

A Sensual Evaluation Instrument

Katherine Isbister, Rensselaer Polytechnic Institute, U.S.A., isbisk@rpi.edu

Kristina Höök and Jarmo Laaksolahti, Department of Computer and Systems Sciences, Royal Institute of Technology/Stockholm University, Sweden, {kia, jarmo}@sics.se

The Sensual Evaluation Instrument is a tool for self-assessment of affect while interacting with computer systems. Our efforts in developing this tool have been shaped by our past work in understanding and enhancing nonverbal communication, our commitment to participatory design, and our interest in trans-cultural methods to support global design practice. Our research approach thus arose from several baseline principles:

- 1) a belief that freeing the person giving us affective feedback from words, and incorporating the use of their body to give feedback, will be beneficial
- 2) the belief that self-report is a valuable practice, as part of a user-centred design approach
- 3) an interest in creating a flexible and portable tool that can be widely used, that could transcend language and culture.

Toward this end, we have crafted a set of sculptural objects (see image) that can be used to indicate affect during use of a system.



Objects crafted for the Sensual Evaluation Instrument

The objects are meant to evoke different emotions in the user. However, objects have no predefined meaning. Instead, users are free to make their own coupling between objects and emotions. The basic idea is that, instead of verbal reports of their experiences, subjects will *use* objects in a way that subjectively reflects their experience during interaction with a system. This can for instance mean, moving active objects closer to themselves, arranging multiple objects in some fashion or *handling* them in some other way.

Prior to using the object set, subjects calibrate it in some way, e.g. by using it to indicate affective responses to pictures from the IAPS (International Affective Picture Set) (Lang et al, 2005), or arranging the objects in a Russel circle (Russe, 1980). Calibration makes it possible to compare subjects' use of the objects although they may have assigned different meaning to them.

Our development process was a user-centred one, conducted in several stages, with input along the way: an initial brainstorming stage (spring 2004, Stockholm); early, open-ended concept testing (summer 2004, Stockholm); refinement of the research instrument (fall 2004/winter 2005, U.S.); and open-ended testing of the prototype tool (spring 2005, U.S.). We also conducted a test of the prototype tool in a second culture (summer 2005, Stockholm) the results of which are still being analyzed. Results from the initial testing have indicated that the tool has promise as a flexible way for users to indicate affect to designers, and these findings have been submitted to the annual CHI conference for consideration as a full paper.

In the next phase of development, we plan to use the Sensual Evaluation Instrument with designers who are seeking affective feedback from users about their work, with preference given to HUMAINE members' projects.

The method demo

During the demo participants will act as subjects and first calibrate the object set and then use it to evaluate their experience of playing a computer game. We will then show how the gathered data may be analyzed and illustrate what kind of conclusion may be drawn from it.

References

Lang, P.J., Bradley, M.M., & Cuthbert, B.N. 2005. Interational Affective Picture System (IAPS): Digitized Photographs, Instruction Manual and Affective Ratings. Technical Report A-6. Gainesville, FL. The Center for Research in Psychophysiology, University of Florida.

Russell, J.A. 1980. A Circumplex Model of Affect, *Journal of Personality and Social Psychology* 39(6), pp. 1161-1178, American Psychological Association.