

AHRC ICT Methods Network Workshop

WHOLE BODY INTERACTION: THE DIGITAL FUTURE OF THE HUMAN BODY

LIVERPOOL JOHN MOORES UNIVERSITY, 22-23RD NOVEMBER 2007

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Summary

The workshop ran as planned with twenty delegates. The planned outcomes of the workshop website, presentations, discussions and position papers were achieved. A range of topics were discussed leading to future research questions in Whole Body Interaction. Some future activities in terms of events and publication have been proposed. There are some lessons for workshop organization, namely pre-workshop activities and handling video material.

Activities

The Whole Body Interaction workshop ran over two days with a first day of planned keynote presentations and a second day of group discussions around the workshop themes. Twenty people attended and the majority submitted position papers. Delegate and presenters were also asked to make entries in the workshop blog created at the Digital Arts and Humanities community site (http://www.arts-humanities.net/digital_body) prior to the event. The position papers are listed as an appendix.

The keynote presentations were:

Peter Wright, Sheffield Hallam University: *Subjectivity and Whole Body Interaction*

Jos Vanrenterghem, Sports Science, Liverpool John Moores University: *Demonstration of Motion Capture for Whole Body Interaction*

Jennifer G. Sheridan, BigDog Interactive Ltd: *Frameworks for Performance*

Taleb-Bendiab, Computing, Liverpool John Moores University: *Bio-Cybernetic Control for Whole Body Interaction*.

Time was allowed at the end of each presentation for further discussion. Discussions also continued over the coffee breaks, lunch and at the evening event visiting the Turner Prize exhibition at Tate Liverpool.

The keynote presentations, author bios and abstracts are available on the workshop web page at <http://lister.cms.livjm.ac.uk/homepage/staff/cmsdengl/AHRC/index.html>. Delegates' position papers are also available. The keynote presentations were also videoed though still need to be edited for wider dissemination.

Common themes which emerged from the discussions on the first day were those of frameworks for conceptualizing Whole Body Interaction and creating a shared language and terminology for framing research questions.

The second day consisted of group discussions with delegates split into two groups in the morning and afternoon. Each group then gave a presentation in the final afternoon session.

The topics that the groups discussed included:

- What would be the criteria for a useful and successful framework for addressing the research questions of Whole Body Interaction?
- What are some of the basic lessons that can be learned from previous attempts to framework the topic?
- Can we come up with a set of concepts and a terminology to support interdisciplinary design, analysis and evaluation?
- The mappings of the bodies' movement to the system's interpretation of that movement; were movements required physically possible? Did the system only expect normal movements – what of abnormal, exaggerated or other out of range movements?
- We also discussed the users' understanding and comprehension of the mappings and metaphors of their movement to system reaction. Could the user and system mutually adapt or would users be forced to adapt their body movements?
- We considered the scope of whole body interaction and body as a data source for:
 - Physical Presence/Cartesian Space – posture, movement, location, orientation
 - Physiological – Heart rate, breath volume and rate, skin resistance as both data and control
 - Human senses – taste, smell, kinaesthetic, vision, speech/sound, balance and the possibilities for synaesthesia between two or more senses.
- This led on to a further discussion of multimodal interaction in the Whole Body context.
- We also considered the context of interaction and whether it was performative and/or participatory and whether the user was a witting or unwitting interactor with the system.

Lessons

In terms of lessons for future workshops, there was a relatively short lead-time between announcing the workshop and the event itself. Thus some of the hoped for pre-event activities were not fully realised, for example, blogging and discussion prior to the workshop and the uploading of position papers in time for people to read and absorb them. Also the time needed to edit and prepare video material for uploading was under-estimated and this is still to be done.

List of position papers

Abdenmour El Rhalibi: *The Challenge of Consumer Grade Virtual Reality*

Paul Fergus: *The Body as a Digital Device*

Karen Johanne Kortbek: *Whole Body Interaction*

David Llewellyn-Jones: *Security Visualisation and Control Using Virtual Environments*



Sam Jones: *Sonic Streams*

Paul Marshall: *The ShareIT project: investigating physical activity in collaboration*

Pablo Romero, Embodied: *interaction in authoring environments*

Gaynor Sweeney: *Re-reproduction: The Digital Nucleus and the Artificial*