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Anthony L. Brooks · Eva Brooks (Eds.)

Interactivity, Game Creation, Design, Learning, and Innovation

5th International Conference, ArtsIT 2016
and First International Conference, DLI 2016
Esbjerg, Denmark, May 2–3, 2016
Proceedings

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Preface

ArtsIT (Arts and Technology) has previously been presented on four occasions – see the contribution by Brooks and Brooks in this publication. Reflecting trends in the expanding field of digital art, interactive art, and how game creation is considered an art form, the decision was made to modify the title of ArtsIT to be known as "The International Conference on Arts and Technology, Interactivity and Game Creation," but still with the acronym ArtsIT. Complementing the ongoing series and to expand the European Alliance for Innovation (EAI) portfolio of events, an initiative to establish a new and complementary event to ArtsIT was undertaken and titled "The International Conference on Design, Learning and Innovation (DLI)."

The keynote lecture for ArtsIT was given by Antoni Jaume-i-Capó from Universitat de les Illes Balears, Spain, who enthralled attendees in the first session of the first day. The DLI keynote took place on the second day with Sudarshan Khanna and Surabhi Khanna sharing their focused research on play and toys.

This LNICST book presents the proceedings of the two-day co-located ArtsIT and DLI events of 2016. Sessions were hosted in two adjacent auditoriums – to facilitate delegate ease of access – with coffee and adjacent relaxation areas overlooking University Park where the campus of Aalborg University in Esbjerg is located. The campus is a short distance from downtown where all major hotels, restaurants, shopping and entertainment can be found near the busiest port in Denmark. Also close by is the high-standard youth hostel: all ideal for delegate access. Known as the "Energy Metropolis," Esbjerg is a major supplier to the offshore industries as well as being a key fisheries location. Culture is also a main aspect of the city with it being a regular winner of the Danish City of Culture Award.

The opening contribution in this book is by the editors, who, as authors, detail the strategy behind the initiative of a co-located double conference for the European Alliance for Innovation. The first delegate paper is titled "The Farm Game: A Game Designed to Follow Children's Playing Maturity." The authors are Emmanouil Zidianakis, Kalliopi Stratigi, Danae Ioannidi, Nikolaos Partarakis, Margherita Antona, and Constantine Stephanidis from Forth University, Crete. Following is "A Tangible Augmented Reality Toy Kit: Interactive Solution" by Yujie Zhu and Stephen Jia Wang from Monash University, Australia. From Ulster University, Ireland, Prof. Paul McKevitt and colleagues contributed with their paper titled "SceneMaker: Creative Technology for Digital StoryTelling." "Structuring Design and Evaluation of an Interactive Installation Through Swarms of Light Rays with Human-Artifact Model" is next by Cumhur Erkut from Aalborg University, Copenhagen campus. The next contribution is "Gamify HCI: Device's Human Resolution for Dragging on Touch Screens in a Game with Lab and Crowd Participants" by authors Allan Christensen, Simon Andre Pedersen, and Hendrik Knoche from Aalborg University. Sara Hojjat, Chiaki Ikemoto, and Tomoyuki Sowa's contribution follows, discussing their body of work "Maze and Mirror Game Design for Increasing Motivation in Studying Science in

Elementary School Students." The next paper is titled "Towards a Wearable Interface for Immersive Telepresence in Robotics" by Uriel Martinez-Hernandez from Leeds University and Michael Szollosy, Luke Boorman, Hamideh Kerdegari, and Tony Prescott from Sheffield University. "Designing Digital Tools for Physiotherapy" follows by authors Gabriela Barbu Postolache, Raul Oliveira, and Octavian Postolache. Next is the contribution from Stephanie Nadarajah, Benjamin Overgaard, Peder Pedersen, Camilla Schnatterbeck, and Matthias Rehm, from Aalborg University, with their work titled "Enriching Location-Based Games with Navigational Game Activities." Next is "Pairing Craft-Making with Mandarin eBooks: An Investigation into the Potential Use of Craft for Language Learning by Preschoolers" by authors Wil-Kie Tan, Stephen Jia Wang, and Jeff Janet. "Toward a Decolonizing Approach to Game Studies: Philosophizing Computer Game with BCI" is the next chapter representing the body of work by Hyunkyoung Cho and Joonsung Yoon. Jean Botev, Ralph Marschall, and Steffen Rothkugel authored the contribution titled "CollaTrEx – Collaborative Context-Aware Mobile Training and Exploration." This is followed by Kristoffer Holm, Nicolai Skovhus Lind, and Martin Kraus, with their paper "Increasing the Perceived Camera Velocity in 3D Racing Games by Changing Camera Attributes." Søren Frimodt-Møller's sole-authored paper "Assessment of Stand-Alone Displays for Time Management in a Creativity-Driven Learning Environment" follows. Chulin Yang and Stephen Jia Wang's "Sandtime: A Tangible Interaction Featured Gaming Installation to Encourage Social Interaction Among Children" is next followed by "The Imitation Game to Cultural Heritage: A Human-Like Interaction-Driven Approach for Supporting Art Recreation" by Fiammetta Marulli and Luca Vallifuoco. Ben Challis, Angela Kang, Rachel Rimmer, and Mark Hildred are next with their paper titled "Enhancing the Multisensory Environment with Adaptive Game Audio Techniques." The contribution by Kasper Halkjær Jensen and Martin Kraus is next, titled "Investigating the Effect of Scaffolding in Modern Game Design." The paper following is "Multi-Kinect Skeleton Fusion for Enactive Games" by Nikolaj Marimo Støvring, Esbern Torgard Kaspersen, Jeppe Milling Korsholm, Yousif Ali Hassan Najim, Soraya Makhlouf, Alireza Khani and Cumhur Erkut. Eleanor Mulholland, Paul McKevitt, Tom Lunney, and Karl-Michael Schneider follow with their paper titled "Analyzing Emotional Sentiment in People's YouTube Channel Comments." Szu-Ming Chung and Chun-Tsai Wu are the next authors with "Mobile Device Applications for Head Start Experience in Music." Next is "The Effect of Interacting with Two Devices when Creating the Illusion of Internal State in Passive Tangible Widget" by Andreas Bork, Christoffer Heldbjerg Bech, Jakob Memborg Rosenlund, Lasse Birch Schøne, and Martin Kraus. Following is Georgios Triantafyllidis, Nikolaos Vidakis, and Kostas Kalafatis, who authored "Multimodal Detection of Music Performances for Intelligent Emotion-Based Lighting." "Widening the Experience of Artistic Sketchbooks" is next from Henning Christiansen and Bjørn Laursen. "Considerations and Methods for Usability Testing with Children" follows by Malene Hjortboe Andersen, Saifuddin Khalid, and Eva Brooks.

Sacha Kjærhus Therkildsen, Nanna Cassøe Bunkenborg, and Lasse Juel Larsen introduce their work in a paper titled "An Adaptation Framework for Turning Real-Life Events into Games: The Design Process of the Refugee Game." This is followed by "Emotion Index of Cover Song Music Video Clips Based on Facial Expression

Recognition" by Georgios Triantafyllidis, Georgios Kavalakis, and Nikolaos Vidakis. Next is Denis Stolyarov, Nikolay Borisov, Artem Smolin, Pavel Shcherbakov, and Vasiliy Trushin, whose paper is titled "The Opportunities of Applying the 360° Video Technology to the Presentation of Cultural Events."

Up next is a panel track led by chair Prof. Eva Brooks titled "Design of Interactive Environments for Inclusion." This included: "Learning Together Apart – The Impact on Participation when Using Dialogic Educational Technologies for Kids with Attention and Developmental Deficits" by Elsebeth Korsgaard Sorensen, Andersen, Hanne, Voldborg; "Learning by Designing Interview Methods in Special Education" by Lise Jönsson; "Powerlessness or Omnipotence – The Impact of Structuring Technologies in Learning Processes for Children with Attention and Developmental Deficits" by Andersen Sorensen. Adrià Arbués Sangüesa, Andreea-Daniela Ene, Nicolai Krogh Jørgensen, Christian Larsen, Daniel Aagaard Michelsanti, and Martin Kraus follow with "Pyramid Algorithm Framework for Real-Time Image Effects in Game Engines." "Engaging with the Intangible Cultural Heritage of the City" by Matthias Rehm and Kasper Rodil is next. This is followed by Jeon Myounghoon's paper titled "Aesthetic Computing for Representation of the Computing Process and Expansion of Perceptual Dimensions: Cases for Art, Education, and Interfaces." The final paper is "AcuTable: A Touch-Enabled, Actuated Tangible User Interface" by Simon Dibbern, Kasper Vestergaard Rasmussen, Daniel Ortiz-Arroyo, and Michael Boelstoft Holte.

In closing we are happy to report that responses were highly positive about the synching of the complementary co-location of the events such that a similar partnering under EAI will transpire in October 2017 in Crete.

January 2017

A.L. Brooks
E. Brooks

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