

Embedded Systems And Wireless Technology Theory And Practical Applications

Critical Theory of Technology Speech Technology Theory of Technology Advances in Automotive Production Technology – Theory and Application Theory and Practice of Technology-Based Music Instruction Web Technology Coordination Theory and Collaboration Technology Activity Theory Perspectives on Technology in Higher Education Learning Theory and Online Technologies Technology and Social Theory Social Memory Technology Theory of Science and Technology Transfer and Applications Social Theory and Communication Technology Grinding Technology Information Technology and Moral Philosophy Transforming Technology Technology and Market Structure Creativity, Technology, and Learning Digital Technology and Democratic Theory Embedded Systems and Wireless Technology Driver Acceptance of New Technology INFORMATION TECHNOLOGY : THEORY AND PRACTICE Technology Assessment in Practice and Theory The Transformative Capacity of New Technologies Mobile Commerce: Technology, Theory and Applications Technology, Theory, and Practice in Interdisciplinary SIEM Programs Rechargeable Sensor Networks: Technology, Theory, and Application Web Technology Communication Technology and Social Change Technology and Democracy: Toward A Critical Theory of Digital Technologies, Technopolitics, and Technocapitalism The Ethos of Digital Environments The Gender-Technology Relation Speech Technology eGirls, eCitizens Social Theory after the Internet Acting with Technology Nuclear Energy Technology Information and Communication Technologies in Action Recent Advances in Technology Acceptance Models and Theories On the Theory and Measurement of Technological Change

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Nuclear Energy Technology Sep 25 2019

INFORMATION TECHNOLOGY : THEORY AND PRACTICE Jan 10 2021 This book is based on the premise that knowledge of Information Technology (IT) is essential today for people in every walk of life and all types of profession. It is designed to impart a unified body of knowledge and practice in IT to its readers. Readers can apply this knowledge in innovative ways for various strategic advantages such as increasing productivity, improving quality of products and services, problem solving, decision making, and improving their own and others living standards. The textbook takes a practical approach to introduce the various components of IT to its readers. While doing so, it demonstrates how IT is being used in modern enterprises by various departments to carry out their activities with greater ease, speed, and accuracy than before. It also introduces several new business models and practices made possible due to IT that enterprises are now using for better profitability. In the process, the book provides to its readers a sound foundation of various components and aspects of IT. It also introduces to its readers several latest concepts and technologies in IT such as Wearable computers, Green computing, Cloud computing, Speech recognition and voice response systems, 4G and 5G networks, Big data analytics, Data science, Web 3.0, IPv6, 3D printing, Enterprise 2.0 organization, etc.

Critical Theory of Technology Oct 31 2022 This pathbreaking book argues that the roots of the degradation of labor, education, and the environment lie not in technology per se but in the cultural values embodied in its design.

Social Memory Technology Dec 21 2021 Memory is a fundamental aspect of being and becoming, intimately entwined with space, time, place, landscape, emotion, imagination and identity. Memory studies is a burgeoning field of enquiry drawing from a range of social science, arts and humanities disciplines including human geography, sociology, cultural studies, media studies, heritage and museum studies, psychology and history. This book is a critically theorised practical exposition of how media and technology are used to make memories for museums, archives, social movements and community projects, looking at specific cases in the UK and Brazil where the authors have put these theories into practice. The authors define the protocol they present as social memory technology. Critically, this book is about learning to deal with our pasts and learning new methods of connecting our pasts across cultures toward a shared understanding and application of memory technologies.

Digital Technology and Democratic Theory Apr 12 2021 One of the most far-reaching transformations in our era is the wave of digital technologies rolling over—and upending—nearly every aspect of life. Work and leisure, family and friendship, community and citizenship have all been modified by now-ubiquitous digital tools and platforms. Digital Technology and Democratic Theory looks closely at one significant facet of our rapidly evolving digital lives: how technology is radically changing our lives as citizens and participants in democratic governments. To understand these transformations, this book brings together contributions by scholars from multiple disciplines to wrestle with the question of how digital technologies shape, reshape, and affect fundamental questions about democracy and democratic theory. As expectations have whiplashed—from Twitter optimism in the wake of the Arab Spring to Facebook pessimism in the wake of the 2016 US election—the time is ripe for a more sober and long-term assessment. How should we take stock of digital technologies and their promise and peril for reshaping democratic societies and institutions? To answer, this volume broaches the most pressing technological changes and issues facing democracy as a philosophy and an institution.

Acting with Technology Oct 26 2019 A systematic presentation of activity theory, its application to interaction design, and an argument for the development of activity theory as a basis for understanding how people interact with technology. Activity theory holds that the human mind is the product of our interaction with people and artifacts in the context of everyday activity. Acting with Technology makes the case for activity theory as a basis for understanding our relationship with technology. Victor Kaptelinin and Bonnie Nardi describe activity theory's principles, history, relationship to other theoretical approaches, and application to the analysis and design of technologies. The book provides the first systematic entry-level introduction to the major principles of activity theory. It describes the accumulating body of work in interaction design informed by activity theory, drawing on work from an international community of scholars and designers. Kaptelinin and Nardi examine the notion of the object of activity, describe its use in an empirical study, and discuss key debates in the development of activity theory. Finally, they outline current and future issues in activity theory, providing a comparative analysis of the theory and its leading theoretical competitors within interaction design: distributed cognition, actor-network theory, and phenomenologically inspired approaches.

Theory of Technology Aug 29 2022 The history of technology is often troubled by good ideas that do not, for one reason or another, take off right away--sometimes for millennia. Sometimes, technology comes to a standstill, and sometimes, it even reverses itself. Thus, unlike science, which seems to proceed at a reasonable and calm rate, the progress of technology is difficult to theorize about. While in science many developments are predictable to a certain extent and thus predictability may, at times, direct or stymie science's progress--as with stem-cell research and cloning--technological advances, such as the Internet, are often sudden and unpredictable, and therefore frightening. In Theory of Technology, David Clarke brings together nine authors who try to understand technology from a variety of viewpoints. Rias van Wyk, in "Technology," parses the concept into many angles, including its anatomy, taxonomy, and evolution. Karol Pelc, in "Knowledge Mapping," discusses tracking the evolution of the emerging discipline of technology management. Jon Beard, in "Management of Technology," pursues a similar mapping endeavor, but looks to the patterns of the literature of technology management. Thomas Clarke, in "Unique Features of an R&D Work Environment and Research Scientists and Engineers," takes the reader on a tour of how people of technology present unique challenges to not just management but whole organizations. Richard Howey, in "Understanding Software Technology," places enterprise software into a meaningful pattern of technology management. Fred Foldvary and Daniel Klein, in "The Half-Life of Policy Rationales," discuss how new technology affects old policy issues. John Cogan, in "Some Philosophical Thoughts on the Nature of Technology," maintains that our Aristotelian search for the essence of technology is doomed. And Peter Bond, in "The Biology of Technology," establishes a basis for the development of a socio-biological approach to understanding the pheno

Theory and Practice of Technology-Based Music Instruction Jun 26 2022 Technology is an increasingly popular part of music education in schools that attracts students to school music who might not otherwise be involved. In many teacher preparation programs, music technology is an afterthought that does not receive the same extensive treatment as do traditional areas of music teaching such as band, orchestra, choir, and general music. This book helps to establish a theoretical and practical foundation for how to teach students to use technology as the major means for developing their musicianship. Including discussions of lesson planning, lesson delivery, and assessment, readers will learn how to gain comfort in the music technology lab. Theory and Practice of Technology-Based Music Instruction also includes "profiles of practice" that dive into the experiences of real teachers in music technology classes, their struggles, their successes, and lessons we can learn from both. In this second edition, new profiles feature Teachers of Color who use technology extensively in their varied types of music teaching. This edition encourages readers to think about issues of inequity of social justice in music education technology and how teachers might begin to address those concerns. Also updated are sections about new standards that may guide music education technology practice, about distance and technology-enhanced learning during the global pandemic, and about ways to integrate technology in emerging contexts.

Information and Communication Technologies in Action Aug 24 2019 This book combines 20 stories from a variety of organizations with a selection of nine theories, both mainstream and emerging. The stories introduce readers to individuals talking about how they communicate today via information and communication technologies (ICTs) in business or organizational contexts. The theories, presented in accessible language, illuminate the implicit patterns in these stories. This book demonstrates how and why these technologies are used under myriad circumstances.

Learning Theory and Online Technologies Feb 20 2022 Learning Theory and Online Technologies offers a powerful overview of the current state of elearning, a foundation of its historical roots and growth, and a framework for distinguishing among the major approaches to elearning. It effectively addresses pedagogy (how to design an effective online environment for learning), evaluation (how to know that students are learning), and history (how past research can guide successful online teaching and learning outcomes). An ideal textbook for undergraduate education and communication programs, and Educational Technology Masters, PhD, and Certificate programs, readers will find Learning Theory and Online Technologies provides a synthesis of the key advances in elearning theory, the key frameworks of research, and clearly links theory and research to successful learning practice.

Technology and Democracy: Toward A Critical Theory of Digital Technologies, Technopolitics, and Technocapitalism May 02 2020 As we enter a new millennium, it is clear that we are in the midst of one of the most dramatic technological revolutions in history that is changing everything from the ways that we work, communicate, participate in politics, and spend our leisure time. The technological revolution centers on computer, information, communication, and multimedia technologies, is often interpreted as the beginnings of a knowledge or information society, and therefore ascribes technologies a central role in every aspect of life. This Great Transformation poses tremendous challenges to critical social theorists, citizens, and educators to rethink their basic tenets, to deploy the media in creative and productive ways, and to restructure the workplace, social institutions, and schooling to respond constructively and progressively to the technological and social changes that we are now experiencing. The Author Douglas Kellner works at the intersection of "third generation" critical theory in the tradition of the Frankfurt Institute for Social Research, or Frankfurt School and in cultural studies in the tradition of the Birmingham Centre for Contemporary Cultural Studies. He is currently the George Kneller Chair in the Philosophy of Education in the Graduate School of Education and Information Studies at the University of California, Los Angeles.

eGirls, eCitizens Dec 29 2019 eGirls, eCitizens is a landmark work that explores the many forces that shape girls' and young women's experiences of privacy, identity, and equality in our digitally networked society. Drawing on the multi-disciplinary expertise of a remarkable team of leading Canadian and international scholars, as well as Canada's foremost digital literacy organization, MediaSmarts, this collection presents the complex realities of digitized communications for girls and young women as revealed through the findings of the eGirls Project (www.egirlsproject.ca) and other important research initiatives. Aimed at moving dialogues on scholarship and policy around girls and technology away from established binaries of good vs bad, or risk vs opportunity, these seminal contributions explore the interplay of factors that shape online environments characterized by a gendered gaze and too often punctuated by sexualized violence. Perhaps most importantly, this collection offers first-hand perspectives collected from girls and young women themselves, providing a unique window on what it is to be a girl in today's digitized society.

The Transformative Capacity of New Technologies Nov 07 2020 Scientific concepts on the co-evolution of technology and society, as well as recent sociotechnical system

approaches, focus on the general interrelations between technology, socioeconomic structures, and institutions. Their aim is to study and explain processes and modes of technological change. Rarely, however, have answers been put forward on the related question of processes of socioeconomic and institutional change, provoked by emerging new technological opportunities and constraints. The Transformative Capacity of New Technologies redresses this imbalance, exploring the questions: how and to what extent do socioeconomic structures, institutions, and actors change under the influence of new technologies? how do they react to technology-induced pressures to change? what patterns do they adopt? The book provides theoretical considerations as well as practical tools for analyzing and classifying exceptional periods of substantial sociotechnical change. It examines the literature on path-dependency and path-creation, on organizational and institutional change, and on sociotechnical transitions. Case studies on subjects such as the pharmaceutical industry, the music industry, the energy sector, and scientific publishing support the theoretical analysis. The book will be of interest to students and scholars of sociology, science and technology studies, work and industry studies, and management of technology and innovation.

Driver Acceptance of New Technology Feb 08 2021 This book collects into a single, edited volume the accumulating body of thinking and research on driver and operator acceptance of new technology. Bringing together contributions from international experts from around the world, the editors have shaped a book that covers the theory behind acceptance, how it can be measured and how it can be improved. Case studies are presented that provide data on driver acceptance of a wide range of new and emerging vehicle technology.

Grinding Technology Sep 17 2021 Presenting a comprehensive treatment of grinding theory and its practical utilization, this edition focuses on grinding as a machining process using bonded abrasive grinding wheels as the cutting medium. It provides a description of abrasives and bonded abrasive cutting tools.

The Ethos of Digital Environments Mar 31 2020 While self-driving cars and autonomous weapon systems have received a great deal of attention in media and research, the general requirements of ethical life in today's digitalizing reality have not been made sufficiently visible and evaluable. This collection of articles from both distinguished and emerging authors working at the intersections of philosophy, literary theory, media, and technology does not intend to fix new moral rules. Instead, the volume explores the ethos of digital environments, asking how we can orient ourselves in them and inviting us to renewed moral reflection in the face of dilemmas they entail. The authors show how contemporary digital technologies model our perception, narration as well as our conceptions of truth, and investigate the ethical, moral, and juridical consequences of making public and societal infrastructures computational. They argue that we must make the structures of the digital environments visible and learn to care for them.

Social Theory and Communication Technology Oct 19 2021 An investigation of new forms of interaction and communication. The essays explore the implications of such daily practices as making a telephone call or sending an email, and examine the relationship between media change and social change, with emphasis on the reproduction of social systems.

Web Technology Jul 04 2020 Web Technology: Theory and Practice introduces the keyset technologies that are currently used to create applications on web. It explains the principal HTML concept, the client-side used JavaScript and the server-side used JSP with relevant coding examples. Emphasis is given on XML with examples including XML Transformations (XSTL). Apart from this, the book also dwells into the alternatives to XML such as the JSON.

Technology and Market Structure Jun 14 2021 John Sutton sets out a unified theory that encompasses two major approaches to studying market, while generating a series of novel predictions as to how markets evolve. Traditionally, the field of industrial organization has relied on two unrelated theories—the cross-section theory and the growth-of-firms theory—to explain cross-industry differences in concentration and within-industry skewness. The two approaches are based on very different mathematical structures and few researchers have attempted to relate them to each other. In this book, John Sutton unifies the two approaches through a theory that rests on three simple principles. The first two, a "survivor principle" that says that firms will not pursue loss-making strategies, and an "arbitrage principle" that says that if a profitable opportunity is available, some firm will take it, suffice to define a set of possible outcomes. The third, the "symmetry principle," says that the strategy used by a new entrant into any submarket depends neither on the entrants identity nor on its history in other submarkets. This allows researchers to bring together the roles of strategic interactions and of independence effects. The result is that the considerations motivating the cross-section tradition and those motivating the growth-of-firms tradition both drop out within a single game-theoretic model. This book follows Sutton's Sunk Costs and Market Structure, published by MIT Press in 1991.

Recent Advances in Technology Acceptance Models and Theories Jul 24 2019 This book tackles the latest research trends in technology acceptance models and theories. It presents high-quality empirical and review studies focusing on the main theoretical models and their applications across various technologies and contexts. It also provides insights into the theoretical and practical aspects of different technological innovations that assist decision-makers in formulating the required policies and procedures for adopting a specific technology.

The Gender-Technology Relation Feb 29 2020 First Published in 1995. Routledge is an imprint of Taylor & Francis, an informa company.

Transforming Technology Jul 16 2021 Thoroughly revised, this new edition of Critical Theory of Technology rethinks the relationships between technology, rationality, and democracy, arguing that the degradation of labor--as well as of many environmental, educational, and political systems--is rooted in the social values that preside over technological development. It contains materials on political theory, but the emphasis has shifted to reflect a growing interest in the fields of technology and cultural studies.

Technology Assessment in Practice and Theory Dec 09 2020 Technological advance affects almost all areas of human life. Rapid digitization, increased mobility, new biotechnologies, and nanotechnology deeply influence, amongst others, industrial production, entertainment, work, military affairs, and individual life. Besides overwhelmingly positive effects on wealth, comfort, innovation, and development, this also raises questions of unintended effects, of tensions with democracy, of the role of citizens, and of its sustainability facing environmental issues. Tools and procedures are needed to cope with this challenging situation. Technology assessment (TA) has been developed more than fifty years ago to enable science, the economy, and society to harvest the potential of new technology to the maximum extent possible and to deal responsibly with possible adverse effects. It was developed more than 50 years ago in the U.S. Congress and has diversified considerably in the meantime. Parliamentary TA in many European states and at the international level, participatory TA at the local and regional levels worldwide, and TA as part of engineering processes are the most relevant fields today. Technology assessment is a growing field of interdisciplinary research and scientific policy advice. This volume (a) gives an overview of motivations of TA, its history and its current practices, (b) develops a fresh theoretical perspective on TA rooted in social theory and philosophy, and (c) draws conclusions from the theoretical perspective for the further development of TA's practices. It provides the first comprehensive view on the growing field of TA at the international level.

Information Technology and Moral Philosophy Aug 17 2021 This book gives an in-depth philosophical analysis of moral problems to which information technology gives rise, for example, problems related to privacy, intellectual property, responsibility, friendship, and trust, with contributions from many of the best-known philosophers writing in the area.

Speech Technology Sep 29 2022 This book gives an overview of the research and application of speech technologies in different areas. One of the special characteristics of the book is that the authors take a broad view of the multiple research areas and take the multidisciplinary approach to the topics. One of the goals in this book is to emphasize the application. User experience, human factors and usability issues are the focus in this book.

Technology, Theory, and Practice in Interdisciplinary STEM Programs Sep 05 2020 This book highlights models for promoting interdisciplinary thinking and an appreciation for interdisciplinary understanding among students in STEM-related fields. Students majoring in science, technology, engineering, and mathematics often perceive that courses in their major are not related to the general education liberal arts courses required for their degrees. This separation prevents the transfer of skills between their general education courses and their degree pursuits. The false dichotomy is particularly important because solving the daunting challenges of the twenty-first century—such as drug-resistant bacteria, scarcity of natural resources, and climate change—requires global citizens armed with robust, complex abilities who can integrate interdisciplinary concepts with bold technologies. Contributors to this book explore ways in which this dichotomy can be overcome.

Advances in Automotive Production Technology – Theory and Application Jul 28 2022 This volume of the series ARENA2036 compiles the outcomes of the first Stuttgart Conference on Automotive Production (SCAP2020). It contains peer-reviewed contributions from a theoretical as well as practical vantage point and is typically structured according to the following four sections: (I) Novel Approaches for Efficient Production and Assembly Planning, (II) Smart Production Systems and Data Services, (III) Advances in Manufacturing Processes and Materials, and (IV) New Concepts for Autonomous, Collaborative Intralogistics. Given the restrictive circumstances of 2020, the conference was held as a fully digital event divided into two parts. It opened with a pre-week, allowing everyone to peruse the scientific contributions at their own pace, followed by a two-day live event that enabled experts from the sciences and the industry to engage in various discussions. The conference has proven itself as an insightful forum that allowed for an expertly exchange regarding the pivotal Advances in Automotive Production and Technology.

Embedded Systems and Wireless Technology Mar 12 2021 The potential of embedded systems ranges from the simplicity of sharing digital media to the coordination of a variety of complex joint actions carried out between collections of networked devices. The book explores the emerging use of embedded systems and wireless technologies from theoretical and practical applications and their applications in agriculture, environment, public health, domotics, and public transportation, among others.

Activity Theory Perspectives on Technology in Higher Education Mar 24 2022 Activity Theory is a tool that can help make sense of the complex changes taking place in higher education because of the integration of technology. Unlike other theories, it allows for a focus that includes elements in the social, cultural, and historical setting in which the technology is used. In addition, it supports consideration of the practices of individual students and educators as well as practices at the institutional level. Activity Theory Perspectives on Technology in Higher Education presents a compelling theory that will be useful for researchers, academics, policy makers, administrators, and instructors interested in understanding and controlling the shifts that are occurring in education due to the integration of technology.

Speech Technology Jan 28 2020 This book gives an overview of the research and application of speech technologies in different areas. One of the special characteristics of the book is that the authors take a broad view of the multiple research areas and take the multidisciplinary approach to the topics. One of the goals in this book is to emphasize the application. User experience, human factors and usability issues are the focus in this book.

Social Theory after the Internet Nov 27 2019 The internet has fundamentally transformed society in the past 25 years, yet existing theories of mass or interpersonal communication do not work well in understanding a digital world. Nor has this understanding been helped by disciplinary specialization and a continual focus on the latest innovations. Ralph Schroeder takes a longer-term view, synthesizing perspectives and findings from various social science disciplines in four countries: the United States, Sweden, India and China. His comparison highlights, among other observations, that smartphones are in many respects more important than PC-based internet uses. Social Theory after the Internet focuses on everyday uses and effects of the internet, including information seeking and big data, and explains how the internet has gone beyond traditional media in, for example, enabling Donald Trump and Narendra Modi to come to power. Schroeder puts forward a sophisticated theory of the role of the internet, and how both technological and social forces shape its significance. He provides a sweeping and penetrating study, theoretically ambitious and at the same time always empirically grounded. The book will be of great interest to students and scholars of digital media and society, the internet and politics, and the social implications of big data.

Technology and Social Theory Jan 22 2022 From the everyday and unnoticed to the newsworthy and cutting edge, technology is undoubtedly a fundamental element of our daily lives. While saving us time and effort, it can also shape our environment, mediate our relationships, and simultaneously solve problems and create new ones. In studying technology we gain an insight into how society is constructed, maintained and transformed. Unravelling and explaining the complex connections between technology and the social contexts in which it is used, Technology and Social Theory guides the reader through 150 years of thinking in this ever evolving field. The chapters critically evaluate a broad range of theorists, from Marx to Foucault, Orwell to Elias, alongside empirical examples which show theory in action. The significance of technology is assessed within both public spheres and intimate spaces, shedding light on its integral role in society. Showing how theory maps the way for further research, and in turn how new advances in research can inform theory, this book is invaluable reading for students and researchers in Sociology, Social Theory, Science and Technology Studies and the Media.

Mobile Commerce: Technology, Theory and Applications Oct 07 2020 M-commerce (mobile-commerce) refers to e-commerce activities carried out via a mobile terminal such as a phone or PDA. M-commerce applications for both individuals and organizations are expected to grow considerably over the next few years. Mobile Commerce: Technology, Theory and Applications addresses issues pertaining to the development, deployment, and use of these applications. The objective of this book is to provide a single source of up-to-date information about mobile commerce including the technology (hardware and software) involved, research on the expected impact of this technology on businesses and consumers, and case studies describing state-of-the-art m-commerce applications and lessons learned.

On the Theory and Measurement of Technological Change Jun 22 2019

Communication Technology and Social Change Jun 02 2020 Communication Technology and Social Change is a distinctive collection that provides current theoretical, empirical, and legal analyses for a broader understanding of the dynamic influences of communication technology on social change. With a distinguished panel of contributors, the volume presents a systematic discussion of the role communication technology plays in shaping social, political, and economic influences in society within specific domains and settings. Its integrated focus expands and complements the scope of existing literature on this subject. Each chapter is organized around a specific structure, covering: *Background—offering an introduction of relevant communication technology that outlines its technical capabilities, diffusion, and uses; *Theory—featuring a discussion of relevant theories used to study the social impacts of the communication technology in question; *Empirical Findings—providing an analysis of recent academic and relevant practical work that explains the impact of the communication technology on social change; and *Social Change Implications—proposing a summary of the real world implications for social change that stems from synthesizing the relevant theories and empirical findings presented throughout the book. Communication Technology and Social Change will serve scholars, researchers, upper-division undergraduate students, and graduate students examining the relationship between communication and technology and its implications for society.

Coordination Theory and Collaboration Technology Apr 24 2022 The National Science Foundation funded the first Coordination Theory and Collaboration Technology initiative to look at systems that support collaborations in business and elsewhere. This book explores the global revolution in human interconnectedness. It will discuss the various collaborative workgroups and their use in technology. The initiative focuses on processes of coordination and cooperation among autonomous units in human systems, in computer and communication systems, and in hybrid organizations of both systems. This initiative is motivated by three scientific issues which have been the focus of separate research efforts, but which may benefit from collaborative research. The first is the effort to discover the principles underlying how people collaborate and coordinate work efficiently and productively in environments characterized by a high degree of decentralized computation and decision making. The second is to gain a better fundamental understanding of the structure and outputs of organizations, industries, and markets which incorporate sophisticated, decentralized information and communications technology as an important component of their operations. The third is to understand problems of coordination in decentralized or open computer systems.

Rechargeable Sensor Networks: Technology, Theory, and Application Aug 05 2020 The harvesting of energy from ambient energy sources to power electronic devices has been recognized as a promising solution to the issue of powering the ever-growing number of mobile devices around us. Key technologies in the rapidly growing field of energy harvesting focus on developing solutions to capture ambient energy surrounding the mobile devices and convert it into usable electrical energy for the purpose of recharging said devices. Achieving a sustainable network lifetime via battery-aware designs brings forth a new frontier for energy optimization techniques. These techniques had, in their early stages, resulted in the development of low-power hardware designs. Today, they have evolved into power-aware designs and even battery-aware designs. This book covers recent results in the field of rechargeable sensor networks, including technologies and protocol designs to enable harvesting energy from alternative energy sources such as vibrations, temperature variations, wind, solar, and biochemical energy and passive human power. Contents: Wind Energy Harvesting for Recharging Wireless Sensor Nodes: Brief Review and a Case Study (Yen Kheng Tan, Dibin Zhu and Steve Beeby) Rechargeable Sensor Networks with Magnetic Resonant Coupling (Liguang Xie, Yi Shi, Y Thomas Hou, Wenjing Lou, Hanif D Sherah and Huaibei Zhou) Cross-Layer Resource Allocation in Energy-Harvesting Sensor Networks (Zhoujia Mao, C Emre Koksal and Ness B Shroff) Energy-Harvesting Technique and Management for Wireless Sensor Networks (Jianhui Zhang and Xiangyang Li) Information Capacity of an AWGN Channel Powered by an Energy-Harvesting Source (R Rajesh, P K Deekshith and Vinod Sharma) Energy Harvesting in Wireless Sensor Networks (Nathalie Mitton and Riaan Wolhuter) Topology Control for Wireless Sensor Networks and Ad Hoc Networks (Sunil Jardosh) An Evolutionary Game Approach for Rechargeable Sensor Networks (Majed Haddad, Eitan Altman, Dieter Fiems and Julien Gaillard) Marine Sediment Energy Harvesting for Sustainable Underwater Sensor Networks (Baikun Li, Lei Wang and Jun-Hong Cui) Wireless Rechargeable Sensor Networks in the Smart Grid (Melike Erol-Kantarci and Hussein T Mouftah) Energy-Harvesting Methods for Medical Devices (Pedro Dinis Gaspar, Virginie Felizardo and Nuno M Garcia) Readership: Graduates, researchers, and professionals studying/dealing with networking, computer engineering, parallel computing, and electrical & electronic engineering. Keywords: Rechargeable Sensor; Energy Harvesting Technology; Renewable Sensor Networks Key Features: This book provides comprehensive coverage from hardware design, protocol design, to applications. This book provides very recent results. And this book has prominent contributors. With the increasing deterioration of global warming, energy harvesting technologies as a green source of energy are of great interest to research community. For wireless networks especially wireless sensor networks, the introduction of energy harvesting technologies can address the challenge of energy constraint and obtain perpetual network operation. Although there are lots of existing publications on energy harvesting, most of them are journal and conference papers, which concentrate on specific research problems and do not provide a comprehensive overview and prerequisite preliminaries to understand the energy harvesting technologies. To the best of our knowledge, there are only a few books which are concerned with energy harvesting technologies. One main drawback of these books are that they all elaborate on the hardware design of energy harvesting devices but neglect the impact of hardware design on the performance of overall networks which is also of great significance in practice. For example, the energy management subsystem should be designed to fulfill all the tasks without running out of energy, which is dependent on the available energy of each node and all the tasks of the whole networks. Hence, the algorithm and protocol optimization are as important as hardware design. But this was not elaborated in existing publications and motivates this book.

Theory of Science and Technology Transfer and Applications Nov 19 2021 Constructive Suggestions for Efficiently Implementing Technology Transfer Theory of Science and Technology Transfer and Applications presents the mechanisms, features, effects, and modes of technology transfer. It addresses the measurement, cost, benefit, optimal allocation, and game theory of technology transfer, along with the dynamics of the technical diffusion field. The book explores the concept of technology transfer and its mechanism as the main theme. It measures the cost and benefit of technology transfer, analyzes technology transfer based on technical diffusion field theory, and presents case studies to illustrate the use of a linear programming model and government investment and planning model. The authors also offer strategic analyses that utilize game models and discuss the impact of technology transfer on economic growth. Accompanied by economic globalization, globalization in technology enables the rational allocation and flow of the elements of technology without restrictions, which in turn allows the sharing of technological activities and the space flow of technology more frequently. This book focuses on the creation and development of advanced productivities. Through many real-world examples, it shows how to implement technology transfer in society, leading technology to become socially and economically valued.

Web Technology May 26 2022 This book intends to expound the complete concept of Web in Theory, Web in Research and Web in Practice with the help of worked out examples for better understanding. It includes latest developments and approaches related to the World Wide Web.

Creativity, Technology, and Learning May 14 2021 Creativity, Technology, and Learning provides a comprehensive introduction to theories and research on creativity in education and, in particular, to the role of digital-learning technologies in enabling creativity across classroom learning environments. Topical coverage includes play, constructionism, multimodal learning and project-/problem-based learning. Creativity is uniquely positioned throughout the book as an integral component of the educational process and also as a foundational aspect of self-actualization, thriving communities, and humane societies. Through in-depth, empirically based discussions of the philosophical, curricular and pedagogical elements of creativity, Sullivan demonstrates how creativity can be fostered across the curriculum through the use of digital-learning technologies in design, personal expression and problem-solving activities.

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