



Increasing Student Participation **LUT** Through Online Virtual Environment

Kolin Kolistelut - Koli Calling
October 18, 2002 – Koli, Finland

Lappeenranta University of Technology

Laboratory of datacommunications

Harri Hämäläinen

Outline

- Introduction
- Online education
- Wireless technologies
- Case: Increasing Interaction Through Modern Technology
- Conclusions

Problems in the lectures

- Students are too shy to participate actively in learning during the lessons
- Especially a problem on mass-courses
- The teacher doesn't know the students' level of knowledge on the issue before the exam

Goal

- To make on-line learning more effective
- To implement instruments that help to increase the interaction between students and the teacher during the lecture
- To give the students a chance to have a real-time effect on the lectured topics

Solution

- Students can anonymously comment the lecture and ask questions
- Students can evaluate the teacher's lecture on the current issue in real-time
- Teacher can set up quizzes and see the summary of results immediately



Interactive learning environment **LUT**

- To use the learning environment students need some equipment
 - laptop or PDA with a web-browser
 - network connection (Wlan, Bluetooth, wired)
- Teacher needs
 - computer with network access and a web-browser
 - overhead projector



Interactive learning environment **LUT**

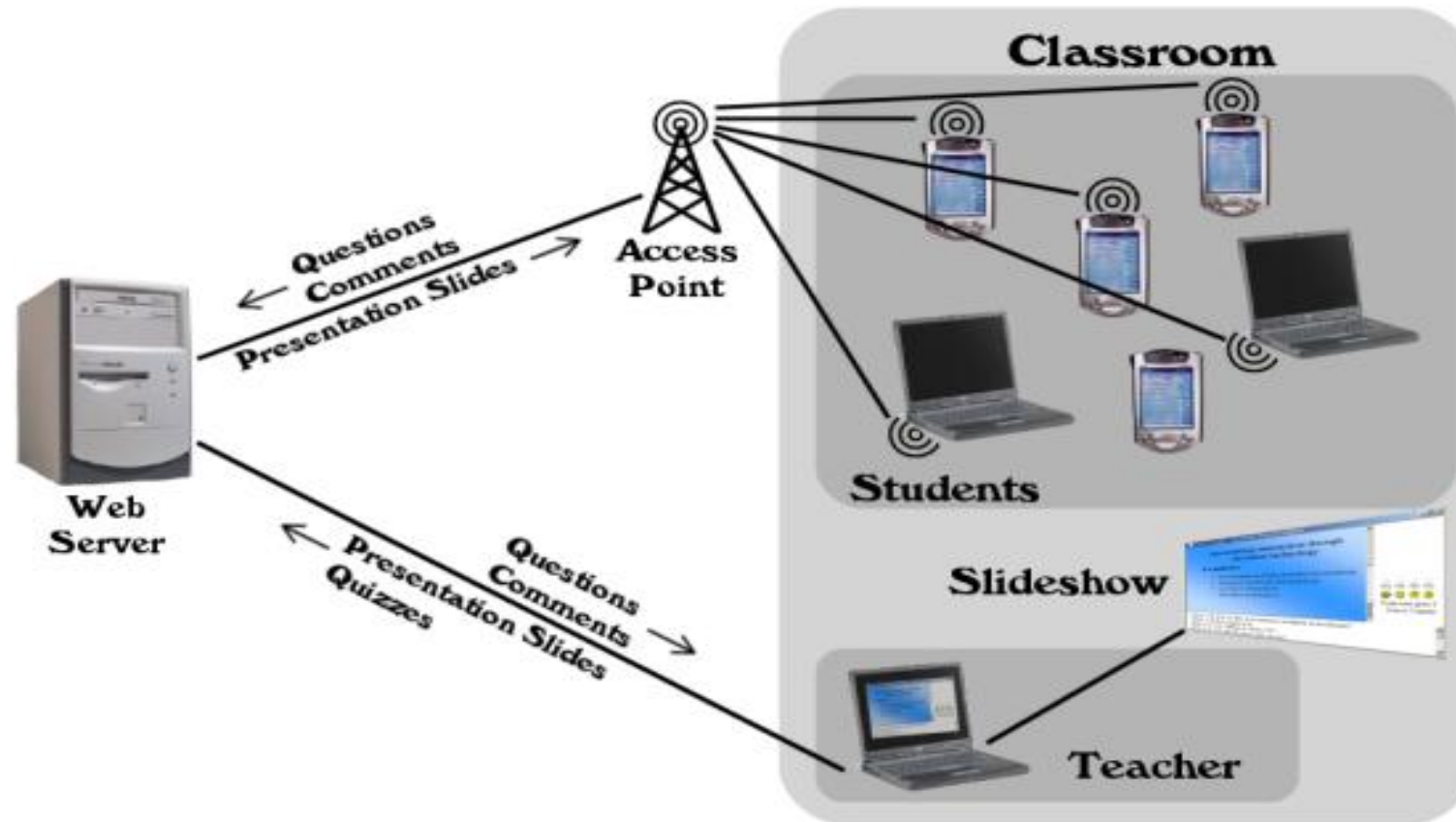


Figure 1: Principles of the functionality

Case: Increasing Interaction Through Modern Technology

- We have built up a system that gives a possibility to affect the learning situation
- We provide separate modules to give:
 - Presentation slides available for everybody
 - Student feedback and questions
 - Lecture evaluation
 - Student evaluation



Presentation slides for everybody **LUT**

- Nowadays most presentations are given in electric form
- The teacher can easily upload the presentation on the server
- Students can easily download the presentation



Student feedback and questions

- A possibility to give anonymous feedback or ask questions during the lecture
- All the comments are projected to the canvas, next to the presentation
- The teacher can pick up some interesting issues and give the answers

Lecture evaluation

- Students can evaluate the ongoing presentation by giving votes
- Teacher sees the result in real-time as a diagram
- The evaluation time can be specified
- Teacher can react to low ratings by explaining the ongoing issue more precisely

Student evaluation

- Teacher can create an online quiz to watch over students' understanding
- The summary of the results can be seen immediately through a web-form
- Teacher can react if the students do not seem to understand the issue

Learning environment



Figure 2: Screenshot from the presentation projected into the canvas

Conclusions

- Opportunity
 - The number of laptops, PDAs and wireless network connections are increasing
 - No additional software needed on client-side, just a web-browser
- Challenges
 - To get the teachers to get interested on improving their teaching
 - To get the students willing to participate on learning more actively



Thank you!

For more information:
harri.hamalainen@lut.fi
+358 (0)5 621 2828