

CALL FOR PAPERS

AISB 2007 Symposium Mindful Environments

Dirk Heylen & Stacy Marsella

April 2nd-5th, 2007 (Mindful Environments is a one day workshop in this period)

This year the theme of AISB workshops is on Artificial and Ambient Intelligence. One of the key paradigms for interaction envisaged for Ambient Environments does not just involve disappearing computers, but also a disappearing interface. "Natural interaction", or an intelligent system that can determine at any time what the inhabitants of the environment need and long for, constitutes the holy grail of ambient interaction. In this sense, the environment should be able to make conjectures of the mental state of users as accurately as possible – similar to the way we can read the minds of others. Most computational research to date on detecting the mental state of people have failed to consider the full range of mental states that people display in natural interactions and the full range of displays of the various mental states. They have not been able to capture how humans communicate their intentions, the intricacies of mental life and have often ignored ecological validity. This workshop would like to address the question how to go beyond the rather simplistic notions regarding natural interaction in mindful environments. In order to be able to build such systems, we need to integrate the knowledge we have about how people show what's on their mind and how people go about building theories of what goes on in the minds of others. One of the aims of this workshop is to bring together an interdisciplinary group of researchers to discuss the state of the art of the research on computational modeling and system building that is directed towards the ability to *recognize* and *represent* the intentions and other aspects of the mental state of a person interacting with others and with computational systems in an (ambient) environment. Another aim of this workshop is to discuss how the computational models could inform empirical and theoretical research in human social processes, through formalization and simulation, for instance.

Some of the kinds of studies of interest are the following.

- Studies of behaviors and the models of behavior that people display in interacting with each other and the environment. How can we really tell what goes on into another person's mind? What cues do people use and how can we rely on them? How can the features be detected? What is needed to interpret them?
- Studies into cognitive modeling: alternative theories have been proposed for how people come to understand beliefs, desires and intentions of others, a theory of mind. How can we model these theories? How do current computational models of theory of mind compare to these theories and how do we evaluate them? How can computational models and simulations inform knowledge about human processing and vice versa?
- Studies in system development for the intelligent environment such as robots and virtual humans. What should a cognitive model of an intelligent interactive environment look like? What should a representation of the mind look like? Which categories need to be represented (intentions, beliefs, attitudes, emotions, action tendencies)?

To help answer questions like these related to behaviors and modules, on modeling and simulation-based studies of communication and cognition, and on system building, we would like to receive contributions of a variety of disciplines. From researchers studying natural systems, such as humans, that are equipped with mind-reading skills to system engineers involved in building computational systems; from linguistic, psychology, sociology, computational modeling (simulation, (multi-)agent systems), signal processing, et cetera. Particularly of interest are contributions that integrate multiple perspectives.

Deadline: January 8, 2007

Original submission: 4 page extended abstract

Notification: February 5, 2007

Final version (full paper) due: February 23, 2007

Abstracts (pdf) should be sent to both heylen@ewi.utwente.nl and marsella@isi.edu.

The lay-out should comply with the general AISB format.

AISB website: <http://www.aisb.org.uk/convention/aisb07>

Workshop website: <http://hmi.ewi.utwente.nl/conference/ME>