

Designing Around People

Pat Langdon, Jonathan Lazar, Ann Heylighen and Hua Dong, Editors
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I wanted to review this book because the title intrigued me. I had no idea of the contents but I assumed that, when it comes to people, noise is one of the design parameters. And for us readers of NCEJ, it often is the only thing that matters. The contents surprised me not only because I had no inkling about the subjects but also it showed there are a lot of issues concerning design for humans besides noise.

From the Foreword, “The book is based on the Cambridge Workshops on Universal Access and Assistive Technology (CWUAAT), a workshop on universal access, held in March 2016 in Cambridge, UK. CWUAAT is one of the few gatherings where people interested in inclusive design, across different fields, including designers, computer scientists, engineers, architects, ergonomists, ethnographers, policymakers and user communities, meet, discuss and collaborate.”

The major parts:

- Part I: Reconciling Usability, Accessibility and Inclusive Design
- Part II: Designing Inclusive Assistive and Rehabilitation Systems
- Part III: Measuring Product Demand and Peoples' Capabilities
- Part IV: Designing Cognitive Interaction with Emerging Technologies
- Part V: Designing Inclusive Architecture: Buildings and Spaces
- Part VI: User Profiling and Visualizing Inclusion

I will list sub-chapters further below for your information.

As you can see, the parts do not seem to have any relation to our specialties and, in fact the last three parts just have a minimal amount.

As much as I could see, three parts dealt with noise and all in a very tangential way. In Part IV, a chapter titled “Designing Human Somatosensory¹⁾ System Interactions: Not Just for Haptics²⁾ Any More!”, the authors

¹⁾ Relating to or denoting a sensation (such as pressure, pain, or warmth) that can occur anywhere in the body, in contrast to one localized at a sense organ (such as sight, balance, or taste). Also called somesthetic.

²⁾ Of or relating to the sense of touch, in particular relating to the perception and manipulation of objects using the senses of touch and proprioception.

(M. Karam and P.M. Langdon) discuss the concept of “feeling speech.” They talk about sensors used to feel speech by feeling vocal cord vibrations and touching lips as they move. Further, they mention the use of thumb and forefinger to touch (haptic) and “hear” the sound from a telephone receiver. An interesting concept is the conversion of sound to touch using signal processing and transducers to convert acoustic signals into vibration that is recognizable. There is more here—discussing tactile acoustic [sic] devices for mobile phones and other interfaces.

In Part V, dealing with architecture, there is nothing mentioned about masking, sound transmission or reverberation. Rather, the chapter called “Better Supporting Blind Pedestrians and Blind Navigation Technologies Through Accessible Architecture”, which includes using canes (naturally) and drones (wow) to help the blind, discusses audible pedestrian signals at crosswalks, tactical indicators on poles and audible signals at dangerous locations (like some construction sites).

In Part VI, the chapter, “Assets, Actions, Attitudes: Hearing and Vision Impaired Mobile Technology Personae³⁾”, treats the handicap of deafness but from a sociological approach, not technical as we know it.

I have to mention a non-noise concept I found fascinating. In Part III, they discuss a “Day Clock — a clock that doesn't tell time” for people with dementia: the authors (H. Boyd, N. Evans and N. Harris) present the design approach, with prototypes. They show what they ended up with a production version that only has on the face:

Now it's
Thursday
Morning

Here is a summary of all the contents:

Part I: Reconciling Usability, Accessibility and Inclusive Design

- Exploring the Impact of Inaccessible Redesign and Updates
- An Intersectional Perspective on Web Accessibility
- Representing Children Living with Visual Impairments in the Design Process: A Case Study with Personae
- Inclusive Design and Mental Health: Policy and Legislation Challenges from the Perspective of Social Inclusion

³⁾ The aspect of someone's character that is presented to or perceived by others: In psychology, often contrasted with anima.

Part II: Designing Inclusive Assistive and Rehabilitation Systems

- Designing an Innovative Walking Aid Kit; A Case Study of Design in Inclusive Healthcare Products
- Rhythmic Haptic Cueing for Entrainment: Assisting Post-stroke Gait Rehabilitation
- Introducing Assistive Tactile Colour Symbols for Children with Visual Impairment: A Preliminary Research
- Virtual Reality Technology for Pain Management
- InTacT: Insights into Telehealth and Care Technologies

Part III: Measuring Product Demand and Peoples' Capabilities

- Designing the “Perfect Day” Service Around People Living with Dementia Packaging Openability: A Study Involving Chinese Elders
- Walking Backwards to Quantify Visual Exclusion
- How and Why Do People Adopt ICT Products? A Preliminary Model Based on Literature Review
- A Clock That Does Not Tell the Time: How the Day Clock Meets the Needs of People Living with Dementia
- Collecting Data for Inclusive Design: Emerging Tools and Methods

Part IV: Designing Cognitive Interaction with Emerging Technologies

- Beyond Anthropometrics: Prehensile Control Analysis for Capability Assessment
- It's All in the Eyes: Designing Facial Expressions for an Interactive Robot Therapy Coach for Children
- It's a Curse . . . and a Gift: Developing the Own Input Alternative for Computer Interaction
- Designing Human Somatosensory System Interactions: Not Just for Haptics Any More!

Part V: Designing Inclusive Architecture: Buildings and Spaces

- Ageing Engagement: Improving the Elderly Experience in Kitchen

- How Do Older Residents Experience a Recently Built Innovative Housing and Care Facility?
- Adjusting an Older Residential Care Facility to Contemporary Dementia Care Visions
- Designing Inclusive Architecture: Facilitators and Barriers of the Healthcare Environment for Rehabilitation at Stroke Units
- An Evaluation of Public Space Accessibility Using Universal Design Principles at Naresuan University Hospital
- Better Supporting Blind Pedestrians and Blind Navigation Technologies Through Accessible Architecture

Part VI: User Profiling and Visualizing Inclusion

- Assets, Actions, Attitudes: Hearing and Vision Impaired Mobile Technology Personas
- Contents Preliminary Findings from an Information Foraging Behavioural Study Using Eye Tracking
- Reducing Exclusion in Future Cars Using Personas with Visual Narratives and Design Anthropology

In summary, the book is not so much about noise, but the book is fascinating on several levels: first, while we are immersed in noise control, there is a world out there where noise control takes a back seat. So much is needed for people's well-being besides dealing with noise. It was a wake-up call for me to realize what the rest of the world cares about. Second, the problems and design solutions found in this book are important for the “people” that the book discusses. Finally, this is a good read, not too technical and mostly understandable.

If you just care about noise, perhaps, besides the minimal treatment in one chapter, this book may not be to your liking. But if you want to see and understand what many people care about and how their problems are being addressed, this is a great add-on to one's library and is highly recommended.

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