

Research into Design: Supporting Multiple Facets of Product Development

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About the Book

This edited book introduces a new explanatory cross-layer model designed to understand all aspects of "Research into Design". Design is ubiquitous; it pervades almost all spheres of life, and has been around as long as life has taken up the task of purposefully changing the world around it. Research in design and the emergence of a research community in this area has been relatively new, its development influenced by the multiple facets of design (human, artefact, process, organisation, and the micro- and macro economy by which design is shaped) and the associated diversification of the community into those focusing on various aspects of these individual facets, or various applications. Design is complex, balancing the needs from multiple stakeholders, and requiring a multitude of areas of knowledge to be utilised, from resources spread across space and time.

The book covers all three major areas of products and processes: functionality, form and human factors. The spectrum of topics range from those focusing on early stages such as creativity, synthesis and innovation, through those that are primarily considered in certain stages of the product life cycle, such as safety, reliability, cost, production, and environment, to those that are relevant across the whole product life cycle, such as collaboration and communication, design management, knowledge management, knowledge representation and mining, and product life cycle management. Issues of delivery of research into design, in terms of its two major arms: design training and education, and design practice, represented by a part on enabling technologies and tools, are both highlighted in the papers in this book.

Foundational issues such as the nature of design theory and research methodology is also a major area of focus, and is the focus of papers in a part by the same name. It is particularly heartening to see in the papers the variety of areas of application of research into design.

PART A: CREATIVITY, SYNTHESIS AND INNOVATION

PART B: DESIGN FOR ENVIRONMENT, SAFETY, MANUFACTURE AND COST

PART C: DESIGN -, KNOWLEDGE - AND PRODUCT LIFECYCLE - MANAGEMENT

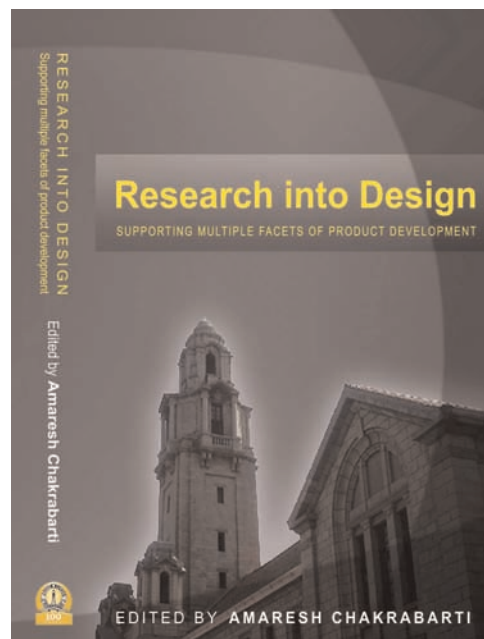
PART D: HUMAN FACTORS, AESTHETICS, SEMANTICS AND SEMIOTICS

PART E: ENABLING TECHNOLOGIES AND TOOLS

PART F: DESIGN THEORY AND RESEARCH METHODOLOGY

PART G: COLLABORATION AND COMMUNICATION

PART H: DESIGN TRAINING AND EDUCATION



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Readership: Policy makers, researchers, undergraduate and postgraduate students.

