Awareness and Togetherness in Mobile Learning Scenarios

In the RAFT (Remote Accessible Field Trips) project we created a system to support collaborative learning and communication with distributed groups of learners. Few students would go out in the field and the other students stay back in the classroom.

On the technological side we had to deal with limited bandwidth between field and classroom and the need of instant communication and distribution of images/video/sound. We solved this with an architecture that adapts the transmission of videos/images to the available bandwidth. We use an instant-messaging-server to send notifications to the client which updated material to get from the server to minimize network traffic. The notifications were also used to make the students aware of changes. All collected material is stored in a central LCMS.

We created a set of roles for students in the field and in the classroom that have specific responsibilities. A role is assigned to a student before the fieldtrip takes place and for each role the teacher creates a set of well thought out tasks in advance. The combination of roles and tasks was the key to create a feeling of togetherness. Every role had to substantially contribute otherwise the fieldtrip goals cannot be met. All students felt as part of the team and involved in the fieldtrip. Awareness was created by sending out notifications so the clients could immediately inform the students about changes. The trials have shown that there is a significant increase of interest and understanding in the topic of the fieldtrip.

Alexander Schneider, Fraunhofer-Gesellschaft, Institute for Applied Information Technology, Sankt Augustin, Bonn, Germany

Alexander Schneider received his diploma in Information Systems from the University of Cologne. He worked as a consultant and software architect before joining Fraunhofer FIT as research scientist. His main interests are eLearning, nomadic systems and mobile gaming. In the RAFT (Remote accessible fieldtrips) project he worked on designing and implementing the middleware and back-end systems as well as web-based front-ends for authoring eLearning courses and applications for supporting the process of preparing and conducting fieldtrips.