Human Factors In The Built Environment

How to design for optimum maintenance capabilities and minimize the repair time Design for Maintainability offers engineers a wide range of tools and techniques for incorporating maintainability into the design process for complex systems. With contributions from noted experts on the topic, the book explains how to design for optimum maintenance capabilities while simultaneously minimizing the time to repair equipment. The book contains a wealth of examples and the most up-to-date maintainability design practices that have proven to result in better system readiness, shorter downtimes, and substantial cost savings over the entire system life cycle, thereby, decreasing the Total Cost of Ownership. Design for Maintainability offers a wealth of design practices not covered in typical engineering books, thus allowing readers to think outside the box when developing maintainability design requirements. The book's principles and practices can help engineers to dramatically improve their ability to compete in global markets and gain widespread customer satisfaction. This important book: Offers a complete overview of maintainability engineering as a system engineering discipline Includes contributions from authors who are recognized leaders in the field Contains real-life design examples, both good and bad, from

various industries Presents realistic illustrations of good maintainability design principles Provides discussion of the interrelationships between maintainability with other related disciplines Explores trending topics in technologies Written for design and logistics engineers and managers, Design for Maintainability is a comprehensive resource containing the most reliable and innovative techniques for improving maintainability when designing a system or product.

Human Factors in the Chemical and Process Industries: Making it Work in Practice is a comprehensive overview of human factors within this sector, focusing on the practical application. It has been written by acknowledged industry experts from the Keil Centre, which is a leading practice of chartered ergonomics and human factors specialists, chartered safety specialists, registered occupational psychologists, and registered clinical psychologists. The book was inspired by the international human factors training course run by the Keil Centre with the IChemE, which has reached four continents across the world. The book is written for those who want a comprehensive overview of the subject, focusing on the practical application of human factors. It has been written for safety professionals, engineers and operational disciplines within industry, and those aspiring to these disciplines, who either deal with human factors issues or any aspect of the 'human element' in their core role. The book explains what

'human factors' is about and how human factors issues are best managed from a practical perspective. It will help readers develop a greater understanding of the area and how to establish more effective solutions for human factors related issues. Provides comprehensive coverage of the most relevant human factors within this sector, with succinct overviews of each topic Uses case studies and practical examples to illustrate topics and explains the material in a fully accessible, easy to understand style Written by a single team of eleven industry practitioners, drawing on the combined expertise of different human factors specialisms which are rarely comprehensively combined in a single resource Human factors research impacts everything from the height of kitchen counters to the placement of automobile pedals to a book's type size. And in this updated and expanded version of the original landmark work, you'll find the research information necessary to create designs that better accommodate human need. Featuring more than 200 anthropometric drawings, this handbook is filled with all of the essential measurements of the human body and its relationship to the designed environment. You'll also discover guidelines for designing for children and the elderly, for the digital workplace, and for ADA compliance. Measurements are in both English and metric units.

'Complex sociotechnical systems' are systems made up of numerous interacting

parts, both human and non-human, operating in dynamic, ambiguous and safety critical domains. Cognitive Work Analysis (CWA) is a structured framework specifically developed for considering the development and analysis of these complex socio-technical systems. Unlike many human factors approaches, CWA does not focus on how human-system interaction should proceed (normative modelling) or how human-system interaction currently works (descriptive modelling). Instead, through a focus on constraints, it develops a model of how work can be conducted within a given work domain, without explicitly identifying specific sequences of actions (formative modelling). The framework leads the analyst to consider the environment the task takes place within, and the effect of the imposed constraints on the way work can be conducted. It provides guidance through the process of answering the questions of why the system exists, what activities can be conducted within the domain as well as how these activities can be achieved, and who can perform them. The first part of the book contains a comprehensive description of CWA, introducing it to the uninitiated. It then presents a number of applications in complex military domains to explore and develop the benefits of CWA. Unlike much of the previous literature, particular attention is placed on exploring the CWA framework in its entirety. This holistic approach focuses on the system environment, the activity that takes place within

it, the strategies used to conduct this activity, the way in which the constituent parts of the system (both human and non-human) interact and the behaviour required. Each stage of this analysis identifies the constraints governing the system; it is contended that through this holistic understanding of constraints, recommendations can be made for the design of system interaction; increasing the ability of users to cope with unanticipated, unexpected situations. This book discusses the applicability of the approach in system analysis, development and evaluation. It provides process to what was previously a loosely defined framework.

This edited textbook is a fully updated and expanded version of the highly successful first edition of Human Factors in Aviation. Written for the widespread aviation community - students, engineers, scientists, pilots, managers, government personnel, etc., HFA offers a comprehensive overview of the topic, taking readers from the general to the specific, first covering broad issues, then the more specific topics of pilot performance, human factors in aircraft design, and vehicles and systems. The new editors offer essential breath of experience on aviation human factors from multiple perspectives (i.e. scientific research, regulation, funding agencies, technology, and implementation) as well as knowledge about the science. The contributors are experts in their fields. Topics

carried over from the first edition are fully updated, several by new authors who are now at the fore of the field. New material - which represents 50% of the volume - focuses on the challenges facing aviation specialists today. One of the most significant developments in this decade has been NextGen, the Federal Aviation Administration's plan to modernize national airspace and to address the impact of air traffic growth by increasing airspace capacity and efficiency while simultaneously improving safety, environmental impacts and user access. NextGen issues are covered in full. Other new topics include: High Reliability Organizational Perspective, Situation Awareness & Workload in Aviation, Human Error Analysis, Human-System Risk Management, LOSA, NOSS and Unmanned Aircraft System. Comprehensive text with up-to-date synthesis of primary source material that does not need to be supplemented New edition thoroughly updated with 50% new material and full coverage of NexGen and other modern issues Instructor website with test bank and image collection makes this the only text offering ancillary support Liberal use of case examples exposes readers to real-world examples of dangers and solutions

Advanced Technology for Human Support in Space was written in response to a request from NASA's Office of Life and Microgravity Sciences and Applications (OLMSA) to evaluate its Advanced Human Support Technology Program. This

report reviews the four major areas of the program: advanced life support (ALS), environmental monitoring and control (EMC), extravehicular activities (EVA), and space human factors (SHF). The focus of this program is on long-term technology development applicable to future human long-duration space missions, such as for a hypothetical new mission to the Moon or Mars. The integration of Human Factors in Land Use Planning and Urban Design (LUP & UD) is an exciting and emerging interdisciplinary field. This book offers practical guidance on a range of Human Factors methods that can be used to rigorously and reliably explore LUP & UD. It provides new ways to interpret urban space and detail context sensitive analysis for the interpretation and design of our surroundings. The methodologies outlined allow for the consideration of the technical aspects of the built environment with the necessary experience and human centered approaches to our urban and regional settings. This book describes 30 Human Factors methods for use in the LUP & UD context. While it explores theory, it also focuses on the question of what Human Factors methods are; their advantages and disadvantages; step-by-step guidance on how to carry them out; and case studies to guide the reader. Describes the practice and processes associated with urban and regional strategic planning Constructed so that students, practitioners, and researchers with an interest in one particular

area of Human Factors can read the chapters independently from one another Recently, there have been a number of advances in technology, including in mobile devices, globalization of companies, display technologies and healthcare, all of which require significant input and evaluation from human factors specialists. Accordingly, this textbook has been completely updated, with some chapters folded into other chapters and new chapters added where needed. The text continues to fill the need for a textbook that bridges the gap between the conceptual and empirical foundations of the field.

This book presents human factors research focused on achieving and assessing sustainability in the built environment and architecture. It reports on advanced engineering methods for architecture and design, and on assessments of the social, environmental, and economic impacts of various designs and projects. The book covers a broad range of practical studies relating to ergonomic design and assessment of public and private places, urban ecological constructions, and urban planning for smart city. Further topics include green area planning, environmentally-responsive architecture, and conservation and adaptation of vernacular architectures in modern design. Based on the AHFE 2020 Virtual Conference on Human Factors in Architecture, Sustainable Urban Planning and Infrastructure, held on July 16–20, 2020, this book offers a wealth of perspectives on sustainability and ergonomics in architecture and urban planning. As such, it represents a timely source of inspiration for

designers, architects, urban planners, as well as civil and environmental engineers, and other professionals, including policy-makers, seeking for developing sustainable buildings and infrastructure.

Human factors relates to the interaction of humans and technical systems. Human factors engineering analyzes tasks, considering the components in relation to a number of factors focusing particularly on human interactions and the interface between people working within systems. This book will help instructors teach the topic of human factors. Human Factors in Healthcare educates the reader about what human factors actually entail, providing an insight into the processes of self-awareness, communication, leadership in a crisis, decision making, co-ordination and situational awareness, as well as how they currently function in these areas and ways they might improve.

The rapid growth of home health care has raised many unsolved issues and will have consequences that are far too broad for any one group to analyze in their entirety. Yet a major influence on the safety, quality, and effectiveness of home health care will be the set of issues encompassed by the field of human factors research--the discipline of applying what is known about human capabilities and limitations to the design of products, processes, systems, and work environments. To address these challenges, the National Research Council began a multidisciplinary study to examine a diverse range of behavioral and human factors issues resulting from the increasing migration of medical devices, technologies, and care practices into the home. Its goal is to lay the

groundwork for a thorough integration of human factors research with the design and implementation of home health care devices, technologies, and practices. On October 1 and 2, 2009, a group of human factors and other experts met to consider a diverse range of behavioral and human factors issues associated with the increasing migration of medical devices, technologies, and care practices into the home. This book is a summary of that workshop, representing the culmination of the first phase of the study. The fourth edition of the Handbook of Human Factors and Ergonomicshas been completely revised and updated. This includes allexisting third edition chapters plus new chapters written to covernew areas. These include the following subjects: Managing low-back disorder risk in the workplace Online interactivity Neuroergonomics Office ergonomics Social networking HF&E in motor vehicle transportation User requirements Human factors and ergonomics in aviation Human factors in ambient intelligent environments As with the earlier editions, the main purpose of this handbookis to serve the needs of the human factors and ergonomicsresearchers, practitioners, and graduate students. Each chapter hasa strong theory and scientific base, but is heavily focused on realworld applications. As such, a significant number of case studies,examples, figures, and tables are included to aid in theunderstanding and application of the material covered.
The discipline of Human Factors and Sustainable Infrastructure provides a platform for addressing challenges in human factors and engineering research with the focus on

sustainability in the built environment, applications of sustainability assessment, demonstrations and applications that contribute to competitiveness and well-being, quantification and assessment of sustainable infrastructure projects, and the environmental, human, social, and economic dimensions of sustainable infrastructure. A thorough understanding of the characteristics of a wide range of people is essential in the development of sustainable infrastructure and systems and serve as valuable information to designers and help ensure design will fit the targeted population of end users. This book focuses on the advances in the Human Factors And Sustainable Infrastructure, which are a critical aspect in the design of any human-centered technological system. The ideas and practical solutions described in the book are the outcome of dedicated research by academics and practitioners aiming to advance theory and practice in this dynamic and all-encompassing discipline. We hope that this book, which is the international state-of-the-art in Sustainable Infrastructure domain of human factors and ergonomics, will be a valuable source of theoretical and applied knowledge enabling human-centered design for global markets.

Many books focus on individual differences and how those relate to traffic safety such as accident proneness, gender differences, age, alcohol, and the effects of drugs. Others focus on the safety effects regarding the vehicle such as airbags, anti-lock brakes, navigation systems, intelligent cruise control and other new gadgets coming to the vehicle. Even though these topics are undoubtedly

important for traffic safety, this book takes a unique approach as it focuses solely on the road environment. Designing Safe Road Systems provides the background for those who want to know more about the effects of road design on driving behaviour. It uses a systems approach to allow a better understanding of why and in what circumstances drivers may commit errors. This understanding will ultimately lead to road systems that prevent (fatal) errors from occurring. The book contains an overview of the current models and theories about human performance and human behaviour in traffic that are relevant for all those involved in designing safe road systems. The central theme of this book is how design principles can reduce the probability of an error while driving. The authors demonstrate how knowledge of human factors helps a road authority to better understand how road users behave. They argue that in many cases the design of the environment can be further adjusted to human capabilities, and that safety should be considered a system property to be built into the road system. Human error is implicated in nearly all aviation accidents, yet most investigation and prevention programs are not designed around any theoretical framework of human error. Appropriate for all levels of expertise, the book provides the knowledge and tools required to conduct a human error analysis of accidents, regardless of operational setting (i.e. military, commercial, or general aviation).

The book contains a complete description of the Human Factors Analysis and Classification System (HFACS), which incorporates James Reason's model of latent and active failures as a foundation. Widely disseminated among military and civilian organizations, HFACS encompasses all aspects of human error, including the conditions of operators and elements of supervisory and organizational failure. It attracts a very broad readership. Specifically, the book serves as the main textbook for a course in aviation accident investigation taught by one of the authors at the University of Illinois. This book will also be used in courses designed for military safety officers and flight surgeons in the U.S. Navy, Army and the Canadian Defense Force, who currently utilize the HFACS system during aviation accident investigations. Additionally, the book has been incorporated into the popular workshop on accident analysis and prevention provided by the authors at several professional conferences world-wide. The book is also targeted for students attending Embry-Riddle Aeronautical University which has satellite campuses throughout the world and offers a course in human factors accident investigation for many of its majors. In addition, the book will be incorporated into courses offered by Transportation Safety International and the Southern California Safety Institute. Finally, this book serves as an excellent reference guide for many safety professionals and investigators already in the

field.

Human factors measurement has characteristics that set it apart from psychological or engineering measurement and for that reason, human factors testing and evaluation deserves special treatment. The many excellent texts available in the behavioral area do not give an adequate picture of this topic, and this is particularly unfortunate because testing and evaluation (T&E) is an integral part of human-machine system design and operation. The emphasis in this book is on why and how to conduct such testing. One of its outstanding features is its pragmatism; based on his past experience in system testing, the author recognizes the difficulties that occur in testing and indicates how these may be overcome or minimized. Special attention has been paid to the context in which T&E is conducted. Although the book contains detailed procedures for performing T&E, the logic and the conceptual foundation of testing have not been overlooked. Comparisons are made with laboratory-centered experimentation. For those with research interests, the author points out the many research questions that can be answered by system testing. An illustrative case history of a T&E program for a fictional system has been included to provide ``real life'' context. Special problem areas in T&E are emphasized, in particular human error data collection, the evaluation of computerized systems and software, the

measurement of maintenance technician and team performance; workload and training effectiveness testing. Special attention is also paid to environmental testing (e.g. temperature, lighting, noise, vibration, etc.). One chapter reviews all the relevant T&E literature including government documents that may not be readily available to the general reader. As part of the preparation for writing this text a survey was made of 45 distinguished T&E specialists in order to determine their characteristic T&E practices. The book will be useful not only to the human factors professional who specializes in T&E, but to all students and practitioners interested in human factors and work measurement.

Human Factors in the Built Environment, Second Edition explains the relationship of the human body and space planning to the design process so that you can plan and detail interiors. Key topics include proxemics, anthropometrics, ergonomics, sensory components, diversity, global concerns, health and safety, environmental considerations, special populations, and universal (inclusive) design. Recipient of the American Society of Interior Designers Joel Polsky Prize, this book has all the information you need in a quick reference format. Human Factors in the Built Environment STUDIO -Study smarter with self-quizzes featuring scored results and personalized study tips -Review concepts with flashcards of terms and definitions PLEASE NOTE: Purchasing or renting this

ISBN does not include access to the STUDIO resources that accompany this text. To receive free access to the STUDIO content with new copies of this book, please refer to the book + STUDIO access card bundle ISBN 9781501323423. In terms of simple and complex systems, it is a whole new world out there. At the initial publication of this book, fourteen years ago, the web was in its infancy, DVDs did not exist, cell phones were few and far between, and the information superhighway was just a blip upon the horizon. If you used the terms "social engineering," you were most likely a political scientist, and if you were "phishing" you might be listening to a rock band. The second edition of a bestseller, Human Factors in Simple and Complex Systems provides the necessary understanding of the breadth and depth of human factors issues that influence the design, implementation, and evaluation of products and systems. Emphasizing the close relationship between basic theory and application, the authors delineate a framework for the research process, present an integrated view of the current state of knowledge, and examine how these factors can be applied to system design. The new edition addresses such concepts as situation awareness and highlights topics of interest, with a special focus on computer applications and human-computer interaction. See what's new in the Second Edition New topics, such as situational awareness, that capture the tremendous changes in human

factors and ergonomics Tightly integrates basic research and application, strengthening the link between knowledge and practice Each chapter includes a separate box that discusses a topic of current interest related to human interaction with computers and recent technology Demonstrating a general approach to solving a broad range of system problems, the book provides coverage of the theoretical foundation on which the discipline of human factors is built. Structured around human information processing, it covers the full range of contemporary human factors and ergonomics, then shows you how to apply them.

This book offers a comprehensive look at human factors in Assistive Technology (AT) through real clinical experiences. Providing academic, clinical, and research information, the author helps acquaint professionals with human factors related to assistive technology. Critical issues regarding human factors in AT are presented to help clinicians and educators improve clinical practices with the devices they recommend, select, purchase, design, or use with their clients and students. Fratricide has been defined as firing on your own forces, when mistaking them for enemy forces, which results in injury or death. Rates of fratricide incidence have been steadily increasing and the complexity of the contemporary operating environment may lead to a continuation of this trend. Although the majority of

research into fratricide has focused on the development of technological decision aids, recent explorations highlight the need to emphasise the social aspects within a socio-technical framework. This book presents and validates, via the use of case studies, a model of teamwork and decision-making factors that are associated with incidents of fratricide. In summary, it offers a review and evaluation of contemporary theoretical perspectives on teamwork and fratricide, as well as a range of accident analysis approaches. A novel theory of fratricide is then presented followed by a new methodology for assessing fratricide. Naturalistic case studies of teams are undertaken in the military domain. These studies illustrate the approach and offer early validation evidence. In closing, the book presents a series of principles designed to reduce the likelihood of fratricide in the future.

Human Factors and Ergonomics (HFE) is introduced to students, academics, researchers, practitioners, policy makers, and others in the Gulf Cooperation Council (GCC). A holistic approach is taken to emphasize the breadth and depth of HFE by providing both theory and applications in the field. Providing HFE perspectives from expert academics from multidisciplinary and culturally diverse backgrounds, it contains case studies written by industry professionals highlighting their work from Bahrain, Kuwait, Oman, Saudi Arabia, and United Arab Emirates. Features The first HFE book for the GCC region with case studies showcasing the economics of ergonomics Presents easy to read chapters covering principles,

methodologies, applications, future trends, and key terms Encompasses both the theory and application of HFE fields discussing processes, technologies, and practices Written for readers with no prior background of HFE

The previous edition of the International Encyclopedia of Ergonomics and Human Factors made history as the first unified source of reliable information drawn from many realms of science and technology and created specifically with ergonomics professionals in mind. It was also a winner of the Best Reference Award 2002 from the Engineering Libraries Division, American Society of Engineering Education, USA, and the Outstanding Academic Title 2002 from Choice Magazine. Not content to rest on his laurels, human factors and ergonomics expert Professor Waldemar Karwowski has overhauled his standard-setting resource, incorporating coverage of tried and true methods, fundamental principles, and major paradigm shifts in philosophy, thought, and design. Demonstrating the truly interdisciplinary nature of this field, these changes make the second edition even more comprehensive, more informative, more, in a word, encyclopedic. Keeping the format popularized by the first edition, the new edition has been completely revised and updated. Divided into 13 sections and organized alphabetically within each section, the entries provide a clear and simple outline of the topics as well as precise and practical information. The book reviews applications, tools, and innovative concepts related to ergonomic research. Technical terms are defined (where possible) within entries as well as in a glossary. Students and professionals will find this format invaluable, whether they have ergonomics, engineering, computing, or psychology backgrounds. Experts and researchers will also find it an excellent source of information on areas beyond the range of their direct interests.

Forming connections between human performance and design Engineering Psychology and Human Performance, 4e examines human-machine interaction. The book is organized directly from the psychological perspective of human information processing. The chapters generally correspond to the flow of information as it is processed by a human being--from the senses, through the brain, to action--rather than from the perspective of system components or engineering design concepts. This book is ideal for a psychology student, engineering student, or actual practitioner in engineering psychology, human performance, and human factors Learning Goals Upon completing this book, readers should be able to: * Identify how human ability contributes to the design of technology. * Understand the connections within human information processing and human performance. * Challenge the way they think about technology's influence on human performance. * show how theoretical advances have been, or might be, applied to improving human-machine interaction

This book is a printed edition of the Special Issue "Human Factors in Green Building" that was published in Buildings

This book discusses human factors research directed towards realizing and assessing sustainability in the built environment and architecture. It reports on advanced engineering methods for sustainable infrastructure design, architecture as well as on assessments of the efficient methods and the social, environmental, and economic impact of various designs and projects. The book covers a range of topics, including the use of recycled materials in architecture, ergonomics in buildings and public design, sustainable design for smart cities, design for the aging population, industrial design, human scale in architecture, and many more. Based on the AHFE 2019 International Conference on Human Factors in Architecture,

Sustainable Urban Planning and Infrastructure, held on July 24-28, 2019, in Washington D.C., USA, it offers various perspectives on sustainability and ergonomics. As such, it is a valuable reference resource for designers, urban engineers, architects, infrastructure professionals, public infrastructure owners, policy makers, government engineers and planners, as well as operations managers and academics active in urban and infrastructure research.
This book deals with human factors research directed towards realizing and assessing sustainability in the built environment. It reports on advanced engineering methods for sustainable infrastructure design, as well as on assessments of the efficient methods and the social, environmental, and economic impact of various designs and projects. The book covers a range of topics, including the use of recycled materials in architecture, ergonomics in buildings and public design, sustainable design for smart cities, design for the aging population, industrial design, human scale in architecture, and many more. Based on the AHFE 2016 International Conference on Human Factors and Sustainable Infrastructure, held on July 27-31, 2016, in Walt Disney World®, Florida, USA, this book, by showing different perspectives on sustainability and ergonomics, represents a useful source of information for designers in general, urban engineers, architects, infrastructure professionals, practitioners, public infrastructure owners, policy makers, government engineers and planners, as well as operations managers, and academics active in applied research.
Just like the previous edition, this new edition aims to provide practical advice on how to create, develop, or improve office environments so that those individuals who work within them can do so comfortably and contently. Those environments include traditional purpose-built offices, home offices, vehicle interiors, or transient environments like train stations, hotels, and

airports. Technology has changed radically since the first edition published in 2007. The new edition has been completely updated and offers simple, practical and effective advice that can be employed easily in any office environment, whether typical or atypical. Features Provides up-to-date advice on working with handheld devices and computers Outlines what can be done in non-office environments to make the worker more comfortable Offers updated case studies, which are more relevant to today's work, made possible by ever-advancing technology Includes an expanded section on accommodating workers with disabilities and covers new options available to assist the disabled so they can work effectively and comfortably Deals with the hidden area of work-related manual handling inside and outside the office This open access book addresses several questions regarding the implementation of human and organisational factors (HOF) so that recent improvements in industrial safety can be built upon. It addresses sources of frustration in senior management with high expectations of operational recommendations and disquiet on the part of HOF specialists struggling to have an impact on high-level decision making. The brief explores these issues with an emphasis on examples and lessons learned based on the experience of its authors, who come from different academic disciplines and various industrial sectors such as oil and gas, energy and transportation. It then offers some ways forward for a better consideration of HOF in hazardous companies with a view of promoting safety and facing challenges in a rapidly changing world. This book deals with human factors research directed towards realizing and assessing sustainability in the built environment. It reports on advanced engineering methods for

sustainable infrastructure design, as well as on assessments of the efficient methods and the social, environmental, and economic impact of various designs and projects. The book covers a range of topics, including the use of recycled materials in architecture, ergonomics in buildings and public design, sustainable design for smart cities, design for the aging population, industrial design, human scale in architecture, and many more. Based on the AHFE 2017 International Conference on Human Factors, Sustainable Urban Planning and Infrastructure, held on July 17–21, 2017, in Los Angeles, California, USA, this book, by showing different perspectives on sustainability and ergonomics, represents a useful source of information for designers in general, urban engineers, architects, infrastructure professionals, practitioners, public infrastructure owners, policy makers, government engineers and planners, as well as operations managers, and academics active in applied research.

This book presents human factors research focused on achieving and assessing sustainability in the built environment and architecture. It reports on advanced engineering methods for architecture and design, and on assessments of the social, environmental, and economic impacts of various designs and projects. The book covers a broad range of practical studies relating to ergonomic design and assessment of public and private places, urban ecological constructions, and urban planning for smart city. Further topics include green area planning, environmentally-responsive architecture, and conservation and adaptation of vernacular architectures in modern

design. Based on the AHFE 2021 Conference on Human Factors in Architecture, Sustainable Urban Planning and Infrastructure, held virtually on 25–29 July, 2021, from USA, this book offers a wealth of perspectives on sustainability and ergonomics in architecture and urban planning. As such, it represents a timely source of inspiration for designers, architects, urban planners, as well as civil and environmental engineers, and other professionals, including policy-makers, involved in the development of sustainable buildings and infrastructure.

Human Factors in the Built EnvironmentBloomsbury Publishing USA

"This book focuses on the customization of services and communication environments to advance user satisfaction--Provided by publisher.

Thermal comfort is a desirable state familiar to all people. Providing inspirational indoor and outdoor environments that provide thermal comfort, in the context of energy use and climate change, is a challenge for the 21st century. This book provides an up-to-date, comprehensive coverage of thermal comfort from principles and theory to practical application. The book begins with current knowledge and understanding of thermal comfort and its application to providing thermal conditions for indoor and outdoor environments. It integrates and presents new ideas to provide a comprehensive model of thermal comfort so that we can move on from the 20th and early 21st century and provide a focus for developments for future decades. This book will be of interest to practitioners and students and anyone involved with fields such as

environmental design, physiology, ergonomics, human factors, industrial hygiene, architecture, health and safety and air conditioning. • Provides current thermal comfort standards and regulations • Describes the PMV, PPD, ET* and SET thermal comfort indices • Discusses adaptive thermal comfort, adaptive opportunity and explains why we have not moved towards a more dynamic and interactive approach to providing thermal comfort • Presents a new model relating thermal discomfort to performance • Shows how to construct a computer model of thermal comfort • Offers how to conduct a thermal comfort survey Human Thermal Comfort provides new ideas for achieving thermal comfort for offices, vehicles, atriums, and plazas of the future.

Currently people deal with various entities (such as hardware, software, buildings, spaces, communities and other people), to meet specific goals while going about their everyday activities in work and leisure environments. These entities have become more and more complex and incorporate functions that hitherto had never been allocated such as automation, use in virtual environments, connectivity, personalization, mobility and friendliness. This book contributes to the analysis of human-system interactions from the perspective of ergonomics, regardless of how simple or complex they are, while incorporating the needs of users and workers in a healthy safe, efficient and enjoyable manner. This book provides a comprehensive review of the state of the art of current ergonomic in design methods and techniques that are being applied to products, machinery, equipment, workstations and systems while taking new

technologies and their applications into consideration.? Ergonomics in Design: Methods and Techniques is organized into four sections and 30 chapters covering topics such as conceptual aspects of ergonomics in design, the knowledge of human characteristics applied to design, and the methodological aspects of design. Examples are shown in several areas of design including, but not limited to, consumer products, games, transport, education, architecture, fashion, sustainability, biomechanics, intelligent systems, virtual reality, and neurodesign. This book will: Introduces the newest developments in social-cultural approaches Shows different ergonomics in design methodological approaches Divulges the ways that ergonomics can contribute to a successful design Applies different subjects to support the design including –ergonomics, engineering, architecture, urbanism, neuro, and product designs. Presents recent technologies in ergonomic design, as applied to product design. With the contributions from a team of 75 researchers from 11 countries, the book covers the state-of-the-art of ergonomics in a way to produce better design.

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