1. Record Nr. UNINA9910491030103321 Autore Streitz Norbert **Titolo** Distributed, ambient and pervasive interactions: 9th international conference, DAPI 2021: Held as part of the 23rd HCI international conference, HCII 2021 virtual event, July 24-29, 2021 proceedings // Norbert Streitz and Shin'ichi Konomi Cham, Switzerland: .: Springer, . [2021] Pubbl/distr/stampa ©2021 **ISBN** 3-030-77015-X Descrizione fisica 1 online resource (395 pages) Collana Lecture Notes in Computer Science ; ; v.12782 Disciplina 004.019 Soggetti Human-computer interaction Ubiquitous computing Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Intro -- Foreword -- HCI International 2021 Thematic Areas and Nota di contenuto Affiliated Conferences -- Contents -- I Smart Cities -- Integrating Inter-field Data into Space-Time to Grasp and Analyze Activities in Town -- 1 Introduction -- 2 Background -- 2.1 Cyber-Physical Systems (CPS) -- 2.2 Open Data -- 2.3 Marketing Analysis -- 3 Integration of Inter-field Data -- 3.1 Issues on Integration -- 3.2 Integration of Heterogeneous Data -- 3.3 Mapping and Converting with Fundamental Data -- 3.4 Simulation -- 4 An Example of Using Integrated Data: Interactive Analytics -- 4.1 Preparation of POS Transaction Data -- 4.2 Preparation of Trajectories Data -- 4.3 Overview of Visualization -- 5 Conclusions -- References --Crowdsourced Urban Annotations and Augmented Reality as Design Thinking Tools to Navigate and Interact with Urban Data -- 1 Background -- 2 Problem Statement -- 3 Methodology -- 4 Concept --5 Data -- 5.1 Census Data -- 5.2 Hoodmaps -- 6 The Product -- 6.1

The Database and Server -- 6.2 The Mobile App Prototype -- 6.3 City Data Story -- 7 Testing -- 7.1 Concept -- 7.2 Design -- 8 Conclusion and Future Work -- References -- The Inclusion of Citizens in Smart Cities Policymaking: The Potential Role of Development Studies' Participatory Methodologies -- 1 Introduction -- 2 Theoretical

Background -- 2.1 Learnings from Zero Carbon Cities and the Importance of Participation -- 2.2 The Role of Citizens in Smart Cities -- 2.3 The Role of Citizens in Development Initiatives -- 3 Methodology -- 3.1 Data Collection, Data Analysis and Sample -- 4 Results -- 4.1 The Need to Involve Citizens -- 4.2 Types of Citizens Involvement -- 4.3 Problems Associated with Involvement of Citizens -- 5 Discussion -- 6 Conclusions -- References -- The Importance of Theory for Understanding Smart Cities: Making a Case for Ambient Theory -- 1 Introduction -- 1.1 Background. 1.2 Definitions -- 2 Theoretical Perspective -- 2.1 The Ambient -- 2.2 Ambience and Ambiance -- 2.3 Smart Cities and the Ambient -- 2.4 Ambient Theory -- 3 Application of Ambient Theory to Smart Cities --4 Implications, Limitations, and Mitigations of Ambient Theory -- 5 Conclusion -- References -- Research on Cross-channel Switch Behavior of Users from Smart Government APP to Government Service Platform Under PPM Framework -- 1 Introduction -- 2 Literature Review -- 2.1 Smart Government -- 2.2 User Switch Behavior -- 2.3 Cross-channel User Switch Behavior -- 3 Research Theories and Hypothetical Models -- 3.1 Push Factors -- 3.2 Pull Factors -- 3.3 Mooring Factors -- 3.4 Switch Intention and Switch Behaviors -- 4 Conclusion and Future Outlook -- References -- Users Adaptation and Infusion of Smart City App -- 1 Introduction -- 2 Literature Review -- 2.1 The Concept of User Adaptation and Infusion -- 2.2 Factors Influencing Adaptive Information Behavior -- 3 Research Design and Data Analysis -- 3.1 Data Collection -- 3.2 Coding Analysis -- 4 Research Findings -- 4.1 Model Description -- 4.2 Theoretical Elements of Smart City Apps Adaptation and Infusion -- 5 Conclusion and Suggestion -- References -- II IoT, Sensors and Smart Environments -- Re-imagining Indoor Space Utilization in the COVID-19 Pandemic with Smart Re-configurable Spaces (SReS) -- 1 Introduction -- 2 Related Work -- 3 Methodology -- 4 Data Collection and Analysis -- 5 Results -- 5.1 Design Development -- 5.2 Technology Integration -- 5.3 System Architecture -- 6 Discussion -- 7 Conclusion and Future Work -- References -- Pervasive Smart Objects: Framework for Extending Smart-Object Services -- 1 Introduction -- 2 Background: Design Space for Virtuality-Introduced Internet of Things -- 2.1 Dimension 1: Taxonomy of IoT -- 2.2 Dimension 2: Visualizing Degree. 2.3 Dimension 3: Virtuality Level -- 3 Modification of Design Space --3.1 Information Acquisition Methods -- 3.2 Methods for Displaying Media -- 3.3 Target of Service -- 3.4 Summary of Design Space -- 4 Application of Design Space on Case Studies -- 4.1 Case Study 1: HoloMoL -- 4.2 Case Study 2: DESI -- 5 Framework for Increasing Pervasiveness of Service -- 5.1 Procedure to Increase Pervasiveness of DESI -- 5.2 Revision of Framework to Increase Pervasiveness -- 6 Application of Framework to Existing Services -- 6.1 Extension of Virtual Aguarium -- 6.2 Extension of Ambient Bot -- 7 Insights -- 8 Conclusions and Future Research -- References -- Home Appliance Control Using Smartwatches with Continuous Gesture Recognition -- 1 Introduction -- 2 Related Work -- 3 Prototype -- 3.1 Continuous Gesture Recognition -- 3.2 Communication Between Smartwatch and Device -- 4 Expert Evaluation -- 4.1 System Usability Evaluation -- 5 Results and Discussion -- 6 Conclusions -- References -- Towards a Semantic Classification of Possible Human-to-Environment Interactions in IoT -- 1 Introduction -- 2 Modelling HEI Interactions --3 Related Works -- 3.1 HCl and Categorising 'Interactions' -- 3.2 Shift from HCI to HEI -- 3.3 Understanding 'Interaction' in IoT -- 4 Methodology for Literature Review -- 5 Results of the Meta-analysis --

5.1 Physical Interaction Type -- 5.2 Perception/Cognition-Based Interaction Type -- 5.3 Object Interaction Type -- 6 Taxonomy of HEI in the IoT -- 7 The Power of the Semantic Web -- 7.1 Ontological Characteristics of the Model -- 7.2 Possible Semantic Reasoning -- 8 Conclusion -- References -- Touchless Interaction on Mobile Devices Using Embedded Ambient Light Sensor -- 1 Introduction -- 2 Related Work -- 3 UI Navigation Based on Light Sensor Utilization -- 4 Empirical Evaluation -- 4.1 Participants, Apparatus, and the Procedure. 4.2 Results and Discussion -- 5 Conclusion -- References --Comparison Between Manual and Automated Annotations of Eco-Acoustic Recordings Collected in Fukushima Restricted Zone -- 1 Introduction -- 2 Background -- 3 Preparation -- 4 Methods -- 4.1 Data Collection -- 4.2 Manual Annotation -- 4.3 Automatic Detection -- 4.4 Evaluation -- 5 Results -- 6 Discussions -- 7 Conclusions --References -- Towards Infectious Disease Risk Assessment in Taxis Using Environmental Sensors -- 1 Introduction -- 2 Related Work --2.1 Infectious Disease Risk Assessment -- 2.2 Enclosed Space Detection -- 3 Research Question -- 4 Experiment -- 4.1 Sensors and Setup -- 4.2 Study Conditions -- 5 Results and Discussion -- 5.1 CO2 in a Stationary Vehicle Condition -- 5.2 CO2 in a Running Vehicle Condition -- 6 Conclusion -- References -- The Value of the User Evaluation Process in the European IoT Large-Scale Pilot for Smart Living -- 1 Introduction -- 2 Market Analysis -- 2.1 Competition --2.2 Concluding the State-of-the-Art -- 3 The German Deployment Site -- 3.1 The DS Users -- 3.2 The DS Installations and Services -- 4 Evaluation -- 4.1 Local Evaluation Procedure -- 4.2 Analysis of the Results -- 4.3 Cost Effectiveness -- 5 Conclusion -- References -- III Learning and Culture in Intelligent Environments -- Technology Probes to Explore How Children Learn About Gender Stereotypes -- 1 Introduction -- 2 Related Work -- 2.1 Social Psychological Theories --2.2 HCI Studies -- 3 Technology Probes -- 3.1 Probe 1: Gender Roles Perception Based on Interest Patterns and Personality Labels vs Notes -- 3.2 Probe 2: Celebrities Video Cases Through AR Double-Sided Stand-Up vs Screen Only -- 3.3 Probe 3: Digital Painting and Story Expression vs Card Painting and AR Performance -- 4 Discussion and Future Work -- 4.1 Findings from Probe 1 (Gender Roles) Perception).

4.2 Findings from Probe 2 (Gender Equality Celebrities Cases) -- 4.3 Findings from Probe 3 (Gender Role Creation and Self-story Expression) -- 5 Conclusion -- References -- Collectively Sharing Human Hearing in Artful CollectiveEars -- 1 Introduction -- 2 Artful CollectiveEars --2.1 Multiple Sounds Presentation in a 3D Space -- 2.2 Theme Channel Abstraction for Choosing Sounds -- 2.3 Head Gesture-Based Sound Navigation -- 2.4 Tagging Sounds, Collective Hearing, and Novel Use Cases -- 3 A Preliminary Experiment of Artful CollectiveEars -- 4 Related Work -- 5 Conclusion and Future Direction -- References --What are we Supposed to be Learning? Motivation and Autonomy in Smart Learning Environments -- 1 Introduction -- 2 Smart Learning and Smart Learning Environments -- 3 Effective Learning in Smart Environments -- 4 Motivation and Autonomy -- 5 The Research -- 5.1 Sample and Method -- 5.2 Methodology -- 5.3 Analysis -- 6 Structures of Experience Variation -- 7 Structures of Relevance -- 8 Relevance Structure Influencing Factors -- 8.1 Reflection with Peers -- 8.2 Context and Awareness -- 8.3 Twenty-First Century Skills, Autonomy and Self-directed Learning -- 9 Conclusions -- References -- Design Inspired by Intangible Cultural Heritage of Taoyuan Woodcarving Craft Platform -- 1 Introduction -- 2 Related Research -- 3 Taoyuan Woodcarving Craft and Auspicious Culture -- 4 Taoyuan Woodcarving

Auspicious Cultural Symbol Extraction -- 5 Reconstruction and Application of Auspicious Cultural Symbols in Furniture Design -- 5.1 Reconstruction and Design of Furniture Product Language Structure -- 5.2 Innovative Design on the Semantic Level of Furniture Products -- 5.3 Innovative Design at the Product Pragmatic Level -- 6 Conclusion -- References -- Strategies for Panel Sequence Segmentations in d-Comics -- 1 Introduction -- 2 Design of the Expert Review. 2.1 Materials.