Proseminar SS11

“The Impact of Awareness and Privacy on Computer Supported Collaborative Learning”
Abstract

what is awareness?

awareness in CSCL

why do we need it, how do we get it?

the effect of awareness

what is privacy?

how to create privacy?

the interplay of privacy and awareness
Awareness

„Consciousness and information of various aspects of the group and its members.”

- e.g. awareness in the internet
- two categories in computer science
  - behavioral, provided by e.g. status icons or friendlist (facebook, skype,..)
  - knowledge (=learning resources), provided by e.g. event service (Subversion Repository)
Group awareness in CSCL

Being informed about specific aspects of group members
	hree types of group awareness:

- **behavioural awareness**
  - Information about the learners’ activities

- **cognitive awareness**
  - Information about the knowledge of collaborators

- **social awareness**
  - Information about the functioning of the group as perceived by the members

The need for awareness in CSCL

collaborating by means of computers is less effective than face-to-face collaborating, this is based on:

- lack of interaction, coordination and communication
  (e.g. long-distance learning, asynchronous learning)

→ providing group members with context information is a crucial element to ensure an efficient collaboration
Formation of awareness in CSCL

1. Awareness can be generated by **awareness tools**

2. Awareness can be generated as a **natural product** of collaboration:

   - **direct information**: group members explicitly provide context information e.g. to a program/other members
   - **indirect information**: by monitoring, has to be interpreted e.g. group discussions
Limitation of information generating

- amount of information can vary according to rate of interaction
- potential misinterpretation
- harder to accomplish in asynchronous communication

⇒ tools to support establishing awareness

"DAVON hab ich nicht gesprochen als ich sagte wir sollten experimentierfreudiger im Bett werden!"

www.hermes-press.com/misinterpretation2.jp
The handling and impact of awareness information on CSCL

the presentation of awareness information should be:

• easy to understand, adequate visualization
• good comparability, tacit guidance

impact on the collaboration process and outcome:

- cognitive: convergence of knowledge in a group increases
- coordination of activities
- increasing interaction
- team performance
- team effectiveness

- behavioral: adapting his behavior (e.g. participation)
- social: adjusting his social behavior (e.g. being friendlier)
- better learning outcomes

impact depends on: type of information, way and frequency it is collected and presented
Privacy

"A person's right to control access to his or her personal information."

• importance of privacy

• to be unaffected, undisturbed by others

• natural effort for privacy

e.g. in the internet, at home, while working in groups

1) http://www.sony.de/biz/product/nvmpztzcameras/snc-rx550p-wce/overview

Privacy in CSCL/CSCW

common groupware for supporting CSCW mostly consists of two types of working space: private and shared working space (e.g. subversion repository)

**private space**
- depository for private working objects
- private memory

**shared space**
- dialogue support objects
- collaborative working support
- collaborative memory
Example for privacy in CSCL

CSCL application called ReadIt:

- shared area in the middle
- private workspace is associated with each player
- used to provide individual feedback
- reflects individual status
- displays personal achievement

Need for privacy and its problems

always a conflict between privacy and awareness

awareness of the group vs. privacy of the individual:

• awareness important for group interaction

• more information we receive -> greater chance to disturb our work

• privacy important for individual tasks

• creates more comfortable working atmosphere

• possible approach: reciprocity

=> balance between privacy and awareness leads to efficient collaboration
resources


[7] Scott E. Hudson and Ian Smith, Techniques for Addressing Fundamental Privacy and Disruption Tradeoffs in Awareness Support Systems
