from a universe of samples to a universe of population, thereby bridging the gap between the data model and the recognition model. The cloud model is a qualitative method that utilizes quantitative numerical characters to bridge the gap between pure data and linguistic concepts. The mining view method discriminates the different requirements by using scale, hierarchy, and granularity in order to uncover the anisotropy of spatial data mining. The Deren Li method performs data preprocessing to prepare it for further knowledge discovery by selecting a weight for iteration in order to clean the observed spatial data as much as possible. In addition to the essential algorithms and techniques, the book provides application examples of spatial data mining in geographic information science and remote sensing. The practical projects include spatiotemporal video data mining for protecting public security, serial image mining on nighttime lights for assessing the severity of the Syrian Crisis, and the applications in the government project The Belt and Road Initiatives.*

*The first book of its kind, this volume brings together a range of experts to review key methodological issues in the study of voluntary action, charitable behaviour and participation in voluntary organisations. Using case studies from around the world – from ethnography to media analysis and surveys to peer research – chapters illustrate the challenges of researching altruistic actions and our conceptualisations of them. Across different fields and methods, authors unpick the methodological innovations and challenges in their own research to help guide future study.*

*Demystifying research and deepening our ability to understand the role of the third sector, this accessible book is suitable for social researchers at all levels.*

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*Disruptive Innovation and Emerging Technologies for Business Excellence in the Service Sector*

*UDMS Annual 2011*

*Electronic Government*

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**In the wake of the so-called information technology revolution, many stakeholders from the public and private sectors (including citizens) have indeed grown accustomed to the promise and usability of spatial data infrastructures (SDI) for data access, use, and sharing. Analyzing the obstacles as well as the processes and mechanisms of integration and implementation, Spatial Data Infrastructures in Context: North and South investigates the technological and the non-technological aspects of the widespread adoption of spatial data infrastructures. Supporting theoretical issues with empirical studies, the editors pay particular attention to the non-technological aspects of organizational, financial, and legal issues including owner rights, liability, copyrights, and compatibility with precedent and supercedent laws. The authors also highlight the importance of understanding the local environment and circumstances in the process of tailoring the approaches to the conditions that characterize societies of different cultural, institutional, and economic settings. Designed to improve the accessibility, interoperability, and affordability of spatial data, the book focuses on the increasing challenges associated with integrating individuals and organizations into a network to support (1) public authorities and administrations at various levels, (2) thematic user communities, (3) enterprises, and (4) citizen-oriented society as a whole. It addresses the implementation and development of spatial data infrastructures for a wide range of themes, applicable technical standards and protocols, and specific organizational issues unique to data policy. Highlighting the potential for profound changes to the access, use, and exchange of spatial data for citizens, organizations, and geographically related applications, and therefore to the role and interaction of the stakeholders from the public and private sectors, this timely contribution provides new insights into improving our understanding of the increasing relevance, applicability, and value of spatial data infrastructures.**

As digital technologies occupy a more central role in working and everyday human life, individual and social realities are increasingly constructed and communicated through digital objects, which are progressively replacing and representing physical objects. They are even shaping new forms of virtual reality. This growing digital transformation coupled with technological evolution and the development of computer computation is shaping a cyber society whose working mechanisms are grounded upon the production, deployment, and exploitation of big data. In the arts and humanities, however, the notion of big data is still in its embryonic stage, and only in the last few years, have arts and cultural organizations and institutions, artists, and humanists started to investigate, explore, and experiment with the deployment and exploitation of big data as well as understand the possible forms of collaborations based on it. Big Data in the Arts and Humanities: Theory and Practice explores the meaning, properties, and applications of big data. This book examines therelevance of big data to the arts and humanities, digital humanities, and management of big data with and for the arts and humanities. It explores the reasons and opportunities for the arts and humanities to embrace the big data revolution. The book also delineates managerial implications to successfully shape a mutually beneficial partnership between the arts and humanities and the big data- and computational digital-based sciences. Big data and arts and humanities can be likened to the rational and emotional aspects of the human mind. This book attempts to integrate these two aspects of human thought to advance decision-making and to enhance the expression of the best of human life.

This volume constitutes the refereed proceedings of the Third International Conference on Geo-Informatics in Resource Management and Sustainable Ecosystem, GRMSE 2015, held in Wuhan, China, in October 2015. The 101 papers presented were carefully reviewed and selected from 321 submissions. The papers are divided into topical sections on Smart City in Resource Management and Sustainable Ecosystem; Spatial Data Acquisition Through RS and GIS in Resource Management and Sustainable Ecosystem; Ecological and Environmental Data Processing and Management; Advanced Geospatial Model and Analysis for Understanding Ecological and Environmental Process; Applications of Geo-Informatics in Resource Management and Sustainable Ecosystem.

This book is a collection of seminal position essays by leading researchers on new development in Geographic Information Sciences (GIScience), covering a wide range of topics and representing a variety of perspectives. The authors propose enrichments and extensions to the conceptual framework of GIScience; discuss a series of transformational methodologies and technologies for analysis and modeling; elaborate on key issues in innovative approaches to data acquisition and integration, across earth sensing to social sensing; and outline frontiers in application domains, spanning from natural science to humanities and social science, e.g., urban science, land use and planning, social governance, transportation, crime, and public health, just name a few. The book provides an overview of the strategic directions on GIScience research and development. It will benefit researchers and practitioners in the field who are seeking a high-level reference regarding those directions.