INCLUDE 2022

Unheard voices.

11th Inclusive Design Conference Helen Hamlyn Centre for Design Conference Proceedings

Royal College of Art, London, UK
22-23 September 2022

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INCLUDE. Unheard Voices is a global conference that focuses on inclusive design and its people-centred, creative approaches. It is hosted by the Helen Hamlyn Centre for Design at the Royal College of Art.

The Helen Hamlyn Centre for Design (HHCD) is a globally recognised centre of excellence with a 30-year history of applying inclusive design and design thinking to improve people's lives. The term 'inclusive design' was framed by HHCD's founding co-director Roger Coleman in 1994, as a people-centred, comprehensive and integrated design approach to ensure that people with diverse abilities and needs are included in mainstream design consideration for products, services, technologies, and environments. The HHCD is the largest and longest-running design research centre of the Royal College of Art (RCA). The RCA was established in 1837 and in 1967 was granted Royal Charter and University status. It is a wholly postgraduate university institution of art and design, offering MA, MPhil and PhD degrees, and to this day, remains the world's leading university for art and design education, having received the #1 QS Ranking for the eighth consecutive year since 2015.

This conference proceedings were produced on 22 September 2022.

Published by the Helen Hamlyn Centre for Design
Royal College of Art
Rausing Research Building
15 Parkgate Road, Battersea
London SW11 4NL

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Exploring People's Behavior Through Tracking Assistive Technologies

Ultra-wideband wireless technology and applications

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The purpose of the research is to analyze the relationship between space and people's behavior in confined environment and how we translate people's trajectory data into meaningful information. This informs the designers to build a human-centered environment with and for users not only in physical space alone but also in physical space enhanced by services. We attached ultra-wideband (UWB) wireless radio technology operating between 3-10 GHz frequency, designed for accurate positioning (up to 10 centimeters precise), to conduct experiments by tracking people's behavior in a defined six zones. Then we captured people's time spent in each zone and the frequency of people entering each zone. Key learnings from the study: 1) translate people's behavioral data into business opportunities and 2) design needs to reconsider users' dignity and data privacy, helped us integrate UWB technology with space design. Our goal is to transform a space design process by deciphering people's behavioral data to reconsider how to deliver a space experience and build space models with and for people, catering to their desires and living conditions. A future research question is to disentangle the variances between users by the design of the space, vs. personal preferences and patterns of behavior. Note: Part of the experiment obtained approval from the MIT COUHES (Committee on the Use of Humans as Experimental Subjects).

Keywords: *human-centered design; behavior data; indoor positioning; ultra-wideband*

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