Fostering Smart Energy Applications

Masood Masoodian, Elisabeth André, Thomas Rist

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Masood Masoodian[1], Elisabeth André[2], and Thomas Rist[3]

[1] Department of Computer Science, The University of Waikato, New Zealand
masood@waikato.ac.nz
[2] Human Centered Multimedia, Augsburg University, Germany
andre@hcm-lab.de
[3] Faculty of Computer Science, University of Applied Sciences Augsburg, Germany
thomas.rist@hs-augsburg.de

Abstract. There is an increasing need for smart applications with interactive visual interfaces that allow users to better manage and monitor their energy generation and consumption. This workshop will bring together researchers and practitioners from interaction design, human-computer interaction, visualization, computer games, and media technology to foster research, design, development, and deployment of energy-related applications, tools, services, games, and persuasive technologies.

Keywords: Energy usage management, energy usage monitoring, visualizations, visual interfaces, persuasive technologies, user evaluation.

1 Introduction

As our reliance on energy is increasing rapidly, and worldwide non-renewable energy resources are depleting, it has become necessary to develop more advanced technologies to better manage and reduce our energy consumption. Many such technologies now exist for both domestic and commercial use. These include tools and services for public displays, dashboards, mobile apps, web-portals, simulation tools, computer games, etc. There is, however, a lack of coordinated effort in terms of research, design, development, and deployment of smart energy-related applications. It is therefore becoming important to foster and coordinate these activities through more targeted gatherings and publications focusing on smart applications for energy systems. This workshop aims to fill this existing gap by bringing together researchers and practitioners from energy-related domains, as a follow up to a very successful workshop held last year (FSEA 2014, http://it4se.informatik.fh-augsburg.de/FSEA14/).

2 Theme and topics of interest

The theme of this workshop is interaction techniques, interfaces, and visualizations for energy-related applications, tools, games, and services. The topics of interest include design and evaluation of visual interfaces for: monitoring and managing energy generation and consumption, analysis of energy generation and

consumption data, identifying consumption patterns and behaviour, relating energy consumption to other information, sharing and comparing energy-use data with others, influencing choices and stimulating sustainable behavior changes.

3 Target audience

The target audience of this workshop are researchers and practitioners from a range of backgrounds, including interaction design, human-computer interaction, visualization, computer games, media technology, and domain experts from energy-related application areas.

4 Workshop plan

This one-day workshop will include short presentations of accepted position papers, discussion sessions, and a hands-on design exercise session, during which the workshop participants will be divided into small groups and invited to design an interactive application for energy usage management and visualization.

5 Expected outcome and dissemination

The accepted workshop position papers will be included in the official adjunct conference proceedings published by the University of Bamberg Press. The position papers will also be made available through the workshop website (FSEA 2015, `http://it4se.informatik.fh-augsburg.de/FSEA15/`). The workshop participants will be invited to submit an extended version of their position papers for a special issue of a journal (currently being organized).

6 Key organizers

Masood Masoodian is an associate professor in Computer Science at the University of Waikato. His research interests include visualization of temporal data and interaction design. He has participated in numerous projects on design, development, and evaluation of energy-related interactive visualizations.

Elisabeth André is a professor in Computer Science, and the Chair of Human-Centered Multimedia at Augsburg University. She has been involved in organization of numerous conferences. She is an Associate Editor of IEEE Transactions on Affective Computing, and ACM Transactions on Intelligent Interactive Systems. She is also on the editorial board of several international journals.

Thomas Rist is a professor in Computer Science at the University of Applied Sciences Augsburg. He has a long track-record in the field of intelligent user interfaces, and interactive media systems. His current research activities comprise work at the intersection of HCI and energy-related applications. He has served as a PC or OC member of various workshops, symposia, and conferences. He has also coordinated a number of EU and German funded projects, including the IT4SE network for energy-related ICT research (`http://www.it4se.net`).