

AUGMENTED HUMAN '13

4th International Conference in Cooperation with ACM SIGCHI

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Thursday, March 7

9:00–9:15 Opening & Introduction

Albrecht Schmidt, Andreas Bulling, and Christian Holz

9:15–10:45 Session 1: Augmenting Finger and Forearm



FingerDraw: More than a Digital Paintbrush short paper

Anuruddha Hettiarachchi, Suranga Nanayakkara, Kian Peen Yeo, Roy Shilkrot and Pattie Maes



SmartFinger: An Augmented Finger as a Seamless ›Channel‹ between Digital and Physical Objects short paper

Shanaka Ransiri and Suranga Nanayakkara



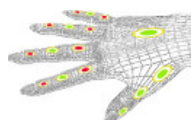
AugmentedForearm: Exploring the Design Space of a Display-enhanced Forearm short paper

Simon Olberding, Kian Peen Yeo, Suranga Nanayakkara and Jürgen Steimle



EyeRing: A Finger Worn Input Device for Seamless Interactions with our Surroundings full paper

Suranga Nanayakkara, Roy Shilkrot, Kian Peen Yeo and Pattie Maes



Whole Hand Modeling using 8 Wearable Sensors: Biomechanics for Hand Pose Prediction full paper

Christopher-Eyk Hrabia, Katrin Wolf and Mathias Wilhelm



Tangential Force Sensing System on Forearm full paper

Yasutoshi Makino, Yuta Sugiura, Masa Ogata and Masahiko Inami

10:45–11:15 Break + Poster Session

11:15–12:45 Session 2: Feedback



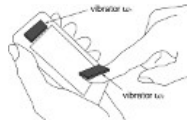
Manipulation of an Emotional Experience by Real-time Deformed Facial Feedback full paper

Shigeo Yoshida, Sho Sakurai, Takuji Narumi, Tomohiro Tanikawa and Michitaka Hirose



Development of Roller-Type Itch-Relief Device Employing Alternating Hot and Cold Stimuli short paper

Ryo Watanabe, Naoki Saito, Yuichiro Mori, Taku Hachisu, Michi Sato, Shogo Fukushima and Hiroyuki Kajimoto



Paired Vibratory Stimulation for Haptic Feedback full paper

Yasutoshi Makino and Takashi Maeno



Sensing the environment through SpiderSense full paper

Victor Mateevitsi, Brad Haggadone, Jason Leigh, Brian Kunzer and Robert Kenyon



Tactile Distance Feedback for Firefighters: Design and Preliminary Evaluation of a Sensory Augmentation Glove full paper

Anthony Carton and Lucy Dunne

12:45–14:00 Lunch

14:00–15:30 Session 3: Interaction and Mixed/Augmented Reality



Device-Free Interaction in Smart Domestic Environments short paper

Felix Heidrich, Ivan Golod, Peter Russell and Martina Ziefle



SEMarbeta: Mobile Sketch-Gesture-Video Remote Support for Car Drivers full paper

Sicheng Chen, Miao Chen, Andreas Kunz, Asim Evren Yantaç, Mathias Bergmark, Anders Sundin and Morten Fjeld



Urine Computer Interaction to Avoid Spattering: Study of Urination Handling short paper

Katsufumi Matsui, Kazunori Ogasawara, Emi Tamaki and Ken Iwasaki



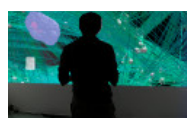
A Depth Cue Method Based on Blurring Effect in Augmented Reality full paper

Xueting Lin and Takefumi Ogawa



RoomSense: An Indoor Positioning System for Smartphones using Active Sound Probing full paper

Mirco Rossi, Julia Seiter, Oliver Amft, Seraina Buchmeier and Gerhard Tröster



A Sensing Architecture for Empathetic Data Systems short paper

Johannes Wagner, Florian Lingenfels, Elisabeth André, Daniele Mazzei, Alessandro Tognetti, Antonio Lanatà, Danilo De Rossi, Alberto Betella, Riccardo Zucca, Pedro Omedas and Paul F.M.J. Verschure

15:30–15:35 Break, Get Ready for Madness

15:35–15:45 Demo and Poster Madness

15:45–18:00 Demo and Poster Session + Coffee

18:15–19:15 Keynote by Thad Starner



Wearable Computing: Through the Looking Glass

Thad Starner

20:00–23:00 Conference Dinner

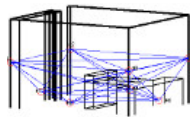


Grand Café Planie

Charlottenplatz 17
70173 Stuttgart
Phone: +49 711/29 25 53

Friday, March 8

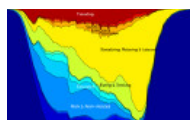
9:00–10:30 Session 4: Activity Recognition and Gait Analysis



Device-Free and Device-Bound Activity Recognition using Radio Signal Strength

full paper

Markus Scholz, Till Riedel, Mario Hock and Michael Beigl



Improving Activity Recognition without Sensor Data: A Comparison Study of Time Use Surveys

full paper

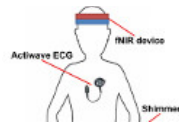
Marko Borazio and Kristof Van Laerhoven



Qualitative Activity Recognition of Weight Lifting Exercises

full paper

Eduardo Velloso, Andreas Bulling, Hans Gellersen, Wallace Ugulino and Hugo Fuks



Engineers Meet Clinicians: Augmented Parkinson's Disease Patients to Gather Information for Gait Rehabilitation short paper

Sinziana Mazilu, Eran Gazit, Ulf Blanke, Daniel Roggen, Jeffrey Hausdorff and Gerhard Troester



Experiencing the Ball's POV for Ballistic Sports full paper

Kodai Horita, Hideki Sasaki, Kris M.Kitani and Hideki Koike

10:30–11:00 Break + Poster Session

11:00–12:30 Session 5: Augmenting Human Cognition



Message Bag: Can Assistive Technology Combat Forgetfulness? short paper

Christine Farion and Matthew Purver



A Tool for Mental Workload Evaluation and Adaptation short paper

Inês Oliveira and Nuno Guimarães



Investigation of fNIRS Brain Sensing as Input to Information Filtering Systems full paper

Evan Peck, Daniel Afergan and Robert Jacob



Who are you? – A Wearable Face Recognition System to Support Human Memory short paper

Yuzuko Utsumi, Yuya Kato, Kai Kunze, Masakazu Iwamura and Koichi Kise



The Design of Artifacts for Augmenting Intellect full paper

Cassandra Xia and Pattie Maes



Sonification of Images for the Visually Impaired using a Multi-Level Approach full paper

Michael Banf

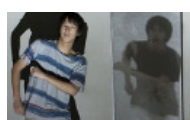
12:30–14:00 Lunch

14:00–15:30 Session 6: Lifestyle and Reconstruction



Swimoid: A Swim Support System using An Underwater Buddy Robot full paper

Yu Ukai and Jun Rekimoto



A System for Practicing Formations in Dance Performance Supported by Self-Propelled Screen full paper

Shuhei Tsuchida, Tsutomu Terada and Masahiko Tsukamoto

**NeuroPlace: Making sense of a place** short paper

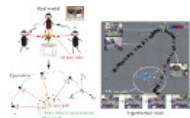
Eiman Kanjo and Lulwah Al-Barrak

**A Monitoring Device as Assistive Lifestyle Technology: Combining Functional Needs with Pleasure** short paper

Florian Güldenpennig and Geraldine Fitzpatrick

**Using RFID tags as reference for phone location and orientation in daily life** short paper

Florian Wahl and Oliver Amft

**Recovering 3-D gaze scan path and scene structure from inside-out camera** short paper

Yuto Goto and Hironobu Fujiyoshi

**3D Building Reconstruction and Thermal Mapping in Fire Brigade Operations** short paper

Christian Schönauer, Emanuel Vonach, Georg Gerstweiler and Hannes Kaufmann

15:30–16:00 Break + Poster Session

16:00–17:00 Session 7: Augmenting Human-Human Interaction

**Communication Pedometer: A Discussion of Gamified Communication Focused on Frequency of Smiles** full paper

Yukari Hori, Yutaka Tokuda, Takahiro Miura, Atsushi Hiyama and Michitaka Hirose

**A Smile/Laughter Recognition Mechanism for Smile-based Life Logging** full paper

Kurara Fukumoto, Tsutomu Terada and Masahiko Tsukamoto

**A System for Visualizing Human Behavior based on Car Metaphors** full paper

Hiroaki Sasaki, Tsutomu Terada and Masahiko Tsukamoto

17:00–17:15 Goodbye

Demo and Poster Session

Demos

**Geometrically Consistent Mobile AR for 3D Interaction** demo & poster

Hikari Uchida and Takashi Komuro

**Muscle-Propelled Force Feedback: bringing force feedback to mobile devices using electrical stimulation** demo & poster

Pedro Lopes, Lars Butzmann and Patrick Baudisch

**Augmented Reality Using a 3D Motion Capturing Suit** demo & poster

Ionut Damian, Mohammad Obaid, Felix Kistler and Elisabeth André

**Virtual Prototyping of a Spatial Audio Interface for Obstacle Avoidance using Image Processing** demo & poster

Yoko Nakanishi and Yasuto Nakanishi

**Caruso – Augmenting Users with a Tenor's voice** demo & poster

Jochen Feitsch, Marco Strobel and Christian Geiger

**Optimal Selection of Electrodes for Muscle Electrical Stimulation Using Twitching Motion Measurement** demo & poster

Manami Katoh, Narihiro Nishimura, Maki Yokoyama, Taku Hachisu, Michi Sato, Shogo Fukushima and Hiroyuki Kajimoto

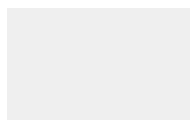
Posters

**Towards Participatory Design for Contextual Visualization in Education Using Augmented Reality X-ray** poster

Marc Ericson Santos, Mitsuki Terawaki, Takafumi Taketomi, Goshiro Yamamoto, Jun Miyazaki and Hirokazu Kato

**Evaluation of a Tactile Device for Augmentation of Audiovisual Experiences with a Pseudo Heartbeat** poster

Narihiro Nishimura, Taku Hachisu, Michi Sato, Shogo Fukushima and Hiroyuki Kajimoto

**Aero-Marker: Blimp-based Augmented Reality Marker for Objects with Virtual and Tangible Features** poster

Hiroaki Tobita

**A Real Time Gait Improvement Tool Using a Smartphone** poster

Hiroataka Kashihara, Hiroki Shimizu, Hiroyoshi Houchi, Masato Yoshimi, Tsutomu Yoshinaga and Hidetsugu Irie

**Applying Augmented Reality to Industrial Settings** poster

Elina Vartiainen, Peder Boberg, Oskar Qvarnström and Jonas Brönmark