

*Advances in
Ergonomics In Design,
Usability & Special
Populations*

Part II

Advances in Human Factors and Ergonomics 2014

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Part II

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and
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Table of Contents

Section 14: User-Centered Design I

Ergonomics versus inclusive design spaces – The case study of The National Tile Museum M. J. Delgado and F. Moreira da Silva, Portugal	3
An approach through painting to XIX century fashion ergonomic issues H. Albuquerque, Portugal	15
The system ergonomics and usability as a measurement of the software agents impact to the organization B. Kopka and M. Żytniewski, Poland	21

Section 15: Ergonomics in the Analysis and Design of Production Systems

Worker's perception on ergonomic workstation analysis: A descriptive study of L-shaped desk usage C. Moriguchi, F. Foltran, J. Goncalves, K. Takekawa, H. Coury and T. Sato, Brazil	35
Human vs. machine in life science automation: Comparing effectiveness of manual and automated 3-D cell culturing processes R. Lehmann, K. Thurow, R. Stoll and M. Weippert, Germany	45
Build an ergonomics program for an industrial international group J. Thibault and J. Papin, France	53
Ergonomics in industry: Various sectors contributing to the development of a new product A. Tavares, L. Albuquerque, A. Souza and M. Soares, Brazil	61
Time structure analysis in task with manual components of work G. Bedny, W. Karwowski and I. Bedny, USA	73
The influence of the stress of logistics professionals in the organization's results. A theoretical and practical research with specialists of the area A. Viera, G. Balbinotti and L. Vieira, Brazil	84

Section 16: Ergonomics in the Automotive Industry

Anthropometric consideration of interior design of city buses A. Zunjic, S. Sofijanic and E. Stojiljkovic, Serbia	95
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Pushing and pulling risk assessment in Fiat Group Automobiles industrial reality: Methods to analyze critical operative conditions according to ISO 11228-2 principles D. Germana, S. Spada, G. Lombardi, A. Baracco, M. Coggiola, F. Sessa and L. Ghibauda, Italy	107
Effects of appearance on perceived comfort of automobile seats T. Erol, C. Diels, J. Shippen, D. Richards and C. Johnson, UK	115
The benefits of developing people to acquire competences in ergonomics A. Varasquin, G. Balbinotti, L. Vieira and N. Colossi, Brazil	123
Ergonomic and financial benefits reached through the application of a Kaizen culture: Theoretical and practical study in an automotive industry L. Vieira and G. Balbinotti, Brazil	131
A product design process to evaluate users' intrinsic satisfaction— Designing center consoles in cars S. Muraji, T. Yamamoto, M. Kurihara, T. Suzuki and M. Nakanishi, Japan	140

Section 17: Transportation Design

Effectiveness auditory and vibrotactile cuing of driver attention under noisy environment A. Murata, T. Kuroda and M. Kanbayashi, Japan	155
A comparative study of design perceptions of vehicle cluster instruments by designers and non-designers in India and Germany P. Kalenahalli Sudarshan, M. Kauer and R. Bruder, Germany	165
Maneuvering in intersections - what is the specific challenge for elderly drivers? K. Dahmen-Zimmer and A. Zimmer, Germany	176
Synesthetic metering for speed J. Cabral and R. Mendonca, Brazil/Italy	182

Section 18: Ergonomics in Design of Workstations II

Work ergonomic analysis and change laboratory: Similarities and complementarities between interventionist methods R. Vilela, M. Querol, L. Seppanen, F. Lima, R. Mendes, M. Lopes, I. Almeida and J. Filho, Brazil/Finland	193
---	-----

A library based tool to assist the generative activity in workstation design C. Bergman, D. Hogberg, G. Backstrand and L. Moestam, Sweden	206
ERGO WORK - Creating the best places to work G. O'Sullivan, Poland, L. Moody and J. Saunders, UK, A. Curin and M. Leber, Slovenia	215
The user-oriented integration of decision support system for tunnel control: Challenges in methodic and design S. Spundflasch and H. Kromker, Germany	227
Designing for future professional activity: Examples from ship bridge operation design M. Wahlstrom, H. Karvonen, E. Kaasinen and P. Mannonen, Finland	238

Section 19: Virtual Reality and Digital Environment II

Nonlinear dynamical analysis of eye movement characteristics A. Murata, T. Matsuura and M. Moriwaka, Japan	251
Comfort optimization method for work equipment based on a digital hand model P. Gust and A. Unlu, Germany	263
Intangible cultural heritage and digital communications C. C. Caramelo Gomes and M. L. Costa, Portugal	271
Wearable devices: A design approach through biodesign and ergonomics M. Canina, Italy	284
Accessibility passport model for designing inclusive games – A requirement engineering viewpoint M. Mustaquim, Sweden	297
Software interfaces of the Jaco Robotic Arm: Results of a focus group N. Vigouroux, D. Sauzin, F. Vella, C. Petit, V. Leynaert, M. Alecki and C. Fattal, France	305
Visual comfort and human wellbeing at coworking environs C. C. Gomes and S. Preto, Portugal	316

Section 20: Ergonomics, Product and Work Design I

An ergonomic vision of actors and resources in distance education environment I. Martins, E. Martins and M. Soares, Brazil	331
Development of e-Learning system for network education and visualization C. Kawanishi and Y. Imai, Japan	336
Anthropometry as a resource in the learning process of ergonomics / human factors & design L. Saenz, A. Lotero, E. Cadavid and G. Sevilla, Colombia	345
Space usability study from the point of view of the teacher in public schools from 1st to 5th grade in the city of Bauru, SP, Brazil A. Caversan and J. Placido da Silva, Brazil	353
Influence of the school furniture design on the body posture of college students A. Tirloni, D. Reis, M. Soares and A. Moro, Brazil	364
Proposal of a method to clarify customer needs using HI (human interface) patterns R. Okubo, Y. Tanikawa and S. Fukuzumi, Japan	371

Section 21: Interaction Design and Usability Evaluation

Influence of web usability as stimulus to generate positive emotions I. Landa-Avila and L. Prado-Leon, Mexico	385
Usability test for a bank service website R. CossyLeon-Perez, B. Gallardo-Vazquez and M. Soares, Mexico/Brazil	394
Research of website interaction design based on UX F. Guo, Q.-X. Qu, X.-Y. Zhang, W.-T. Ye, H. Wang and X.-S. Wang, China	403
Terminology matters: About labeling used in the user interfaces of home networking devices A. Moallem, USA	410
Usability evaluation of engineering research center for compact efficient fluid power website D. Davis, O. Leak and S. Jiang, USA	416

Section 22: Design Methods and Techniques

Data gathering for ergonomic and design evaluations: Issues and pitfalls F. Campos, D. Lincoln, M. Neves, W. Correia and M. Soares, Brazil	429
PLT (Persona Logical Thinking): A method to generate user requirements for multidisciplinary design teams J. Barre, S. Buisine and A. Aoussat, France	436
Application of a user-centred design approach to the definition of a knowledge base development tool M. Simoes-Marques and I. Nunes, Portugal	443
Multi-method systems modeling and analysis: Is it possible to apply holistic design, linking the physical and cognitive aspects? K. Gielo-Perczak, USA	455
Development of a method based on ergonomics activity analysis in order to enhance knowledge and skills in product design comfort F. Mujica and L. Sznelwar, Brazil	462
Prototype-centered design: For a better interactive design process M. Alcoforado, J. Placido da Silva and L. Paschoarelli, Brazil	474

Section 23: Ergonomics and Product Design

Usability evaluation of the MOSES (Monitoring and Operating System for Emergency Services Tablet) S. Carillo, N. Marinas, R. Relator and L. Grepo, Philippines	489
Usability-based mobile phone selection for communications in emergency situations I. Nunes, D. Patriarca and A. Matos, Portugal	498
Ergonomic design for young users of mobile phones C. Giliberti, I. Figa and S. Salerno, Italy	510
Ergonomic engineering of a mobile walker S. Kamp, T. Spitz, U. Muller and N. Feller, Germany	521
Surprise as a design strategy in goal-oriented mobile applications A. Gross, Germany, and J. Silvennoinen, Finland	531
An application of ballistic movement method for evaluating the effects of movement direction using a standard mouse R. Lin, Y.-C. Tsai, C.-Y. Huang and M.-H. Lin, Taiwan	542

Section 24: Ergonomics and Cognition in Aviation

Physiological workload response of laboratory staff during simulated life science processes M. Weippert, A. Rieger, R. Lehmann, W. Zhang, K. Thurow and R. Stoll, Germany	553
Ergonomic design thinking - Approaching ergonomics through a new way for performing innovation in the workplace M. Santos and M. Soares, Brazil	560
An expert system approach for ergonomic evaluation of advanced manufacturing technology A. Maldonado-Macias, A. Realyvasquez Vargas, J. Garcia-Alcaraz, J. Hernandez, Mexico	572
The knowledge changes in the behaviour under the focus of cognitive ergonomics S. Rodrigues, E. Martins and M. Soares, Brazil	583
Ergonomics and Cognition in Manual and Automated Flight E. Martins, I. Martins and M. Soares, Brazil	588
The fault tree in aviation-Always ends in humans E. Martins, I. Martins and M. Soares, Brazil	595

Section 25: Seating Ergonomics and Body Posture

Impact of the seat on aircraft passenger comfort experience in the cabin interior N. Ahmadpour, J.-M. Robert and G. Lindgaard, Canada	603
Ergonomic evaluation of workstation furniture for wheelchair users with reference to Brazilian Standards ABNT NBR-9050 and NR-17 on Ergonomics C. Santos, P. Neto and R. Santos, Brazil	611
Classification of Seating Postures D. Radu Moga, Romania	621
Incidence of low back pain in relation to sedentary workstation design and anthropometric assessments S. Chaiklieng, P. Suggaravetsiri and J. Stewart, Thailand/New Zealand	630
Study of body postures adopted in public spaces to define furniture design principles J. Waldron, L. Olaya, A. Munoz and M. Giraldo, Colombia	638

Section 26: Sustainable Design III

The car segment reconceptualization in Portugal: New users, new functions P. Dinis, F. Moreira da Silva and R. Almendra, Portugal	649
Cognitive ergonomics in the communication design process: Results from a study carried out with a sample of students M. Cadarso, Portugal	658
Graphic design as a user-centered interface D. Raposo Martins and F. Moreira da Silva, Portugal	669
Ergonomic recommendations for the design of pacifiers T. Studeli, Switzerland	679
Ergonomics in children's furniture – emotional attachment C. Salvador, J. Vicente and J. Martins, Portugal	692
Pressure distribution on hand's palm as evaluation technique of product design D. Silva and L. Paschoarelli, Brazil	700
Teaching HFE in industrial/product design courses in Portugal A. Dias, R. Almendra and F. Moreira da Silva, Portugal	709

Preface

Successful interaction with products, tools and technologies depends on usable designs and accommodating the needs of potential users without requiring costly training. In this context, this book is concerned with emerging ergonomics in design concepts, theories and applications of human factors knowledge focusing on the discovery, design and understanding of human interaction and usability issues with products and systems for their improvement.

This book will be of special value to a large variety of professionals, researchers and students in the broad field of human modeling and performance who are interested in feedback of devices' interfaces (visual and haptic), user-centered design, and design for special populations, particularly the elderly. We hope this book is informative, but even more - that it is thought provoking. We hope it inspires, leading the reader to contemplate other questions, applications, and potential solutions in creating good designs for all.

The book is organized into three volumes with a total of thirty-eight sections that focus on the following subject matters: Devices and user interfaces, Virtual Reality and Digital Environment , User Studies, Product Design and Evaluation, and Sustainable Design. In the sections that cover “Devices and user interfaces” the focus is on optimization of user devices, with emphasis on visual and haptic feedback. In the sections that cover “User studies,” the focus goes to the limits and capabilities of special populations, particularly the elderly, which can influence the design. Generally, the effect of changes in force and kinematics, physiology, cognitive performance, in the design of consumer products, tools and workplaces is discussed. The sections that cover “Virtual Reality and Digital Environment”, “Product and design evaluation” and “Sustainable design” employs a variety of research methods and user-centered evaluation approaches, for developing products that can improve safety and human performance and at same time, the efficiency of the system. Usability evaluations are reported for different kinds of products and technologies.

Part I:

- Section 1: Human Factors and Ergonomics in Design of Safety-Critical Systems*
- Section 2: Sustainable Design I*
- Section 3: Interface Design I*
- Section 4: Human Factors Applications*
- Section 5: Design and Human Behavior I*
- Section 6: The Role and Functions of Professional Certification Organizations*
- Section 7: Design and Applied Anthropometry I*
- Section 8: Ergonomics in Design of Workstations I*
- Section 9: Virtual Reality and Digital Environment I*
- Section 10: Sustainable Design II*
- Section 11: Design and Human Behavior II*
- Section 12: Design and Applied Anthropometry II*
- Section 13: Interface Design II*

Part II:

- Section 14: User-Centered Design I*
- Section 15: Ergonomics in the Analysis and Design of Production Systems*
- Section 16: Ergonomics in the Automotive Industry*
- Section 17: Transportation Design*

Section 18: Ergonomics in Design of Workstations II
Section 19: Virtual Reality and Digital Environment II
Section 20: Ergonomics, Product and Work Design I
Section 21: Interaction Design and Usability Evaluation
Section 22: Design Methods and Techniques
Section 23: Ergonomics and Product Design
Section 24: Ergonomics and Cognition in Aviation
Section 25: Seating Ergonomics and Body Posture
Section 26: Sustainable Design III
Section 27: Ergonomics, Product and Work Design II

Part III:

Section 28: Human Factors and Ergonomics in Information Design
Section 29: Product Design
Section 30: Ergonomics in the Design of Products and Services
Section 31: Ergonomics and Usability Evaluation
Section 32: Sustainable Design IV
Section 33: Ergonomics, Accessibility and Built Environment
Section 34: Sustainable Innovation
Section 35: Ergonomics and Design for Elderly People
Section 36: Assistive Technology
Section 37: Ergonomic Design in Healthcare and Childcare
Section 38: Design of Protective Clothing and Safety

This book will be of special value to a large variety of professionals, researchers and students in the broad field of human performance who are interested in feedback of devices' interfaces (visual and haptic), user-centered design, and design for special populations, particularly the elderly. We hope this book is informative, but even more - that it is thought provoking. We hope it inspires, leading the reader to contemplate other questions, applications, and potential solutions in creating good designs for all.

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