

Emotion in HCI

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ABSTRACT

An increasing number of conferences, symposia, workshops, journals and books address the subject of emotions and their role in Human-Computer Interaction, including workshops at the last two HCI conferences. The need for discussion, exchange of ideas, and interdisciplinary collaboration is ever-increasing as the community grows. This workshop will meet the requirements of individuals working in fields affected by emotion, giving them a podium to raise their questions and work with like-minded people of various disciplines on common subjects. It will focus around four sessions, and will use predominantly small group work, rather than being presentation-based.

Categories and Subject Descriptors

C.5 Computer System Implementation, D.2 Software Engineering, H1.2 User/Machine Systems, H5.m. Information interfaces and presentation

General Terms

Algorithms, Management, Measurement, Performance, Design, Economics, Reliability, Experimentation, Human Factors, Languages, Theory, Legal Aspects, Verification.

Keywords

Emotions, Affective Computing, Design, Applications, Sensing, Theories, Human-Computer Interaction, Emotion Recognition

1. INTRODUCTION

Emotion plays an important role in our interactions with people and computers in everyday life. Emotions, some believe, are what make our interactions human. Rosalind Picard's fundamental publications [1, 2, 3, 4] on affective computing increased awareness in the HCI community of the important role of emotion in human-computer interactions. Since then, researchers have also become increasingly aware of the importance of emotion in the design process [5]. This recent

affective awareness is leading designers and HCI researchers to try and understand the subtleties of emotion and its effect on our behaviours. This is encouraging for a young field of research, and there exists many exciting directions where this field may be expanded.

Emotion theory, however, is not grounded in the HCI discipline. Studying emotion within the HCI discipline is an inherently interdisciplinary task. The specific areas of interest span recognition and synthesis of emotion in face and body, emotion sensors, speech specifics, and the influence of emotion on information processing and decision-making. Despite these different areas of interest, there are common obstacles each of us face in our work. Given that we ask similar questions about emotion and could benefit from learning about solutions others have devised, a workshop at HCI 2007 will serve as a good format for discussion.

There have been workshops on the role of emotion in HCI at the last two conferences [6, 7]. They proved to be a good meeting place for like-minded people investigating several aspects of emotion in the wide field of HCI. As such, they had a fairly wide basis and participants worked collaboratively on selected topics, with tangible results [8]. Building on the last workshops' success, this year's workshop aims at bringing the community further together and continuing the consolidation process. As participants last year suggested and contributors to the mailing list [9] confirmed, this year's workshop will be more focussed on selected topics based on the contributions.

Contributions are encouraged to the following topics:

- How do applications currently make use of emotions?
- What makes applications that support affective interactions successful?
- How do we know if affective interactions are successful, and how can we measure this success?
- What value might affective applications, affective systems, and affective interaction have?
- What technology is currently available for sensing affective states?
- How reliable is sensing technology?
- Are there reliable and replicable processes to include emotion in HCI design projects?
- What opportunities and risks are there in designing affective applications?

With the workshop being very interactive and focused on selected topics, it is expected that the outcome of the workshop will be even more tangible than its two predecessors, which

themselves resulted in a Springer book to be published this year. We aim for citable outputs this year as well.

2. WORKSHOP PROCEDURE

We will solicit submission of position papers related to the subject. Case study papers describing current applications or prototypes are strongly encouraged. As a way of bringing the domain to life, presentations of products or prototypes that participants have been involved in are highly encouraged. The call for papers will be submitted to relevant newsgroups and mailing lists, within relevant European Networks of Excellence such as emotion-research.net, and published on the workshop's website. Papers will be reviewed by the workshop's committee members.

A short reading list of online papers will be prepared for all accepted participants, to allow them to acquaint themselves with the basics of the domain, so that the workshop sessions can assume a common baseline and be as productive as possible.

The format of the workshop is designed to encourage interaction between participants. The workshop will be divided into a very short introductory part; four thematic working sessions allowing the participants to acquaint themselves with their group and to work collaboratively on selected themes; and a concluding part to consolidate findings and generate tangible outputs.

This year's workshop will have a strong emphasis on small group work. For this, the introductory part will be kept very short with the participants being asked to prepare a short biography bullet list to be circulated before the workshop.

The focus of the workshop is on discussions and group work on selected themes. The general topics for the individual working sessions will be prepared in advance. Participants will be divided into groups for the thematic working sessions. After each session participants will join a new group for the next session. This will facilitate the wish of many participants to be able to work with many people and on more than one subject over the day, as expressed last year.

The anticipated outline is as follows:

Introduction: The organizers will introduce themselves and review the goals and format of the workshop. Each participant's biography will be presented for 30 seconds with the individual having a chance to comment.

Demos: A slot for demonstrations of working prototypes of affective applications, sensors, data analysis tool and other related work.

Review session: Key concepts will be reviewed and discussed. The purpose of this short session is to set the foundation for the rest of the activities and discussion.

Working groups:

Session 1: Participants will be asked to identify both their expertise and their gaps in knowledge in terms of emotion in HCI. The purpose of this session is to allow to identify common research issues and possible solutions, and to foster communication after the workshop.

Session 2: Participants will discuss topics related to designing for an affective response, detection of affect, and modeling affect. The purpose of this working group is to discuss theoretical issues, to identify the current state of knowledge, and to discuss the possibilities and pitfalls of affective computing.

Session 3: Participants will discuss adding affect to an existing system. The purpose of this working group is to discover the range of possibilities for adding affect, to identify issues related to adding affect, and to discuss possible solutions to those issues.

Session 4: Participants will discuss selected topics identified by the organizers in the position papers. The purpose of this working group is to discuss issues directly related to the participants of this workshop.

Create outputs: By debating the findings of the working groups, we will aim to develop tangible deliverables such as joint publications on issues identified in the workshop, collaboration efforts, networking activities or grant proposals.

3. REFERENCES

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