



# **SMART ACCESSIBILITY 2023**

The Eighth International Conference on Universal Accessibility in the Internet of  
Things and Smart Environments

April 24th – 28th, 2023

Venice, Italy

**SMART ACCESSIBILITY 2023 Editors**

Monika Maria Möhring, Technische Hochschule Mittelhessen, Germany

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2023) by International Academy, Research, and Industry Association (IARIA)  
Please refer to the Copyright Information page.

Printed with permission by Curran Associates, Inc. (2024)

International Academy, Research, and Industry Association (IARIA)  
412 Derby Way  
Wilmington, DE 19810

Phone: (408) 893-6407  
Fax: (408) 527-6351

[petre@iaria.org](mailto:petre@iaria.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## Table of Contents

Digital Accessibility in Multinational Enterprises: a Meta Study <i>Andreas Deitmer, Monika Maria Mohring, and Joao Vilas-Boas da Silva</i>	1
Booth: Digital Audio- and Voice-Based Tools for Inclusion in Education and Everyday Life <i>Zeki Ozturk and David Smida</i>	6
An Audible Handheld Ultra-Sonic-Sonar (AHRUS) to Support Human Echo Location <i>Florian von Zabiensky and Michael Kreutzer</i>	8
A Framework for Developing Modular Mobility Aids for People with Visual Impairment: An Indoor Navigation Use Case <i>Florian von Zabiensky, Grigory Fridman, Sebastian Reuter, Oguz Ozdemir, Michael Kreutzer, and Diethelm Bienhaus</i>	10
Design of an Accessible VR-Escape Room for Accessibility Education <i>Saba Mateen, Paula Wiesemuller, and Sarah Voss-Nakkour</i>	19
The Tension Field of Digital Teaching From the Perspective of Higher Education Teachers <i>Alexander Tillmann, Sarah Voss-Nakkour, Michael Eichhorn, and Frank Kuhn</i>	25
UEmbed: An Authoring Tool to Make Game Development Accessible for Users Without Knowledge of Coding <i>Imran Hossain, Lino Weist, and Sarah Voss-Nakkour</i>	31
Making Smart Phones Accessible to Braille Users <i>Andrew Wells, Robert Alexander, and Maryam Etezzad</i>	37
Developing a Sustainable and Transferable Visitor Information System 2.0 with the Internet of Things - A Prototype <i>Dominik Visca, Max Hoppe, and Pascal Neis</i>	39
Inclusive and Accessible Homes for Older People: The Preparation of Guidelines for Home Design <i>Sandeep Sankat</i>	42