Analysing Design Activity

For researchers in the Learning Sciences, there is a lack of literature on current design practices and its many obstacles. Design as Scholarship in the Learning Sciences is an informative resource that addresses this need by providing, through a robust collection of case studies, instructive reference points and important principles for more successful projects. Drawing from the reflections of diverse practitioners, this text includes response sections that guide readers in understanding the research in the context of their own work. It touches upon educational technologies, community co-design, and more, and is grounded in the critical analysis of experts seeking to grow the community.

In this important MBA text the authors adopt a highly integrated approach. Using the three conceptual lenses of power, meaning and design they explore fully the many different ways in which technology and organizations interact. They highlight the major debates within these competing perspectives and argue that the flow of knowledge and ideas within and between organizations is crucial in shaping technologies and organizations alike.

APCHI 2004 was the sixth Asia-Paci?c Conference on Computer-Human Int- action, and was the ?rst APCHI to be held in New Zealand. This conference series provides opportunities for HCI researchers and practitioners in the Asia- Paci?c and beyond to gather to explore ideas, exchange and share experiences, and further build the HCI networkin this region.APCHI 2004wasa truly int- national event, with presenters representing 17 countries. This year APCHI

also incorporated the ?fth SIGCHI New Zealand Symposium on Computer-Human Interaction. A total of 69 papers were accepted for inclusion in the proceedings – 56 long papers and 13 short papers. Submissions were subject to a strict, double-blind peer-review process. The research topics cover the spectrum of HCI, including human factors and ergonomics,user interfacetools and technologies,mobile and ubiquitous computing, visualization, augmented reality, collaborative systems, internationalization and cultural issues, and more. APCHI also included a d- toral consortium, allowing 10 doctoral students from across the globe to meet and discuss their work in an interdisciplinary workshop with leading researchers and fellow students. Additionally, ?ve tutorials were o?ered in association with the conference.

A collection of papers from a conference held at Kings College, London. Computer-based Design focuses on all areas of design using computational methods and examines how all these individual tools can be integrated to produce a coherent design process. This volume also covers areas of manual design methods and modelling that are vital to the continuing development and evolution of the computer-aided design process. TOPICS COVERED INCLUDE Product design and modelling Design process Decision-making models Computer-assisted design systems Computer-assisted conceptual design Computer-assisted detailed design Computer assisted design for manufacture Design knowledge manipulation Engineering change Engineering design issues Fuzzy design Computer-aided design Industrial applications of design Advanced design applications Computational fluid dynamics Computer-based Design provides an excellent opportunity for an update on the latest techniques and developments from concept to advanced

application in the design arena.
5th International Conference, DESRIST 2010, St. Gallen, Switzerland, June 4-5, 2010. Proceedings
A review of current practice
Design as Scholarship
Computer-Based Design
11th Joint Conference, JCKBSE 2014, Volgograd, Russia, September 17-20, 2014. Proceedings
Design-Based Concept Learning in Science and Technology Education

Design-Based Concept Learning in Science and Technology Education brings together contributions from researchers that have investigated what conditions need to be fulfilled to make design-based education work.

This is the second volume of the new conference series Design Computing and Cognition (DCC), successor to the successful series Artificial Intelligence in Design (AID). The conference theme of design computing and cognition recognizes not only the essential relationship between human cognitive processes as models of computation but also how models of computation inspire conceptual realizations of human cognition.

The topic of the research reported here is direct user participation in the task-based development of interactive software systems. Building usable software demands understanding and supporting users and their tasks. Users are a primary source of usability requirements and knowledge, since users can be expected to have intimate and extensive knowledge of themselves, their tasks and their working environment. Task analysis approaches to software development encourage a focus on supporting users and their tasks while participatory design approaches encourage users' direct, active contributions to software development work. However, participatory design approaches often concentrate their efforts on design activities rather than on wider system development activities, while task analysis approaches generally lack active user participation beyond initial data gathering. This research attempts an integration of the strengths of task analysis and user participation within an overall software development process. This work also presents detailed empirical and theoretical analyses of what it is for users and developers to cooperate, of the nature of user-developer interaction in participatory settings. Furthermore, it makes operational and assesses the effectiveness of user participation in

development and the impact of user-developer cooperation on the resulting software product. The research addressed these issues through the development and application of an approach to task based participatory development in two real world development projects. In this integrated approach, the respective strengths of task analysis and participatory design methods complemented each other's weaker aspects.

I*PROMS 2005 is an online web-based conference. It provides a platform for presenting, discussing, and disseminating research results contributed by scientists and industrial practitioners active in the area of intelligent systems and soft computing techniques (such as fuzzy logic, neural networks, evolutionary algorithms, and knowledge-based systems) and their application in different areas of manufacturing. Comprised of 100 peer-reviewed articles, this important resource provides tools to help enterprises achieve goals critical to the future of manufacturing. I*PROMS is an European Union-funded network that involves 30 partner organizations and more than 130 researchers from universities, research organizations, and corporations. * State-of-the-art research results * Leading

European researchers and industrial practitioners * Comprehensive collection of indexed and peer-reviewed articles in book format supported by a user-friendly full-text CD-ROM with search functionality

Engineering Design Conference 2002

Intelligent Production Machines and Systems - 2nd I*PROMS Virtual International Conference 3-14 July 2006

User-Developer Cooperation in Software Development

Collaborative Design in Virtual Environments

Human Behaviour in Design

6th ASCAAD Conference 2012 CAAD | INNOVATION | PRACTICE

Human Behaviour in Design addresses important aspects of creative engineering design. The main topics are the interaction between two complementary modalities - "image" and "concept", internal and external components of design thinking, and design strategies - both for individual designers and design teams. The goal is to improve and evaluate tools and methods that support design. Although this book is the outcome of an international workshop held

in March 2003, it is more than just a collection of its contributions. The papers are arranged into three main topics: Individual Thinking and Acting; Interaction Between Individuals; Methods, Tools and Prerequisites. There are summaries of the discussions of the respective topics written by the chairpersons, conclusions, and an outlook to future issues in design research.

The LNCS series reports state-of-the-art results in computer science research, development, and education, at a high level and in both printed and electronic form. Enjoying tight cooperation with the R&D community, with numerous individuals, as well as with prestigious organizations and societies, LNCS has grown into the most comprehensive computer science research forum available. The scope of LNCS, including its subseries LNAI and LNBI, spans the whole range of computer science and information technology including interdisciplinary topics in a variety of application fields. The type of material published traditionally includes -proceedings (published in time for

the respective conference) -post-proceedings (consisting of thoroughly revised final full papers) -research monographs (which may be based on outstanding PhD work, research projects, technical reports, etc.) More recently, several color-cover sublines have been added featuring, beyond a collection of papers, various added-value components; these sublines include -tutorials (textbook-like monographs or collections of lectures given at advanced courses) -state-of-the-art surveys (offering complete and mediated coverage of a topic) -hot topics (introducing emergent topics to the broader community)

This book constitutes the refereed proceedings of the 11th Joint Conference on Knowledge-Based Software-Engineering, JCKBSE 2014, held in Volgograd, Russia, in September 2014. The 59 full and 3 short papers presented were carefully reviewed and selected from 197 submissions. The papers are organized in topical sections on methodology and tools for knowledge discovery and data mining; methods and tools for software engineering education; knowledge technologies for

semantic web and ontology engineering; knowledge-based methods and tools for testing, verification and validation, maintenance and evolution; natural language processing, image analysis and recognition; knowledge-based methods and applications in information security, robotics and navigation; decision support methods for software engineering; architecture of knowledge-based systems, including intelligent agents and softbots; automating software design and synthesis; knowledge management for business processes, workflows and enterprise modeling; knowledge-based methods and applications in bioscience, medicine and justice; knowledge-based requirements engineering, domain analysis and modeling; intelligent user interfaces and human-machine interaction; lean software engineering; program understanding, programming knowledge, modeling programs and programmers.

The impact of design development on the overall success of a business positions the area as an important performance improvement opportunity. However, design development is

exemplified by novelty and non-repeatability, characteristics which provide particular challenges in the definition, measurement and management of performance with a view to improvement. Design Performance scrutinizes the support for improvement in design development provided by research into general business processes and design in particular. The nature of design development in industrial practice is explored and requirements for its modelling and analysis are highlighted. The methods employed encapsulate a formalism composed of three models: E2 formalises and relates the effectiveness and efficiency of a design; Design Activity Management distinguishes design and design management in terms of the knowledge processed in each activity; Performance Measurement and Management describes how these activities relate to each other within the milieu of measurement and management. A computer-based tool that enables the industrial implementation of the PERFORM approach (analysing the influence of resources on an aspect of design performance) and the identification of

appropriate means of design improvement is presented. Design Performance illustrates its methodological principles with worked examples and details of industrial practice making it suitable for an academic teaching and research readership as well as for commercial designers and managers. The impact of design development on the overall success of a business positions the area as an important performance improvement opportunity. However, design development is exemplified by novelty and non-repeatability, characteristics which provide particular challenges in the definition, measurement and management of performance with a view to improvement. Design Performance scrutinizes the support for improvement in design development provided by research into general business processes and design in particular. The nature of design development in industrial practice is explored and requirements for its modelling and analysis are highlighted. The methods employed encapsulate a formalism composed of three models: E2 formalises and relates the

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Human-Computer Interaction

Construction Innovation and Process Improvement

Design Computing and Cognition '16

Analysing Design Thinking: Studies of Cross-Cultural Co-

Creation
Design Process Improvement
Design Knowing and Learning: Cognition in Design Education

This book is aimed at researchers and students who would like to engage in and deepen their understanding of design cognition research. The book presents new approaches for analyzing design thinking and proposes methods of measuring design processes. These methods seek to quantify design issues and design processes that are defined based on notions from the Function-Behavior-Structure (FBS) design ontology and from linkography. A linkograph is a network of linked design moves or segments. FBS ontology concepts have been used in both design theory and design thinking research and have yielded numerous results. Linkography is one of the most influential and elegant design cognition research methods. In this book Kan and Gero provide novel and state-of-the-art methods of analyzing design protocols that offer insights into design cognition by integrating segmentation with linkography by assigning FBS-based codes to design moves or segments and treating links as FBS transformation processes. They propose and test information entropy as a means to capture the information carried by a linkograph and correlate it with the design outcomes.

Design encompasses some of the highest cognitive abilities of human beings, including creativity, synthesis and problem solving. A substantial and varied

range of research methods has been developed and adopted for the analysis of design activity, but until now it has been difficult to compare the work of different researchers using different methods. This book contains the results of an international workshop held in Delft, The Netherlands, which focused on one particular research method, that of protocol analysis. Researchers from seventeen different leading centres around the world were invited to analyse the same video recordings of designers working on an engineering product design. The 20 chapters in this book are the records of that workshop, providing rich insights into the design process and an overview of accumulated knowledge on design from these researchers. There is also a discussion of the properties and limitations of protocol analysis as a research technique for analysing design activity. The book is a substantial contribution to developing understanding of the nature of design activity, and is of value to researchers, teachers and practitioners of design.

Each chapter deals with a different technique from which we can best represent and make explicit the forms of knowledge used by designers. The book explores whether design knowledge is special, and attempts to get to the root of where design knowledge comes from. Crucially, it focuses on how designers use drawings in communicating their ideas and how they ‘converse’ with them as their designs develop. It also shows how experienced designers use knowledge

differently to novices suggesting that design 'expertise' can be developed. Overall, this book builds a layout of the kinds of skill, knowledge and understanding that make up what we call designing.

The BLOCK Reader is a collection of essays from the pages of BLOCK, encompassing key cultural and critical debates between artists, art and design historians and cultural theorists throughout the last decade.

Design Expertise

Quantitative Methods for Studying Design Protocols

Analyzing Design Review Conversations

Design Computing and Cognition '04

Human Factors Methods for Design

Proceedings of CoDesigning 2000

Design Expertise explores what it takes to become an expert designer.It examines the perception of expertise in design and asks what knowledge, skills, attributes and experiences are necessary in order to design well. Bryan Lawson and Kees Dorst develop a new model of design expertise and show how design expertise can be developed. This book is designed for all students, teachers, practitioners and researchers in architecture and design. To enable all

readers to explore the book in a flexible way, the authors' words are always found on the left hand page. On the right are diagrams, illustrations and the voices of designers, teachers and students and occasionally others too. 'Design Expertise' provides a provocative new reading on the nature of design and creative thought.

This book sets out the innovative practices that have been introduced from other industries and shows how the construction industry has learnt from these.

Artificial intelligence provides an environmentally rich paradigm within which design research based on computational constructions can be carried out. This has been one of the foundations for the developing field called "design computing". Recently, there has been a growing interest in what designers do when they design and how they use computational tools. This forms the basis of a newly emergent field called "design cognition" that draws partly on cognitive science. This new conference series aims to provide a bridge between the two fields of "design computing" and "design cognition". The papers in this volume are from the "First International Conference on Design Computing and Cognition" (DCC'04) held at the

Massachusetts Institute of Technology, USA. They represent state-of-the art research and development in design computing and cognition. They are of particular interest to researchers, developers and users of advanced computation in design and those who need to gain a better understanding of designing.

This volume, one of a two volume set, is from the August 1999 HCI International conference papers presented in Munich, Germany. Human Computer Interaction: Communication, Cooperation, and Application Design focuses on the informative and communicative aspects of computer use. A larger number of contributions is concerned with computer-supported cooperation using a wide variety of different techniques. In keeping with the increased focus of HCI International '99 on internet issues and aspects of the global information society, many papers in this volume are centered around information and communication networks and their implications for work, learning, and every-day activities. Due to the growing number and diversity of groups utilizing modern information technologies, issues of accessibility and design for all are becoming more and more pertinent. A range of papers in this volume address these issues and

provide the latest research and development results.
Design Performance
Building Common Ground and Usable Systems
Cases on the Assessment of Scenario and Game-Based Virtual Worlds in Higher Education

Case Studies from the Learning Sciences
Analysing Design Activity

Collaborative virtual environments (CVEs) are multi-user virtual realities which actively support communication and co-operation. This book offers a comprehensive reference volume to the state-of-the-art in the area of design studies in CVEs. It is an excellent mix of contributions from over 25 leading researcher/experts in multiple disciplines from academia and industry, providing up-to-date insight into the current research topics in this field as well as the latest technological advancements and the best working examples. Many of these results and ideas are also applicable to other areas such as CVE for design education. Overall, this book serves as an excellent

reference for postgraduate students, researchers and practitioners who need a comprehensive approach to study the design behaviours in CVEs. It is also a useful and informative source of materials for those interested in learning more on using/developing CVEs to support design and design collaboration.

vi The process is important! I learned this lesson the hard way during my previous existence working as a design engineer with PA Consulting Group's Cambridge Technology Centre. One of my earliest assignments involved the development of a piece of labo- tory automation equipment for a major European pharmaceutical manufacturer.Two things stick in my mind from those early days - first, that the equipment was always to be ready for delivery in three weeks and,second,that being able to write well structured Pascal was not sufficient to deliver reliable software performance. Delivery was ultimately six months late,the project ran some sixty percent over budget and I gained my first promotion to Senior Engineer. At the time it puzzled me that I had been unable to predict the John Clarkson real effort required to complete the automation project - I had

Reader in Engineering Design, genuinely believed that the project would be finished in three Director, Cambridge Engineering weeks.It was some years later that I discovered Kenneth Cooper's Design Centre papers describing the Rework Cycle and realised that I had been the victim of "undiscovered rework".I quickly learned that project plans were not just inaccurate,as most project managers would attest,but often grossly misleading,bearing little resemblance to actual development practice.

This book summarizes the results of Design Thinking Research carried out at Stanford University in Palo Alto, California, USA, and Hasso Plattner Institute in Potsdam, Germany. The authors offer readers a closer look at Design Thinking with its processes of innovations and methods. The contents of the articles range from how to design ideas, methods, and technologies via creativity experiments and wicked problem solutions, to creative collaboration in the real world and the connectivity of designers and engineers. But the topics go beyond this in their detailed exploration of design thinking and its use in IT systems engineering fields and even from a

management perspective. The authors show how these methods and strategies work in companies, introduce new technologies and their functions and demonstrate how Design Thinking can influence as diverse a topic area as marriage. Furthermore, we see how special design thinking use functions in solving wicked problems in complex fields. Thinking and creating innovations are basically and inherently human – so is Design Thinking. Due to this, Design Thinking is not only a factual matter or a result of special courses nor of being gifted or trained: it's a way of dealing with our environment and improving techniques, technologies and life.

A revised and edited collection of key parts of Professor Cross's published work, this book offers a timeline of scholarship and research over the course of 25 years, and a resource for understanding how designers think and work. Coverage includes the nature and nurture of design ability; creative cognition in design; the natural intelligence of design; design discipline versus design science; and expertise in design.

Design Computing and Cognition '06

Designerly Ways of Knowing
Power, Meaning and Deisgn
Making Systems Human-Centered
Building Innovation Eco-Systems
Interdisciplinary Design in Practice

The ever-growing creation of new internet technologies has led to a growing trend and use of scenario-based virtual environments and serious games in education. Along with these new technologies, there is an increasing interest in how students can be effectively assessed when using these virtual environments. Cases on the Assessment of Scenario and Game-Based Virtual Worlds in Higher Education is a comprehensive collection that provides aspects of assessment in virtual worlds combined with lessons learned from critical reflection. These case studies present successes, challenges, and innovations to be utilized as a framework for practitioners and researchers to base their own effective forms of scenario-based learning. This publication would be of particular interest to practice-based disciplines such as education, nursing, medicine, and social work.

This book gathers the peer-reviewed and revised versions of papers from the Seventh International Conference on Design Computing and Cognition (DCC'16), held at Northwestern University, Evanston (Chicago), USA, from 27–29 June 2016. The material presented here reflects cutting-edge design research with a focus on artificial intelligence, cognitive science and computational theories. The papers are grouped under the following nine headings, describing advances in theory and applications alike and demonstrating the depth and

breadth of design computing and design cognition: Design Creativity; Design Cognition - Design Approaches; Design Support; Design Grammars; Design Cognition - Design Behaviors; Design Processes; Design Synthesis; Design Activity and Design Knowledge. The book will be of particular interest to researchers, developers and users of advanced computation in design across all disciplines, and to all readers who need to gain a better understanding of designing.
The scientific analysis of design thinking continues to burgeon and is of considerable interest to academic scholars and design practitioners across many disciplines. This research tradition has generated a growing corpus of studies concerning how designers think during the creation of innovative products, although less focus has been given to analysing how designers think when creating less tangible deliverables such as concepts and user-insights. Analysing Design Thinking: Studies of Cross-Cultural Co-Creation brings together 28 contributions from internationally-leading academics with a shared interest in design thinking who take a close look at professional designers working on a project that not only involves soft deliverables, but where a central role is played by co-creation across multiple, culturally diverse stakeholders. This collection of detailed, multi-method analyses gives a unique insight into how a Scandinavian design team tackled a specific design task within the automotive industry over a four-month design process. All papers draw upon a common, video-based dataset and report analyses that link together a diversity of academic disciplines including psychology, anthropology, linguistics, philosophy, architecture, management, engineering and design studies. The dataset affords multiple entry points into the analysis of design thinking, with the selected papers demonstrating the application of a wide range of analytic techniques that generate distinct yet complementary insights. Collectively these papers provide a

coherent framework for analysing and interpreting design thinking ‘ in vivo ’ through video-based field studies.

There is no shortage of available human factors information, but until now there was no single guide on how to use this information. Human Factors Methods for Design: Making Systems Human-Centered is an in-depth field guide to solving human factors challenges in the development process. It provides design and human factors professionals, sys

Studying Designers'05

Knowledge-Based Software Engineering

6th Asia Pacific Conference, APCHI 2004, Rotorua, New Zealand, June 29-July 2, 2004, Proceedings

Global Perspectives on Design Science Research

Technology and Organization (RLE: Organizations)

What Designers Know

Wide aspects of a university education address design: the conceptualization, planning and implementation of man-made artifacts. All areas of engineering, parts of computer science and of course architecture and industrial design all claim to teach design. Yet the education of design tends ot follow tacit practices, without explicit assumptions, goals and processes. This book is premised on the belief that design education based on a cognitive science approach can lead to significant

improvements in the effectiveness of university design courses and to the future capabilities of practicing designers. This applies to all professional areas of design. The book grew out of publications and a workshop focusing on design education. This volume attempts to outline a framework upon which new efforts in design education might be based. The book includes chapters dealing with six broad aspects of the study of design education: • Methodologies for undertaking studies of design learning • Longitudinal assessment of design learning • Methods and cases for assessing beginners, experts and special populations • Studies of important component processes • Structure of design knowledge • Design cognition in the classroom

The concept "Designerly Ways of Knowing" emerged in the late 1970s alongside new approaches in design education. This book is a unique insight into expanding discipline area with important implications for design research, education and practice.

The outcome of DTRS 10 held at Purdue University in 2014.

This book looks at causative reasons behind creative acts and stylistic expressions. It explores how creativity is initiated

by design cognition and explains relationships between style and creativity. The book establishes a new cognitive theory of style and creativity in design and provides designers with insights into their own cognitive processes and styles of thinking, supporting a better understanding of the qualities present in their own design. An explanation of the nature of design cognition begins this work, with a look at how design knowledge is formulated, developed, structured and utilized, and how this utilization triggers style and creativity. The author goes on to review historical studies of style, considering a series of psychological experiments relating to the operational definition, degree, measurement, and creation of style. The work conceptually summarizes the recognition of individual style in products, as well as the creation of such styles as a process before reviewing studies on creativity from various disciplines, presenting case studies and reviewing works by master architects. Readers will discover how creativity is initiated by design cognition. A summary of the correlations between creativity and style, expressed as a conceptual formula describing the cognitive phenomenon of style and creativity

concludes the work. The ideas presented here are applicable to all design fields, allowing designers to comprehend and improve their design processes to produce creative, stylistically unique products.

Computer Human Interaction

Engineering Practice in a Global Context

The Block Reader in Visual Culture

Design Thinking Research

Style and Creativity in Design

Computer Aided Architectural Design Futures 2001

This book details the state-of-the-art of research and development in design computing and design cognition. It features more than 35 papers that were presented at the Sixth International Conference on Design Computing and Cognition, DCC'14, held at University College, London, UK. Inside, readers will find the work of expert researchers and practitioners that explores both advances in theory and application as well as demonstrates the depth and breadth of design computing and design cognition. This interdisciplinary coverage, which

includes material from international research groups, examines design synthesis, design cognition, design creativity, design processes, design theory, design grammars, design support and design ideation. Overall, the papers provide a bridge between design computing and design cognition. The confluence of these two fields continues to build the foundation for further advances and leads to an increased understanding of design as an activity whose influence continues to spread. As a result, the book will be of particular interest to researchers, developers and users of advanced computation in design and those who need to gain a better understanding of designing that can be obtained through empirical studies.

Design occurs in a rich social context where the effectiveness and efficiency of social interaction and collective performance are key to successful outcomes. Increasingly, design is being explored and developed as a collective, collaborative, participatory, and even community process. The heightened recognition of designing as a social process has stimulated

interest in collaborative design. This book contains the proceedings of the international conference "CoDesigning 2000" held in Coventry, England, September 2000. During this meeting exponents from a wide range of design domains came together to present and discuss perspectives on and new knowledge and understanding of collaborative design, and the evidence for enhanced design performance through collaboration. Within this volume different motivations for, conceptions of, and findings about collaborative design are addressed in 50 contributions by different research groups. Structured into 6 sections according to the main fields of interest, it provides a survey of the state of scientifically based knowledge and trends emerging from collaborative design research and their implications for a wide range of domains. Effective teamwork across disciplines is essential to solve the technological and managerial problems associated with today's construction projects. This book promotes interdisciplinary design for the construction industry, and discusses the challenges and rewards involved. It contains contributions

from many prominent figures representing different professional viewpoints, among them architects Ian Ritchie and Richard Saxon, engineers Sir Alan Cockshaw, Michael Dickson and Sir Jack Zunz and developer Peter Rodgers. Case studies provide illustrations and examples. The book also presents and reviews recent innovative experiences of education for interdisciplinary design both in the university and practice environments. Further, it includes summaries of best practice in the design process drawn from management studies and academic research. In its focus on the collaborative nature of the design process the book addresses the neglected areas of teamwork and communication. It offers numerous examples where this way of working has achieved outstanding architectural results and project success in line with the Latham and Egan agendas.

This volume aims to provide the reader with a broad cross-section of empirical research being carried out into engineers at work. The chapters provide pointers to other relevant studies over recent decades – an important aspect, we believe,

because this area has only recently begun to coalesce as a field of study and up to now relevant empirical research has tended to be published across a range of academic disciplines. This lack of readily available literature might explain why contemporary notions of engineering have drifted far from the realities of practice and are in urgent need of revision. The principal focus is on what empirical studies tell us about the social and technical aspects of engineering practice and the mutual interaction between the two. After a foreword by Gary Lee Downey, the research presented by the various chapter authors is based on empirical data from studies of engineers working in a variety of global settings that include Australia, Ireland, Portugal, South Asia, Switzerland, the UK and the US The following groups of readers are addressed: •researchers and students with an interest in engineering practice, •professional engineers, particularly those interested in research on engineering practice, •engineering educators, •people who employ, recruit or work with engineers. Providing a much clearer picture of engineering practice and its

variations than has been available until now, the book is of interest to engineers and those who work with them. At the same time it provides invaluable resource material for educators who are aiming for more authentic learning experiences in their classrooms. Further information, visit the website Engineering Practice in a Global Context Online: http://epr.ist.utl.pt/EPGC/

Collaborative Design

Individuals, Teams, Tools

Design Computing and Cognition '14

Proceedings of the Ninth International Conference Held at the Eindhoven University of Technology, Eindhoven, the Netherlands, on July 8-11, 2001

Communication, Cooperation, and Application Design

Understanding the Technical and the Social

CAAD Futures is a bi-annual conference that aims to promote the advancement of computer-aided architectural design in the service of those concerned with the quality of the built environment. The conferences are organized under the auspices of the CAAD Futures Foundation, which has its secretariat at the Eindhoven University of Technology

in the Netherlands.This volume provides state-of-the-art articles in the following areas: capturing design, information modelling, CBR techniques, Virtual Reality, CAAD education, (hyper) media, design evaluation, design systems development, collaboration, generation, design representation, knowledge management, form programming, simulation, architectural analysis, and urban design.
Analysing Design ActivityWiley