Workshops June 12, 2012

Interactive Technologies for Children with Special Needs
Tuesday, June 13, 09:00 am MZH 1st Floor Room 1100
Organized by Meryl Alper, Shuli Gilutz, and Juan Pablo Hourcade

Position papers should address the design, use, and evaluation of interactive technologies for children with special needs. Possible topics include:
- Design methods
- Applying theories to design and evaluation
- Best practices
- Evaluation and impact assessment
- Designing for the abilities of children with multiple impairments
- Individualizing approaches and other methods to address individual differences
- Addressing maturation
- Engaging typically developing peers
- Complying with regulations and guidelines

The workshop will provide all participants an opportunity to present their work and ideas. From these presentations, participants will select emerging themes to discuss. There will also be time to plan for future collaborations, including the publication of workshop outcomes.

Digital Fabrication for Educational Contexts
Tuesday, June 13, 01:00 pm MZH 1st Floor Room 1100
Organized by Dennis Krannich, Bernd Robben, Sabrina Wilske

In this workshop we want to discuss the concept of digital fabrication and demonstrate how this novel and diverse approach can be applied for educational contexts. Participants will discover and discuss the possibilities and impact of different digital fabrication technologies. This workshop is intended for practitioners of digital fabrication as well as newbies. Position papers or demos (2-4 pages following the ACM submission format) should address the design, use, or evaluation of digital fabrication technologies for educational contexts. Papers must be related to digital fabrication and should cover one or more of the following topics:
- tools and technologies (3D printing, laser cutting, etc.)
- educational concepts
- experience design
- open innovation
- best practices
- dissemination and establishment
- local and social practices

Registration Desk/Town Hall opening 06:00 pm

Conference Welcome at Town Hall
Tuesday, June 12, 07:00 pm

Anja Stahmann, Senator of Welfare, Children, Youth and Women's Affairs of the Free Hanseatic City of Bremen, Prof. Dr. Heidi Schelhowe, Conference Chair, Digital Media in Education, TZI, University of Bremen Prof. Panos Markopoulos, Director of Education, Department of Industrial Design, Eindhoven University of Technology
Doctoral Consortium
Tuesday, June 12, 09:00 am - 05:00 pm MZH 8th Floor Room 8090

Augmenting Imagination for Children with Autism (Zhen Bai)
Creating Physically Active Games for Young Adolescents (Remi Bec)
Designing for Emergent Play (Linda de Valk)
Developing Adaptive Exergames for Adolescent Children (Andrew Macvean)
Supporting Non-Formal Learning Through Co-design of Social Games With Children (Diego Alvarado)
The Choreography of Conceptual Development in Computer Supported Instructional Environments (Timothy Charoenying)
Towards a Socially Adaptive Digital Playground (Robby van Delden)
Waiting for Learning: Designing Interactive Educational Materials for Patient Waiting Areas (Zeina Leong)
Conference Opening

Wednesday, June 13, 09:00 am MZH 1st Floor Room 1380/1400
Prof. Dr. Heidi Schelhowe, Vice President, University of Bremen

Opening Keynote:
Exploring the world with the mouse

Wednesday, June 13, 09:00 am - 10:30 am MZH 1st Floor Room 1380/1400
Matthias Körnich, Commissioning Editor at WDR - Children and Family Programs

For over 40 years now the „Show with the Mouse“ is one of the most successful children’s programmes in Germany. With its mixture of cartoons, practical jokes and educational elements, its combination of fictional and factual stories, the „Show with the Mouse“ has secured its position as a strong brand, generating solely positive sentiments and thus becoming a symbol for a creative procurement of knowledge. Due to its easy to follow factual elements, „Ask the Mouse!“ has become a catchphrase, whenever a clever answer is needed. Probably one of the most important reasons for this phenomenal success is the fact that the show has never tried to follow any didactic concept, but has always carefully considered nothing but the needs and interests of its audience. This is exactly why, although they are separated in age by more than four decades, the concept of the „Show with the Mouse“ is so close to the concept of the iPad: Both consistently take merely their users’ needs into consideration and thereby allow them an intuitive use of their devices: The iPad, on the one hand, is a very direct and haptic gadget, which allows effortless access to the internet and world of computers; this is what makes it so ideal for children. On the other hand, the stories, which we tell in the „Show with the Mouse“, are also coined by an unconventional, intuitive approach to the world; this is their characteristic way of decoding reality. Both, the iPad and the „Show with the Mouse“ choose a purely explicatory approach: solely their user’s „inner child“ determines the point of view and focus of attention.

Since the very first episode of the „Show with the Mouse“, its production-team has never asked what they ought to explain to their audience; instead their leading question has always been what the children themselves prefer to watch. The unanticipated answer was: commercials. In other words: films, which entertain, are high-quality-productions and always bring across their message seemingly effortless. Creating „commercials for reality“ was - and still is? therefore the intention of the factual films featured in the „Show with the Mouse“: Because appreciating discoveries and asking questions means excitement; because the mouse as a character is curious and wants to make other people curious about the world. This distinctive point of view is what makes the factual stories of the show so unique. Learning how to ask questions and weave their answers into captivating storylines is mandatory for this approach. It still remains our firm, self-imposed standard, which stays the same, even when the show keeps re-inventing itself all the time to be up to date with an ever-changing reality. Its focus and foundation is never any didactic plan, but to stimulate curiosity, to induce the pleasure to explore and to play around. This is how questions like „Why is the sky blue?“, „How do stripes fit into toothpaste?“ and „Why are manholes round?“ find their way into the show: they are interesting and taken from everyday-life at the same time. They are instantly gripping and every step on the way develop into an even more exciting episode. This is what makes the „Show with the Mouse“ more authentic than other shows of its type, which, for example, feature a cartoon-frog trying to teach maths: Everyone notices their intention right away and is dispassionate.

Finally, this unique explorative approach of the „Show with the Mouse“ is mirrored in its website which also has a high usability and user experience. „Discover the world with the mouse!“ this is not only our established slogan for the TV show but now also a concept, which we have just started to implement online.
Session 1: Designing with Children  
Wednesday, June 13, 11:00 am - 12:30 pm MZH 1st Floor Room 1380/1400

Supporting the Design Contributions of Children with Autism Spectrum Conditions  
(Christopher Frauenberger, Judith Good, Alyssa Alcorn and Helen Pain)

Scandinavian Participatory Design - Dialogic Curation with Teenagers  
(Ole Sejer Iversen and Rachel Charlotte Smith)

DisCo: a Co-design Tool for Online, Asynchronous Distributed Child and Adult Design Patterns  
(Greg Walsh, Allison Druin, Mona Leigh Guha, Elizabeth Bonisgnore, Elizabeth Foss, Jason Yip, Evan Golub, Tamara Clegg, Quincy Brown, Robin Brewer, Asmi Joshi, Richelle Brown)

Session 2: Experience Systems  
Wednesday, June 13, 01:30 pm - 03:00 pm MZH 1st Floor Room 1380/1400

Revive! Reactions to Migration between Different Embodiments when Playing with Robotic Pets  
(Elena Marquez Segura, Henriette Cramer, Paulo F. Gomes, Stina Nylander and Ana Paiva)

Technology for Promoting Scientific Practice and Personal Meaning in Life-Relevant Learning  
(Tamara Clegg, Elizabeth Bonisgnore, Jason Yip, Helene Gelderblom, Alex Kuhn, Tobin Valenstein and Allison Druin)

Exploring Children’s “Indexical Encounter” with Real and Digitised Archive Photographs Using Tablet and Large Flat Screen Technologies  
(Susan Jane Jones, Lynne Hall and Janette Hilton)

Short Paper Poster Session  
Wednesday, June 13, 03:30 pm - 06:00 pm MZH 1st Floor Room 1380/1400

A Networked Suite of Mixed-Technology Robotic Artifacts for Advancing Literacy in Children  
(George Schafer; Keith Green; Ian Walker; Elise Lewis)

BeSound: Embodied Reflexion for Music Education in Childhood  
(Gualtiero Volpe; Giovanna Varni; Barbara Mazzarino; Anna Rita Addessi)

Building Examples: Media and Learning Affordances  
(Tiffany Tseng; Mitchel Resnick)

Characters as Agents for the Co-Design process  
(Catherine Grundy; Lyn Pemberton; Richard Morris)

Children’s Web Search with Google: The Effectiveness of Natural Language Queries  
(Yvonne Kammerer; Maja Bohnacker)

Creative Access to Technology: Building Sounding Artifacts with Children  
(Christoph Trappe)

Design Challenges and Concept for Intergenerational Online Learning  
(Verena Fuchsberger; Julia Nebauer; Christiane Moser; Manfred Tscheligi)

Designing Digital Media for Teen-Aged Apprentices: A Participatory Approach  
(Eva-Sophie Katterfeldt; Anja Zeising; Heidi Schelhowe)

Designing Textual Password Systems for Children  
(Janet Read; Brendan Cassidy)

Development and Evaluation of Fingu: A Mathematics iPad Game Using Multi-touch Interaction  
(Wolmet Barendregt; Berner Lindström; Elisabeth Rietz Leppänen; Ingemar Holgersson; Torgny Ottosson)

Development of Intelligent Play Practice for Trampolines  
(Helle Skovbjerg Karoff; Lars Elbaek; Sigrid Rytz Hansen)

Digitally Augmenting the Flannel Board  
(Maria Medeiros; Pedro Branco; Clara Coutinho)

Evaluation of the Puppet Theater Based on Inclusive Design Method: A Case Study of Fourth-year Elementary School Students With Normal Hearing  
(Ryohsei Egusa; Kumioko Wada; Miki Namatame; Fusako Kusunoki; Hiroshi Mizoguchi; Shigenori Inagaki)

From Tools to Communities: Designs to Support Online Creative Collaboration in Scratch  
(Ricarose Roque; Yasmin Kafai; Deborah Fields)

Group Interaction on Interactive Multi-touch Tables by Children in India  
(Izdihar Jamil; Mark Perry; Kenton O’Hara; Abhijit Karnik; Mark T Marshall; Swathi Jha; Sanjay Gupta; Sri ram Subramanian)

Growing Up with Nell: A Narrative Interface for Literacy  
(C. Scott Ananian; Chris J. Ball; Michael Stone)

Ilha Musical: A CAVE for Nurturing Cultural Appreciation  
(Anthônio Gomes; Hyun Joo Oh; Yoram Chisik; Monchu Chen)
Independent Exploration With Tangibles for Students With Intellectual Disabilities
(Taciana Pontual Falcao; Sara Price)
Interactive Applications for Children With Hearing Impairments: a Process of Inspiration, Ideation, and Conceptualization
(Pieter Duysburgh; Karin Sleegers; An Jacobs)
Material Pets, Virtual Spaces, Isolated Designers: How Collaboration May Be Unintentionally Constrained in the Design of Tangible Computational Crafts
(Maneksha Dumont; Victor R. Lee)
Math on a Sphere: Using Public Displays to Support Children's Creativity and Computational Thinking on 3D Surfaces
(Sherry Hsi; Michael Eisenberg)
Parents and Children Having and Using Technology - What Should We Ask?
(Matthew Horton; Janet C. Read)
Participatory Design for Exertion Interfaces for Children
(Pascal Landry; Narcis Parés; Roc Parés; Joseph Minsky)
Robotic Companion for Diabetic Children
(Marco Nalin; Ilaria Baroni; Alberto Sanna; Clara Pozzi)
Standing on the Shoulders of Their Peers: Success Factors for Massive Cooperation Among Children
Creating Open Source Animations and Games on Their Smartphones
(Tobias Gritschacher; Wolfgang Slany)
Time-Me: Helping Children Understand Time
(Azmina Karimi; Beth Liang; Andrew Nip; Saba Nowroozi; Celeste Pang)
Understanding Reading Experience to Inform the Design of eBooks for Children
(Luca Colombo; Monica Landoni; Elisa Rubegni)
Using Children’s Drawings to Elicit Feedback on Interactive Museum Prototypes
(Emma Nicol; Eva Hornecker)
v-Penglipur Lara: The Development of a Pedagogical Agent in Malaysian Folktales Land
(Masyarah Zulhaida Masmuzidin; Taoran Wan)
What Makes Competitions Fun to Participate? The Role of Audience for Middle School Youth Game Designers
(Yasmin Kafai; Quinn Burke; Chad Mote)
You Have to Die! Parents and Children Playing Cooperative Games
(Wolmet Barendregt)

Conference Dinner at „Bremer Ratskeller“
Wednesday, June 13, 07:00 pm
Am Markt 28195 Bremen 0421 321676
Prof. Dr. Yasemin Karakasoglu, Vice President for Intercultural and International Affairs
Registration Desk open 08:00 am - 06:00 pm MZH 1st Floor

Session 3: Design and Learning Contexts  
Thursday, June 14, 09:00 am - 10:30 am MZH 1st Floor Room 1380/1400

Embedding Technology in the Classroom: the Train-the-Teacher Model  
(Judy Robertson, Andrew Macvean and Katy Howland)

Family and Design in the CHI and IDC Communities  
(Sara Isola and Jerry Fails)

Fostering Early Literacy Skills in Children's Libraries: Opportunities for Embodied Cognition and Tangible Technologies  
(Camilla Jensen, Winslow Burleson and John Sadauskas )

Session 4: Interactive Technology for Algorithmic Thinking  
Thursday, June 14, 11:00 am - 12:30 pm MZH 1st Floor Room 1380/1400

Learning Kinematics in Elementary Grades Using Agent-based Computational Modeling: a Visual Programming-based Approach  
(Pratim Sengupta and Amy Farris)

Robo-Blocks: Designing Debugging Abilities in a Tangible Programming System for Early Primary School Children  
(Annan Sipitakiat and Nussarin Nusen )

Tangicons 3.0: an Educational Non-Competitive Collaborative Game  
( Florian Scharf, Thomas Winkler, Claudia Hahn, Christian Wolters and Michael Herczeg)

Session 5: Learning through Embodiment  
Thursday, June 14, 01:30 pm - 03:00 pm MZH 1st Floor Room 1380/1400

Sciensations: Making Sense of Science by Designing with Sensors  
(Katja Grufberg and Martin)

Impact of Embodied Interaction on Learning Processes: Design and Analysis of an Educational Application Based on Physical Activity  
(Laura Malinverni, Narcís Parés and Brenda López Silva)

The Choreography of Conceptual Development in Computer Supported Instructional Environments  
(Timothy Charoenying, Alex Gaysinsky and Kimiko Ryokai)

Welcome at German Emigration Center  
Thursday, June 14, 05:00 pm - 06:30 pm (shuttle bus service at 04:00)

Directorate of the German Emigration Center  
Keynote: Beyond Wild Dreams and High-Tech Fetishes: Learning about Media from Children in the Global South, Dr. Shakuntala Banaji, London School of Economics and Political Science, Department of Media and Communications
The world of research into children, young people, media and technology is often over-simplified via a series of binaries: techno-optimists versus techno-pessimists; design versus meaning; innovation versus risk; pedagogic versus leisure uses; and, of course, children on the one hand, adults on the other. In some projects educational designers and pedagogues call on insights from game design to attempt to make civic participation more appealing to children and youth or use social networking tools in managed virtual learning environments apparently to bring the worlds of school and home closer together. In other circumstances, technology companies team up with development organisations to promise parents and children in the global south the economic benefits of an innovative education if only particular combinations of broadband and mobile learning are employed. However, ethnographic and case-study based qualitative research about media, technology and learning with children, young people and teachers in both the developing and developed world suggests that many of these initiatives are painfully ignorant of the everyday realities both across non-urban areas in the developing world and across vast swathes of formal schooling in the developed world. In fact, fetishising digital design and technological tools at the expense of critical work on social contexts of leisure and learning, representation, political economy and children’s meaning-making is entrenching age-old divides of wealth, access, power and control, particularly for the world’s poorest children. Calling on research from a series of funded and unfunded research projects over the past decade in Europe and India, this paper will problematise some resilient theorisations of children, learning and technology, as well as the insights and agendas to be gained from a reflexive and integrated approach to meaning, media, design and sociocultural context.
Registration Desk open 08:00 am - 12:30 pm

Demonstration Sessions
Friday, June 15, 09:00 am - 10:30 am MZH 1st Floor Room 1100/1110

An Interactive Exploration System that Visually Supports Learning of Country Features
(Tomoko Kajiyama; Shin’ichi Satoh)

Bifocal Modeling: Combining Real and Virtual Models for Science Learning in a School Setting
(Paulo Blikstein; Daniel Greene; Tamar Furfmann; Shima Salehi)

Catroid: A Mobile Visual Programming System for Children (Wolfgang Slany)

Designing a Community to Support Long-term Interest in Programming for Middle School Children
(Kyle Harms; Jordana Kerr; Alexis Chuck; Michelle Icinco; Terian Kosick; Mark Santolucito; Caitlin Kelleher)

Designing the Anti-Heuristic Game: A Game Which Violates Heuristics (Gavin Sim)

Improving on a Physics-Based Programming System for Children
(Robert Sheehan; Ducksan Cho; Joon Ha Park)

Proportion: A Tablet App for Collaborative Learning (Jochen Rick)

Re-play: A Self-Documenting Construction Kit (Tiffany Tseng; Robert Hemsley; Mitchel Resnick)

t-books - Merging Traditional Storybooks with Electronics
(Cristina Sylla; Sérgio Gonçalves; Paulo Brito; Pedro Branco; Clara Coutinho)

Session 6: Digital Story Telling
Friday, June 15, 11:00 am - 12:30 pm MZH 1st Floor Room 1380/1400

CASTOR: Learning to Create Context-Sensitive and Emotionally Engaging Narrations In-Situ
(Fabio Pittarello and Luca Bertani)

Story Faces: Pretend-Play with Ebooks to Support Social-Emotional Storytelling
(Kimiko Ryokai, Hayes Raffie and Robert Kowalski)

Evaluation Investigation Children’s Opinions of Games: Fun Toolkit vs. This or That
(Gavin Sim and Matthew Horton)

Panel
Friday, June 15, 01:30 pm - 03:00 pm MZH 1st Floor Room 1380/1400

Moderator: Franca Garzotto, Short Paper Co-Chair, Associate Professor of Computer Engineering at
the Department of Electronics and Information, Politecnico di Milano
Nitin Sawhney, Ph.D. Assistant Professor of Media Studies, The New School for Public Engagement,
New York
Roger Meintjes, Researcher, University of Bremen
Dr. Shakuntala Banaji, London School of Economics and Political Science, Department of Media
and Communications
Juan Pablo Hourcade, Assistant Professor at the University of Iowa’s Department of Computer Science and a
member of the Delta Center

Closing Plenary and Invitation to IDC 2013
Friday, June 15, 04:00 pm MZH 1st Floor Room 1380/1400