Emotion in HCI – Real World Challenges

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ABSTRACT

Affective computing is well recognised as an interdisciplinary field of research combining, bringing together aspects of human-computer interaction, design, psychology, sociology and the arts with the common goal of developing technology that serves the human in more sensible and sentient way. With the community growing ever faster and the number of projects, ideas, problems and challenges still rising faster than that of possible solutions, an annual meeting of those affected by such developments has proven to be a good anchor point in the course of the scientific year. The proposed workshop will emphasize real world applications and problems.

Categories and Subject Descriptors

C.5 Computer System Implementation, D.2 Software Engineering, H1.2 User/Machine Systems, H.4m Information Systems Applications, H5.m Information interfaces and presentation.

General Terms

Measurement, Performance, Design, Reliability, Experimentation, Human Factors, Theory, Legal Aspects, Verification.

Keywords

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

1. INTRODUCTION

The role of emotion in HCI is becoming ever more relevant and challenging. HCI for affective systems embraces a wide range of domains and disciplines. The psychology of emotion, motivation, cognition, designing for persuasion and affect, choice architecture etc. Are relevant to teaching, health, advertising … the list goes on and on. The fundamental publications of Rosalind Picard [1] on affective computing brought an increased awareness in the HCI community of the important role of emotion in human-computer interactions. Recent years have seen an explosion in the literature across many domains on theories, models and applications including recognition and synthesis of emotion in face and body, emotion sensors, speech specifics, and the influence of emotion on information processing, decision making and social interactions [5-10].

With the rapidly growing and diverse community, researchers, developers and practitioners will benefit from face to face contact, discussion and debate. This workshop provides a unique forum for supporting and learning from each other through the exchange of information and experience. These opportunities for discussion are essential for such a diverse and growing community that share this interest. A workshop at HCI 2009 will consolidate and build on former successful and interesting days (cf. [11]) and welcome new members to the community. As the previous workshops resulted in a Springer book publication[7], we aim for citable outputs this year as well.

In addition to the core themes of emotion models and measurement, this workshop will aim to discuss application-oriented issues of affective systems. Thus, contributions to the following topics are encouraged:

- Conceptualisation of Affect
  - Different models and frameworks of affect and their relative implications to HCI design
  - Related concepts like motivation, engagement, etc
  - Differentiating emotional from non-emotional behaviour
- Measurement of Affect
  - Sensing and modelling of affect
  - Emotion dynamics like duration, intensity, control
  - Validation criteria for affective systems
  - Evaluation and comparison of techniques
- Applications of Affective Systems
  - Useful and realistic target applications
  - Limitations of state-of-art techniques
  - Domain specific constraints and choices
- Social Issues
  - Social acceptance and attitudes towards affect-sensitive systems and their implications

- Opportunities, risks and ethics of affective systems
- Evaluation of affective interactions
- Emotional management and training

2. WORKSHOP PROCEDURE

This workshop draws on the experience made in the course of the preceding workshops. The call for papers will be published on the workshop series' web site www.emotion-in-hci.net as well as emotion-research.net and distributed through appropriate mailing lists.

We will solicit short position papers, project descriptions and demo descriptions. This time, presentation of demos and prototypes of systems addressing problems of the real world will be highly encouraged and given appropriate time for presentation and discussion. To allow for a high number of demonstrations, not just functional prototypes are welcome but also visionary ones in form of e.g. video prototypes, cardboard mock ups, cartoon strips, forum theatre presentations, or pastiche scenarios.

Submissions will be reviewed by the organizing team. Successful participants will be asked to expand their submission to a full or short paper to be included in the workshop proceedings. Also, to allow participants' preparation for the workshop, accepted works will be distributed among participants.

The workshop itself will comprise of a short introductory part, highly interactive discussions, a poster session, a demo session and a final summarizing session. A workshop dinner will help to fasten the bonds between participants and carry on discussions in a more relaxed atmosphere.

The anticipated outline is as follows:

Ice-breaker: An interactive, joyful and minimally intrusive game with an 'emotional' theme allows participants to warm up, experience of some common emotions and creates an atmosphere conducive to rich discussions.

Introduction: Participants introduce themselves and the main idea of their position paper to the others in a very short time (2-3 minutes).

Group forming: Based on the presented ideas and interests of the participants, common interests will be identified. Topics for the following discussion groups will be defined.

Discussion groups I: Participants will join a group of their choice and debate. Discussions will be guided by a prompt list to facilitate generation of tangible outputs.

Demo and poster session: After lunch participants will have the chance to present the output or likely output of their work – and to show how it will be useful and where it will be positioned in the real world. Running prototypes of their systems will be encouraged or they will be invited to prepare low fidelity prototypes and use any of a range of techniques to communicate their ideas, such as video prototyping, forum theatre, pastiche scenarios, cardboard prototypes, cartoon strips, storyboards etc.. There will be two groups (presenters and audience) who will swap roles after 30 minutes. Those participants who have no demo with them will use their posters only to describe their project or idea.

Discussion groups II: participants will now join another discussion group and debate one of the other affective topics identified as of common interest.

Group reports and discussion: Discussion groups will report back to the audience on their results and new questions. If needed, a final discussion of major interests will be allowed to collate different opinions.

Wrap-up: As proved useful in the last workshops, the wrap-up session will be given sufficient time to collect and collate the ideas, thoughts and concerns that came up during the day and bring them into some tangible form. We hope for working groups to form to carry on work on selected ideas, resulting in joint papers, grant or project proposals.

Dinner: The workshop dinner has proved to be a valuable as well as pleasant means to carry on discussions and intensify personal contacts between participants. It will be held after the workshop and off the record.

Proceedings: The will be published with an ISBN by Fraunhofer IRB Verlag.

3. REFERENCES

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