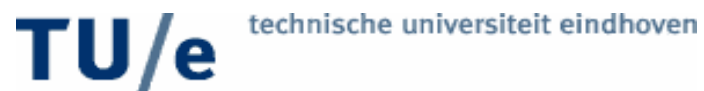ASTRA examines mediated interpersonal awareness, addressing the need to stay in touch with family and friends or the need to be reassured regarding their well-being. Important aspects of communication are examined, such as connectedness or plausible denial of presence, with the ultimate aim to define a framework for supporting the design of Pervasive Awareness systems intended to support social relationships. The framework consists of:

- A theory to guide the design and the evaluation of pervasive awareness systems for supporting social communication

- Supporting technology (service oriented architecture, tools and applications that support communities to appropriate Pervasive Awareness applications)

1. To develop an integrated "theory of connectedness and awareness"
2. To develop a descriptive model and a design theory/framework for awareness mechanisms
3. To design an integrated service oriented architecture and implement a platform for supporting end-user development of awareness systems
4. To design and develop a set of tools that will support the composition of awareness applications by end-users
5. To develop proof-of-concept awareness applications by end-user communities using the experimental ASTRA technology

- ASTRA descriptive model: Formal Focus Nimbus model
- ABC questionnaire as an evaluation / measurement tool
- First version of the Design Framework for Awareness Applications
- Set of awareness scenarios
- System requirements
- Component architecture of the SOA
- Requirement specifications of the End User tools and functional prototypical example
- Aware Modeling Language (AMeLi) as an experimental validation tool for Focus Nimbus Model
- Preliminary version of and ASTRA ontology based on the formal Focus Nimbus model
- Preliminary plan for ASTRA evaluation

Development of:

- the theory of awareness and the ABC questionnaire
- the Design Framework for Awareness Applications
- of the Service Oriented architecture
- the mechanisms and interfaces for End User tools
- ontology
- a functional prototypical example application

- A theory of connectedness and awareness.
- A descriptive model and a design framework for mechanisms that realize mediated awareness.
- An ontology of awareness services, enabling service composition.
- An integrated service oriented architecture that supports the development of awareness applications.
- Specifications, design and implementation of tools aimed at end users
- Participatory design of awareness applications by end-users.
- Evaluation of the derived models and validation of the theory of connectedness through user-studies.

Conference Papers

- Aware of What: A formal model of awareness systems that extends the focus – nimbus model. Enginnerind HCI (EHCI conference , IFIP), 22-25 March 2007. P. Markopoulos, G. Metaxas
- Social Intelligence as the Means for achieving Emergent Interactive Behaviour in Ubiquitous Environments, By: Ioannis Zaharakis, Achilles Kameas, HCII 2007, Beijing
- An Integrated Framework for Developing Distributed Hybrid Systems. Christos Goumopoulos, Achilles Kameas and Brendan O'Flynn. 4th International Conference on Ubiquitous Intelligence and Computing (UIC-07), Hong Kong, July 11-13, 2007
- Awareness applications for connecting mobile students. By: Eli M. Morken, Otto Helge Nygård, and Monica Divitini. IADIS International Conference On Mobile Learning 2007, Lisbon, Portugal, July 5-7 2007
- End User Tools for Ambient Intelligence Environments: an overview. Irene Mavrommati HCII 2007 Beijing
- Poster: Preliminary requirements and approach for Tools that configure pervasive awareness applications: the ASTRA case. Calemis & Mavrommasti, HCII 2007 Beijing

Journals

- Special Issue HCI journal on Awareness Systems Design, January 2007 – Lorence Earlboum Inc. B. de Ruyter, P. Markopoulos.

- Romero, N., Markopoulos, P., Baren van, J., Ruyter de, B., IJsselsteijn , W., Farshchian, B. Connecting the family with awareness systems. Personal and Ubiquitous Computing, Springer-London, August 2006, 1617-4909 (Print) 1617-4917 (Online)

Books

- De Ruyter, B, Huijnen, C., Markopoulos, P., IJsselsteijn, W.A., (2006) Creating Social Presence through Peripheral Awareness. In Aarts, E., Diederiks, E., (Eds.) Ambient Lifestyle, BIS Bright, 69-71

Wider Area related to ASTRA

- End User development book; chapter: Challenges in End User Development in Intelligent Environments. Eds: Lieberman, Patterno, Wulf. Authors: B. De Royter, R. Van de Sluis.

Forthcoming / Future Plans

- P. Markopoulos, B. De Ruyter, W. Mackay book: Awareness Systems – advances in theory methodology and design. Publisher : Springer Verlag, HCI series – 2008

- ➢ Research Academic Computer Technology Institute (CTI),Hellas

- ➢ Eindhoven University of Technology TU/e, the Netherlands

- ➢ Telenor ASA (TELENOR), Norway

- ➢ Philips Research (PHILIPS), the Netherlands

- ➢ Norwegean University of Science and Technology (NTNU), Norway

information