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Gesture and Sign Language in Human-Computer Interaction and Embodied Communication

9th International Gesture Workshop, GW 2011
Athens, Greece, May 25-27, 2011
Revised Selected Papers

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Preface

The 9th International Gesture Workshop, GW 2011, was held in Athens, Greece, May 25–27, 2011, and was hosted by the Institute for Language and Speech Processing / ATHENA R.C. and the National and Kapodistrian University of Athens. The focus of this event was placed on the study of gestures and sign language in the framework of embodied communication and human-computer interaction, following the interdisciplinary tradition of Gesture Workshops since 1996.

The wide range of topics covered and the number of high-quality presentations composing the GW 2011 program (<http://access.uoa.gr/gw2011>) reflect the steady growth of interest of the research community worldwide in the study of human gesture, spanning across a variety of domains from the cognitive and psychological aspects of gesture analysis, human-computer and human-robot interaction to sign language research, Web 2.0 applications, and dancing and music notation systems.

Invited contributions by keynote speakers sketched the state of the art and spotted future perspectives in gesture research within the multimodal, embodied human communication landscape. Stefan Kopp put the emphasis on the use of gestures in real and simulated dialogue focusing on developing and testing empirically-based computational simulations of speech and gesture behavior and their exploitation in building embodied artificial agents that can engage in human-like interactive behavior. Sylvie Gibet focused on issues relating to the analysis and synthesis of sign language gestures, highlighting the tight connection between high-level semiotic and cognitive representation processes connected with gesture analysis to then propose a methodology for analyzing and synthesizing human expressive and semiotic gestures using sign language gestures for a case study. Petros Maragos presented an overview of ideas, methods, and research results in multimodal sensory information processing with emphasis on audio-visual signal fusion and on integration of low-level (signal-based) information with high-level (semantics-based) information.

During the conference, 35 submissions, peer reviewed based on extended abstracts of 4–6 pages, were presented. This book gathers a collection of 24 selected articles on work originally presented at GW 2011, revised and peer reviewed after the event. The articles are ordered in five sections:

- Human Computer Interaction
- Cognitive Processes
- Notation Systems and Animation
- Gestures and Signs: Linguistic Analysis and Tools
- Gestures and Speech.

Thus, the contents of this volume are representative of the multitude of research areas which compose the range of interests of the Gesture Workshops community.

We are grateful to the authors of the articles in the volume and also to the reviewers, who contributed to the quality of the work presented with most constructive input. We hope that the present volume will be as inspiring for its interdisciplinary audience as the preceding ones in the GW series. Thanks also to Christian Vogler and the local committee, Dimitrios Chalastanis, Athanasia-Lida Dimou, Maria Emmanouil, Vasileios Golematis, Theodor Goulas, Panayiotis Kariotis, Alexandros Pino, and Ariadni Velissaropoulou, and to the GW 2011 webmaster Hernisa Kacorri, as well as to the teams at ILSP/ATHENA RC and the University of Athens for hosting the event and contributing to experiencing an inspiring meeting. Last but not least, financial support by the University of Athens, ILSP/ATHENA RC, and Innoetics Ltd is gratefully acknowledged.

May 2012

Eleni Efthimiou
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Table of Contents

Human Computer Interaction

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Gestures in Assisted Living Environments | 1 |
| <i>Dimitra Anastasiou</i> | |
| Using Wiimote for 2D and 3D Pointing Tasks: Gesture Performance Evaluation | 13 |
| <i>Georgios Kouroupetroglou, Alexandros Pino, Athanasios Balmpakakis, Dimitrios Chalastanis, Vasileios Golematis, Nikolaos Ioannou, and Ioannis Koutsoumpas</i> | |
| Choosing and Modeling the Hand Gesture Database for a Natural User Interface | 24 |
| <i>Przemysław Głomb, Michał Romaszewski, Sebastian Opozda, and Arkadiusz Sochan</i> | |
| User Experience of Gesture Based Interfaces: A Comparison with Traditional Interaction Methods on Pragmatic and Hedonic Qualities . . . | 36 |
| <i>Maurice H.P.H. van Beurden, Wijnand A. IJsselsteijn, and Yvonne A.W. de Kort</i> | |
| Low Cost Force-Feedback Interaction with Haptic Digital Audio Effects | 48 |
| <i>Alexandros Kontogeorgakopoulos and Georgios Kouroupetroglou</i> | |

Cognitive Processes

| | |
|-----------------------------------------------------------------------------------------------------------------|----|
| The Role of Spontaneous Gestures in Spatial Problem Solving | 57 |
| <i>Mingyuan Chu and Sotaro Kita</i> | |
| Effects of Spectral Features of Sound on Gesture Type and Timing | 69 |
| <i>Mariusz Kozak, Kristian Nymoen, and Rolf Inge Godøy</i> | |
| Human-Motion Saliency in Complex Scenes | 81 |
| <i>Fiora Pirri, Matia Pizzoli, and Matei Mancias</i> | |
| What, Why, Where and How Do Children Think? Towards a Dynamic Model of Spatial Cognition as Action | 93 |
| <i>Marilyn Panayi</i> | |

Notation Systems and Animation

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| A Labanotation Based Ontology for Representing Dance Movement | 106 |
| <i>Katerina El Raheb and Yannis Ioannidis</i> | |
| ISOCat Data Categories for Signed Language Resources | 118 |
| <i>Onno Crasborn and Menzo Windhouwer</i> | |
| Assessing Agreement on Segmentations by Means of <i>Staccato</i> , the <i>Segmentation Agreement Calculator according to Thomann</i> | 129 |
| <i>Andy Lücking, Sebastian Ptock, and Kirsten Bergmann</i> | |
| How Do Iconic Gestures Convey Visuo-Spatial Information? Bringing Together Empirical, Theoretical, and Simulation Studies | 139 |
| <i>Hannes Rieser, Kirsten Bergmann, and Stefan Kopp</i> | |
| Thumb Modelling for the Generation of Sign Language | 151 |
| <i>Maxime Delorme, Michael Filhol, and Annelies Braffort</i> | |

Gestures and Signs: Linguistic Analysis and Tools

| | |
|-----------------------------------------------------------------------------------------------------------------------------|-----|
| Toward a Motor Theory of Sign Language Perception | 161 |
| <i>Sylvie Gibet, Pierre-François Marteau, and Kyle Duarte</i> | |
| Analysis and Description of Blinking in French Sign Language for Automatic Generation | 173 |
| <i>Annelies Braffort and Emilie Chételat-Pelé</i> | |
| Grammar/Prosody Modelling in Greek Sign Language: Towards the Definition of Built-In Sign Synthesis Rules | 183 |
| <i>Athanasia-Lida Dimou, Theodore Goulas, and Eleni Efthimiou</i> | |
| Combining Two Synchronisation Methods in a Linguistic Model to Describe Sign Language | 194 |
| <i>Michael Filhol</i> | |
| Sign Segmentation Using Dynamics and Hand Configuration for Semi-automatic Annotation of Sign Language Corpora | 204 |
| <i>Matilde Gonzalez and Christophe Collet</i> | |

Gestures and Speech

| | |
|--------------------------------------------------------------------------------------|-----|
| Integration of Gesture and Verbal Language: A Formal Semantics Approach | 216 |
| <i>Gianluca Giorgolo</i> | |
| Generating Co-speech Gestures for the Humanoid Robot NAO through BML | 228 |
| <i>Quoc Anh Le and Catherine Pelachaud</i> | |

| | |
|-------------------------------------------------------------------------------------------------|------------|
| Interaction between Speech and Gesture: Strategies for Pointing to Distant Objects | 238 |
| <i>Thies Pfeiffer</i> | |
| Making Space for Interaction: Architects Design Dialogues | 250 |
| <i>Claude P.R. Heath and Patrick G.T. Healey</i> | |
| Iconic Gestures in Face-to-Face TV Interviews | 262 |
| <i>Maria Koutsombogera and Harris Papageorgiou</i> | |
| Author Index | 275 |