1. Record Nr. UNINA9911049198203321

Autore	Cafaro Francesco
Titolo	Data Through Movement : Designing Embodied Human-Data Interaction for Informal Learning / / by Francesco Cafaro, Jessica Roberts
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2026
ISBN	3-032-03701-8
Edizione	[2nd ed. 2026.]
Descrizione fisica	1 online resource (194 pages)
Collana	Synthesis Lectures on Visualization, , 2159-5178
Disciplina	001.4226
Soggetti	Information visualization Data structures (Computer science) Information theory Data mining Human-machine systems User interfaces (Computer systems) Human-computer interaction Data and Information Visualization Data Structures and Information Theory Data Mining and Knowledge Discovery Human-Machine Interfaces User Interfaces and Human Computer Interaction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Understanding Human-Data Interaction -- Theoretical Foundations: Embodiment -- Background: Designing for Learning in Museums -- Background: Visualizations to Support Learning -- Designing Engaging Human-Data Interactions -- Designing Hand Gestures and Body Movements for HDI -- Embodiment and Sensemaking.
Sommario/riassunto	This revised edition revisits the dynamic and developing field of human-data interactions (HDI). It draws on frameworks from the learning sciences, cognitive linguistics, visualization, and human-computer interaction to explore embodied HDI. This exciting sub-field

of interaction design is based on the premise that every day we produce and have access to quintillions of bytes of data, the exploration and analysis of which are no longer confined within the walls of research laboratories. This new edition examines how people interact with data in informal environments like museums, where engagement is often brief and self-directed. The first half of the book provides an overview of the multi-disciplinary, theoretical foundations of HDI, including embodied cognition, conceptual metaphor theory, embodied interaction, and embodied learning. It also reviews socio-technical theories essential for designing HDI installations that support informal, social learning in spaces like museums. The second half of the book describes strategies for engaging museum visitors with interactive data visualizations, It presents detailed methodologies for designing intuitive hand gestures and body movements for embodied installations. Through case studies of prototype exhibits, it illustrates how thoughtfully designed embodied HDI can facilitate deeper public sensemaking about complex topics such as census data, perspective-taking, correlation, and causation. This cross-disciplinary book is intended as a resource for students and early-career researchers in human-computer interaction, the learning sciences, and data visualization, as well as for more senior researchers and designers who want to quickly familiarize themselves with HDI. In addition, this book Provides museum practitioners and researchers with research-grounded strategies for harnessing human-data interaction Explores how conceptual metaphor theory and embodied interaction inform interface design Examines best practices for data visualization to support collaborative sensemaking around complex data.