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Contents

Supporters............................................................................................................................................................................ ix
Message from the General Chairs............................................................................................................................................... x
Message from the Program Chairs ......................................................................................................................................... xii
IEEE Visualization and Graphics Technical Committee (VGTC) ....................................................................................... xiii
Organizing Committee ............................................................................................................................................................ xiv
Program Committee ............................................................................................................................................................... xv
Steering Committee ................................................................................................................................................................ xv
Reviewers.............................................................................................................................................................................. xvi
Keynote Presentation: Taking the “Virtual” Out of Virtual Reality ..................................................................................... xviii
Carlo H. Séquin (University of California, Berkeley)
Banquet Presentation: What’s Next?: The Third Wave in Computer Graphics and Interactive Techniques ....................... xix
David J. Kasik (Boeing)
Capstone Presentation: Isn’t All Reality Really Virtual? ................................................................................................. xx
James J. Blascovich (University of California, Santa Barbara)

Short Papers

Session: Simulation

Crowd Simulation using Discrete Choice Model
Wenxi Liu, Rynson Lau, Dinesh Manocha

Session: Mixed and Augmented Reality

Spatial Augmented Reality for Environmentally-Lit Real-World Objects
Alvin J. Law, Daniel G. Aliaga

Session: Perception and Cognition

The Effects of Navigational Control and Environmental Detail on Learning in 3D Virtual Environments
Eric D. Ragan, Karl J. Huber, Bireswar Laha, Doug A. Bowman

Session: View Generation

Room-sized Informal Telepresence System
Mingsong Dou, Ying Shi, Jan-Michael Frahm, Henry Fuchs, Bill Mauchly, Mod Marathe

Session: Getting Physical

Increasing Agent Physicality to Raise Social Presence and Elicit Realistic Behavior
Joon Hao Chuah, Andrew Robb, Casey White, Adam Wendling, Samsun Lampotang, Regis Kopperk, Benjamin Lok

Evaluation of Visual and Force Feedback in Virtual Assembly Verifications
Mikel Sagardia, Bernhard Weber, Thomas Hulin, Carsten Preusche, Gerd Hirzinger

Puzzle Assembly Training: Real World vs. Virtual Environment
Mike Oren, Patrick Carlson, Stephen Gilbert, Judy M. Vance

Can Physical Motions Prevent Disorientation in Naturalistic VR?
Salvar Sigurdarson, Andrew P. Milne, Daniel Feuereissen, Bernhard E. Riecke
Session: Interaction Techniques

Self-Motion Illusions (Vection) in VR – Are They Good For Anything?  
Bernhard E. Riecke, Daniel Feuereissen, John J. Rieser, Timothy P. McNamara

Session: Locomotion 2

Sensor-Fusion Walking-in-Place Interaction Technique using Mobile Devices  
Ji-Sun Kim, Denis Gračanin, Francis Quek

A Taxonomy for Deploying Redirection Techniques in Immersive Virtual Environments  
Evan A. Suma, Gerd Bruder, Frank Steinicke, David M. Krum, Mark Bolas

The Cognitive Implications of Semi-Natural Virtual Locomotion  
William E. Marsh, Marisa Putnam, Jonathan W. Kelly, Veronica J. Dark, James H. Oliver

Session: Modeling with Depth Sensors

Reducing Interference Between Multiple Structured Light Depth Sensors Using Motion  
Andrew Maimone, Henry Fuchs

Posters

Optical Camouflage III: Auto-Stereoscopic and Multiple-View Display System using Retro-Reflective Projection Technology  
Yuji Uema, Naoya Koizumi, Shian Wei Chang, Kouta Minamizawa, Maki Sugimoto, Masahiko Inami

Automatic Color Realism Enhancement for Virtual Reality  
Hyunjung Shim, Seunghyu Lee

Shape Perception in 3-D Scatterplots Using Constant Visual Angle Glyphs  
Rasmus Stenholt, Claus B. Madsen

A User Study to Understand Motion Visualization in Virtual Reality  
Dane Coffey, Fedor Korsakov, Marcus Ewert, Haleh Hagh-Shenas, Lauren Thorson, Daniel F. Keefe

Shape-COG Illusion: Psychophysical Influence on Center-Of-Gravity Perception by Mixed-Reality Visual Stimulation  
Hiroki Omosako, Asako Kimura, Fumihisa Shibata, Hideyuki Tamura

NuNav3D: A Touch-less, Body-driven Interface for 3D Navigation  
Charilaos Papadopoulos, Daniel Sugarman, Arie Kaufman

Physics-Based Multi-Domain Subspace Deformation With Component Mode Synthesis  
Yin Yang, Xiaohu Guo

An Approach to Distributed Virtual Environment Performance Modeling: Addressing System Complexity and User Behavior  
H. Lally Singh, Denis Gračanin

Enhancing realism in virtual environments by simulating the audio-haptic sensation of walking on ground surfaces  
Rolf Nordahl, Stefania Serafin, Niels C. Nilsson, Luca Turchet

Are Motorized Wheelchairs an Effective Method of Locomotion in Virtual Environments?  
Amelia Nybakke, Ramya Ramakrishnan, Victoria Interrante

Examining the Equivalence of Simulated and Real AR on a Visual Following and Identification Task  
Cha Lee, Steffen Gauglitz, Tobias Höllerer, Doug A. Bowman

Mixing Real and Virtual Conferencing: Lessons Learned  
Ajay Surendernath, Geetika Sharma, Ralph Schroeder, Basant Kumar Pandey
Augmented Reality Goggles with an Integrated Tracking System for Navigation in Neurosurgery
Ehsan Azimi, Jayfus Doswell, Peter Kazanzides

An Approach to Comparative Studies in CAVE using a Virtual Black Wall
Ji-Sun Kim, Denis Gračanin

Smelling Screen: Technique to Present a Virtual Odor Source at an Arbitrary Position on a Screen
Haruka Matsukura, Tatsuhiro Yoneda, Hiroshi Ishida

Vibration Reproduction for a Virtual Yamahoko Parade System
Liang Li, Woong Choi, Yuichiro Hara, Kazuyuki Izuno, Keiji Yano, Kozaburo Hachimura

Parameterization of Sharable Display Area to Reproduce Appropriate Glasses-free Tabletop 3-D Images
Shunsuke Yoshida

Relighting with Free-form Polarized Reflectometry in Mixed Reality Space
Kaori Kikuchi, Taiki Wada, Ryosuke Ichikari, Asako Kimura, Fumihisa Shibata, Hideyuki Tamura

Floating Integral Photography Using Fresnel Mirror
Kazuhisa Yanaka, Masahiko Yoda, Terumichi Iizuka

Head-turning Approach to Eye-tracking in Immersive Virtual Environments
Andrei Sherstyuk, Arindam Dey, Christian Sandor

Comparing Three Interaction Methods for Manipulating Thin Deformable Virtual Objects
Johannes Hummel, Robin Wolff, Andreas Gerndt, Torsten Kuhlen

The Effects of Virtual Character Animation on Spatial Judgments
Eric D. Ragan, Curtis Wilkes, Yong Cao, and Doug A. Bowman

Comparison of Desktop, Head Mounted Display, and Six Wall Fully Immersive Systems using a Stressful Task
Kwanguk Kim, M. Zachary Rosenthal, David Zielinski, Rachel Brady

Augmented Reality for Forward-Looking Synthetic Aperture Radar
Lam Nguyen, Francois Koenig

Acoustically Enriched Virtual Worlds with Minimum Effort
Julia Fröhlich, Ipke Wachsmuth

Analysis of IR-based Virtual Reality Tracking Using Multiple Kinects
Srivishnu Satyavolu, Gerd Bruder, Pete Willemsen, Frank Steinicke

Immersive Training Games for Smartphone-Based Head Mounted Displays
Perry Hoberman, David M. Krum, Evan A. Suma, Mark Bolas

Generating Occlusion-free Textures for Virtual 3D Model of Urban Facades by Fusing Image and Laser Street Data
Karim Hammoudi, Fadi Dornaika, Bahman Soheilian, Bruno Vallet, Nicolas Paparoditis

General Bandwidth Reduction Approaches for Immersive LHRD Videoconferencing
Malte Willert, Stephan Ohl, Oliver Staadt

Virtual Reality in the Wild: A Self-Containing and Wearable Simulation System
Eric Hodgson, Eric Bachmann, David Waller, Andrew Bair, Andrew Oberlin

Flat-Shaped, Front-Face-Drive Scent Projector
Yasuyuki Yanagida, Tatsuya Tanakamaru, Hiroki Nagayam, Yuki Nomura, Toshimasa Aritake

Interval Training with Astrojumper
Andrea Nickel, Hugh Kinsey, Heidi Haack, Mykel Pendergrass, Tiffany Barnes

New Input Modalities for Modern Game Design and Virtual Embodiment
Reinhold Scherer, Markus Pröll, Brendan Allison, Gernot R. Müller-Putz
Demos

Mirracle: Augmented Reality In-situ Visualization of Human Anatomy Using a Magic Mirror  
Tobias Blum, Valerie Kleeberger, Christoph Bichlmeier, Nassir Navab

Game-Based Rehabilitation: The JewelMine Game A Balance and Upper Limb Rehabilitation System Based on the Depth-Sensing Camera of the Microsoft Kinect  
Belinda Lange, Albert Rizzo, Evan Suma, Eric McConnell, Chien-Yen Chang, Sebastian Koenig, Rick Juang, Mark Bolas

STRIVE: Stress Resilience in Virtual Environments, A Pre-Deployment Virtual Reality System for Teaching Stress Resilience and Assessing Chronic and Acute Stress Responses  
J. Galen Buckwalter, Albert Rizzo, Bruce John, Brad Newman, Josh Williams, Thomas Parsons

ARBBlocks: A Projective Augmented Reality Platform for Educational Activities  
Rafael Alves Roberto, Veronica Teichrieb

Navigating Large Data Sets in Virtual Worlds  
Huaiyu Liu, Mic Bowman, Robert Adams, Dan Lake, Jerry Talton, Sean Koehl, and Robert Noradki

Virtual Reality to Go A USC ICT Mixed Reality Lab Demonstration  
David Krum, Evan Suma, Mark Bolas

Mixed Reality Game Prototypes for Upper Body Exercise and Rehabilitation  
Marientina Gotsis, David Turpin, Amanda Tasse, Diane Tucker, Maximilian Swider, Maryalice Jordan-Marsh, Vangelis Lympouridis, Irina C. Poulos, Alasdair G. Thin

Tutorials

An in-depth introduction to virtual reality programming  
Organizer: William R. Sherman

Quantitative and Qualitative Methods for Human-Subject Experiments in Virtual and Augmented Reality  
Organizers: Joseph L. Gabbard, Jr, J. Edward Swan II, Stephen R. Ellis

Trends in Mobile AR  
Organizers: Dieter Schmalstieg, Tobias Höllerer

Designing immersive VR systems: from bits to bolts  
Organizers: Luciano P. Soares, Joaquim A. Jorge

Workshops

IEEE VR 2012 Workshop on Off-The-Shelf Virtual Reality  
Organizers: Evan A. Suma, David M. Krum, Mark Bolas

Immersive Visualization Revisited: Challenges and Opportunities  
Organizers: Gerwin de Haan, Bernd Hentschel, Daniel Keeffe, Oliver Kreylos

AMBIT 2012 (The First International Workshop on Ambient Information Technologies)  
Organizers: Yuichi Itoh, Hideyuki Ando, Kiyoshi Kiyokawa, Satoshi Kurihara, Hiroyuki Ohsaki, Tatsuohiro Tsuchiya, Naoki Wakamiya

Message from the Workshop Organizers  
Yuichi Itoh, Hideyuki Ando, Kiyoshi Kiyokawa, Satoshi Kurihara, Hiroyuki Ohsaki, Tatsuohiro Tsuchiya, Naoki Wakamiya

Invited Talk: Ambient Intelligence for Network Robot Systems  
Norihoro Hagita, ATR Intelligent Robotics and Communication Laboratories, Japan
A Content Search System for Mobile Devices based on User Context Recognition
Tomohiro Mashita, Daisjiro Komaki, Mayu Iwata, Kentaro Shimatani, Hiroki Miyamoto, Takahiro Hara, Kiyoshi Kiyokawa, Haruo Takemura, Shojoir Nishio

Owens Luis - A Context-aware Multi-modal Smart Office Chair in an Ambient Environment
Kiyoshi Kiyokawa, Masahide Hatanaka, Kazufumi Hosoda, Masashi Okada, Hironori Shigeta, Yasunori Ishihara, Fukuhito Ooshita, Hirotugu Kakugawa, Satoshi Kurihara, Koichi Moriyama

Unobtrusive Measurement of Subtle Nonverbal Behaviors with the Microsoft Kinect
Nathan Burba, Mark Bolas, David M. Krum, Evan A. Suma

Turn-taking Supports Humanlikeness and Communication in Perceptual Crossing Experiments - Toward developing human-like communicable interface devices
Hiroyuki Iizuka, Davide Marocco, Hideyuki Ando, Taro Maeda

Ambient Suite: Room-shaped Information Environment for Interpersonal Communication
Kazuyuki Fujita, Yuichi Itoh, Hiroyuki Ohsaki, Naoaki Ono, Keiichiro Kagawa, Kazuki Takashima, Sho Tsugawa, Kosuke Nakajima, Yusuke Hayashi, Fumio Kishino

Human Activity Recognition for a Content Search System Considering Situations of Smartphone Users
Tomohiro Mashita, Kentaro Shimatani, Mayu Iwata, Hiroki Miyamoto, Daisjiro Komaki, Takahiro Hara, Kiyoshi Kiyokawa, Haruo Takemura, Shojoir Nishio

Adaptive interactive device control by using reinforcement learning in ambient information environment
Junya Nakase, Koichi Moriyama, Kiyoshi Kiyokawa, Masayuki Numaoy, Mayumi Oyamaz, Satoshi Kurihara

Implementation of a Smart Office System in an Ambient Environment
Hironori Shigeta, Junya Nakase, Yuta Tsunematsu, Kiyoshi Kiyokawa, Masahide Hatanaka, Kazufumi Hosoda, Masashi Okada, Yasunori Ishihara, Fukuhito Ooshita, Hirotugu Kakugawa, Satoshi Kurihara, Koichi Moriyama

Pseudo-attraction Force Display Using Vibrating Motors - Design of asymmetric oscillation for generating an illusion of being pulled
Hidenori Hamaguchi, Masataka Niwa, Hiroyuki Iizuka, Hideyuki Ando, Taro Maeda

Toward Large-Scale and Dynamic Social Network Analysis with Heterogeneous Sensors in Ambient Environment
Sho Tsugawa, Hiroyuki Ohsaki, Yuichi Itoh, Naoaki Ono, Keiichiro Kagaway, Kazuki Takashimaz, Makoto Imase

FuSA2 Touch Display: A Furry and Scalable Multi-touch Display
Kosuke Nakajima, Yuichi Itoh, Takayuki Tsukitani, Kazuyuki Fujita, Kazuki Takashima, Yoshifumi Kitamura, Fumio Kishino

Cup-le: A Cup-Shaped Device for Conversational Experiment
Yusuke Hayashi, Yuichi Itoh, Kazuki Takashima, Kazuyuki Fujita, Kosuke Nakajima, Ikuo Daibo, Takao Onoye