

Internet & multimedia for teaching & learning

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I will talk about

- Background & Motivation
- Methodology
- Implementation and results
- Comparative experiment IUXE 2008
- Conclusions

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Background & Motivation

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PC in a fridge!!

Internet & Multimedia have become ubiquitous

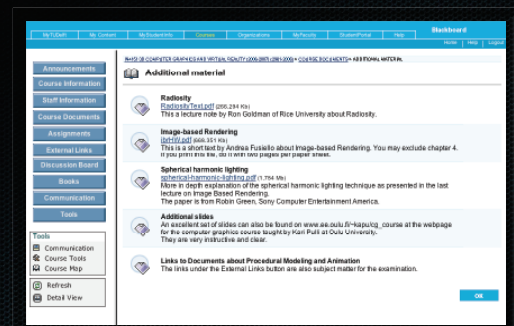
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Todays students

Mobile arsenal of multimedia gadgets

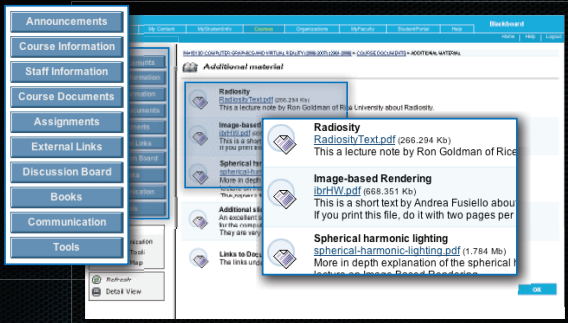
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What we have

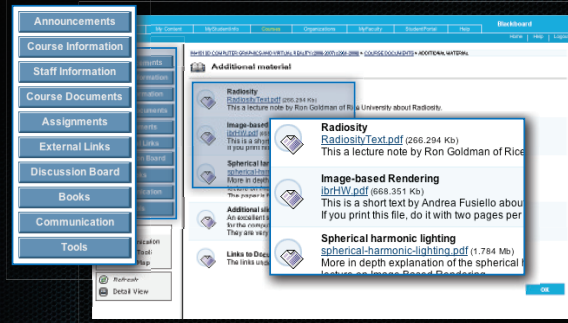
The Blackboard course management system

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What we have

The Blackboard course management system



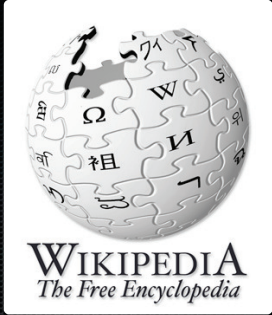
What we have

The Blackboard course management system

Wiki: user editable website

Web 2.0

Second generation of Internet technology



Web 2.0

Second generation of Internet technology



RSS feeds

Web 2.0

Second generation of Internet technology



Web 2.0

Second generation of Internet technology



Web 2.0

Second generation of Internet technology



Web 2.0

Second generation of Internet technology

Project:

Help develop new HCI course

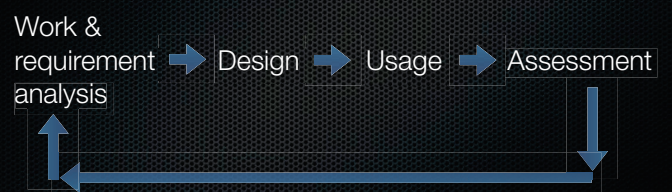
Intelligent User Experience Engineering (IUXW)

Project goals

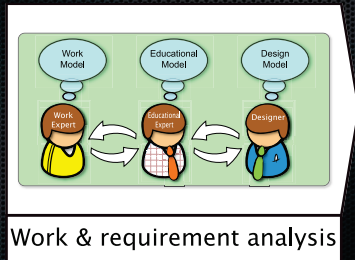
- Can web-based tools be used to support the teaching of HCI?
- What type of tools are suitable to help the teaching process?

Methodology

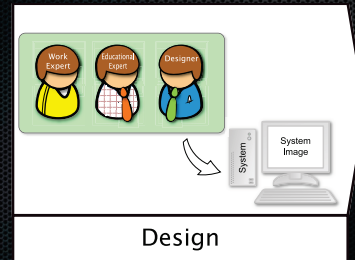
LCD: Learner Centered Design



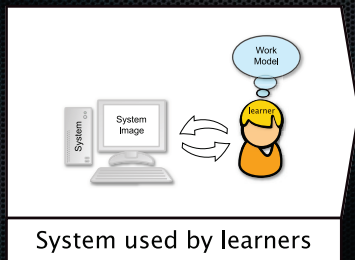
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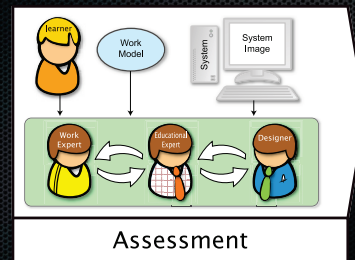
LCD: Learner Centered Design



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LCD: Learner Centered Design



Work analysis of IUXE

Roles: usability developer, usability evaluator, programmer, graphics designer.

Activities: task analysis, scenario development, claims analysis, developing prototype, evaluating prototype.

Artifacts: discussion poster, development presentation, development report, test plan, evaluation presentation, evaluation report.

Information objects: book, lectures, project manual.

Services: activity evaluation tools (Morae + evaluation lab), communication tools, programming IDE's, web-development software.

Requirement specification of IUXE

Service needs: the ability to consult work experts.

Information needs: learners need information about the development and evaluation processes, as well as information about the used prototype. This information can be acquired from the book, project manual, and the course lectures.

Activity needs: since students are not familiar with the work practice, they need to be informed of what steps actions are involved in each activity. They also need to be shown how to use the services they need to complete the work.

Management needs: Besides learning, students will be involved in producing a number of artifacts. The management tools should help in the creation and management (e.g., storage, distribution) of these artifacts.

LCD Work & requirement analysis

Implementation

The tools

online manual



message board

Lecture recordings



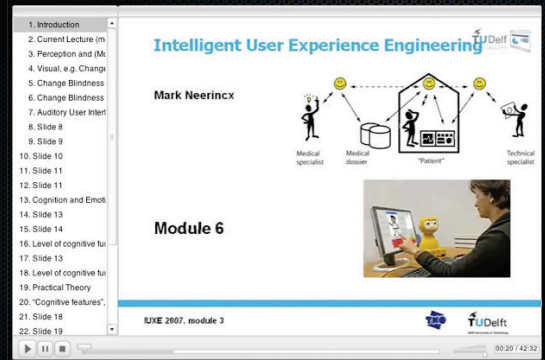
sound recordings

Video tutorials

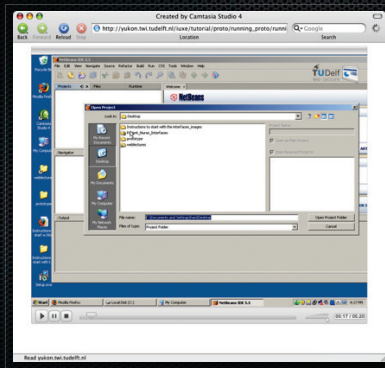


online reporting

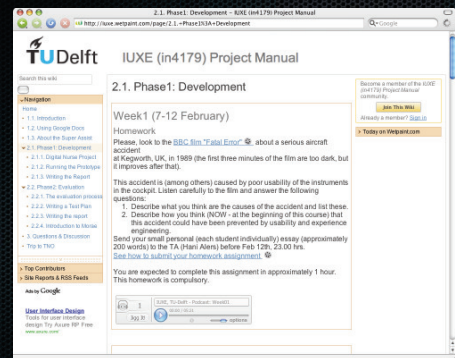
Lecture recordings



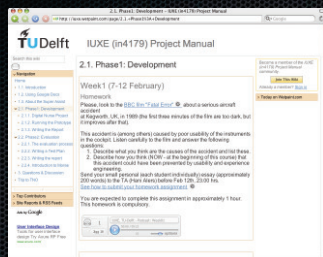
Video tutorials



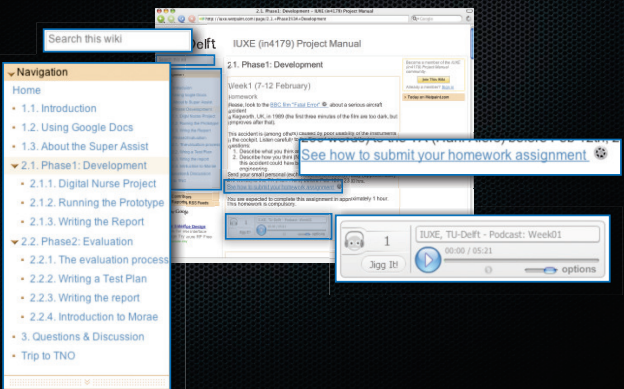
Online manual



Online manual

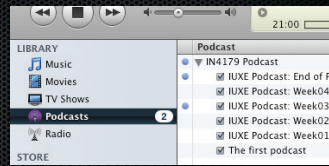


Online manual

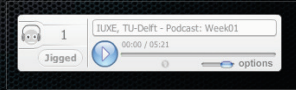


Sound recordings

- Weekly podcasts



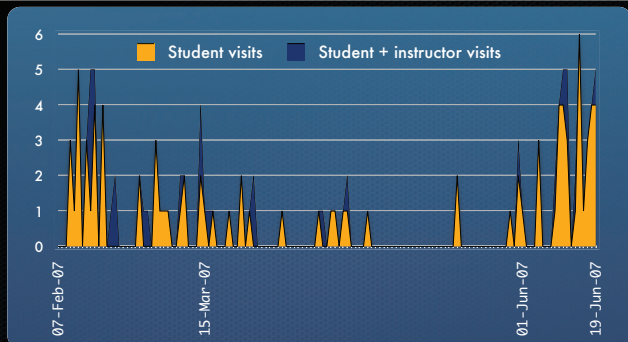
- Embedded sound players



Results

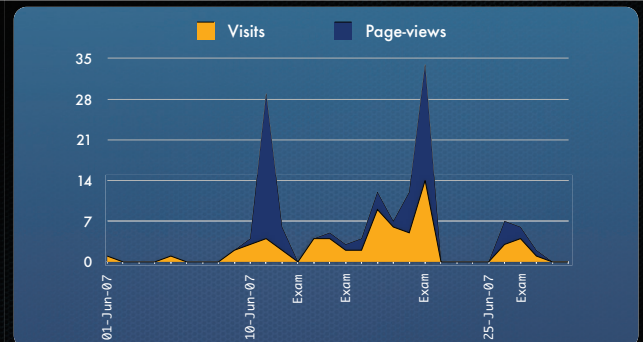
Results: tools

Lecture recordings



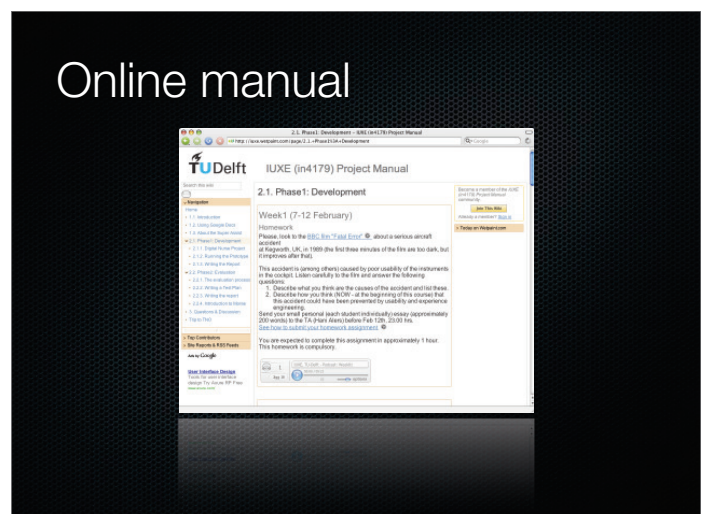
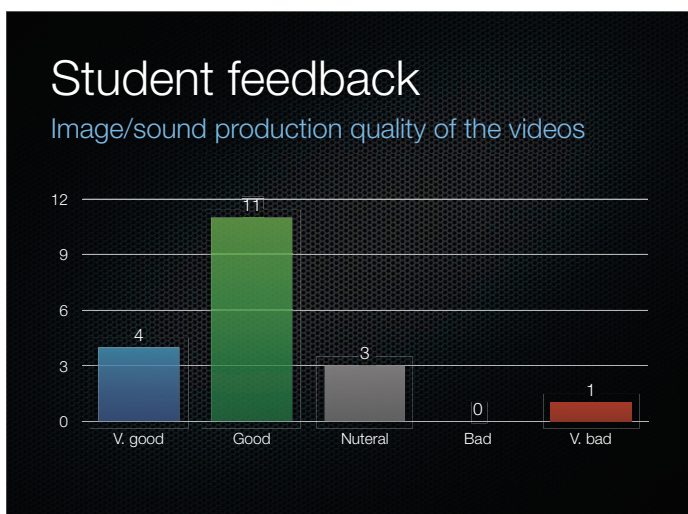
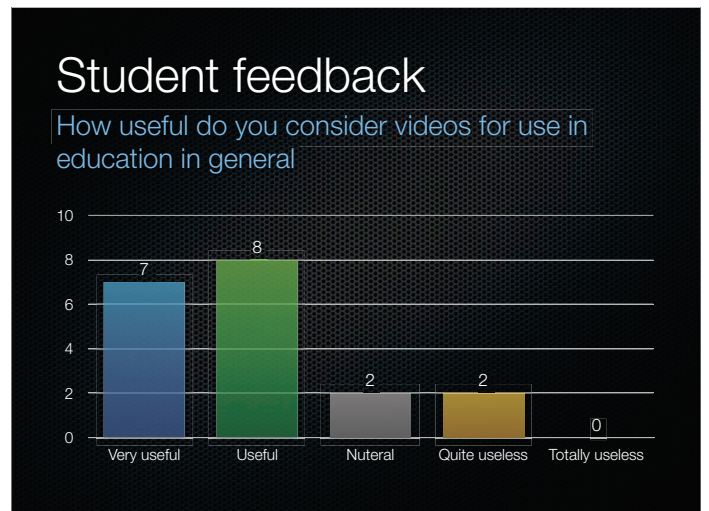
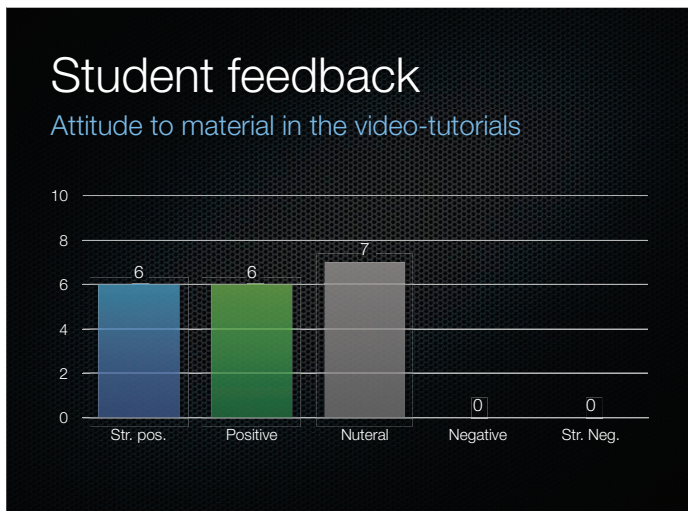
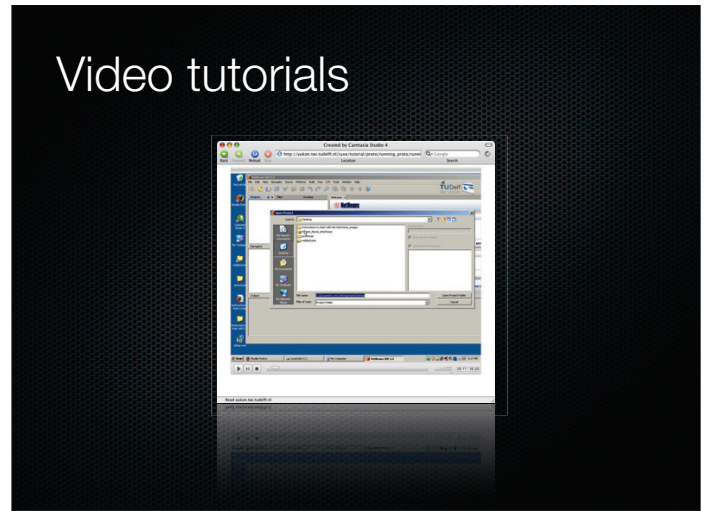
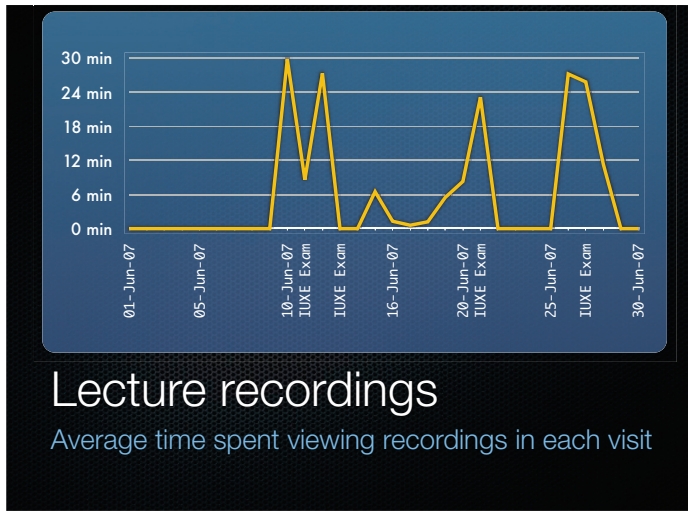
Lecture recordings

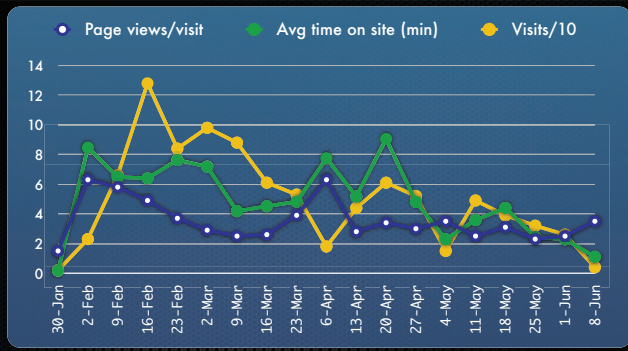
Number of visits to the recordings database



Lecture recordings

Visits and page-views of in exams period

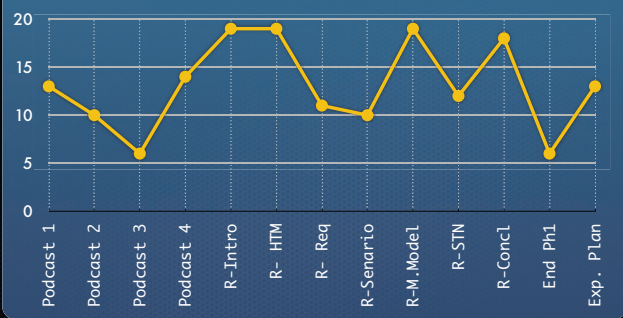
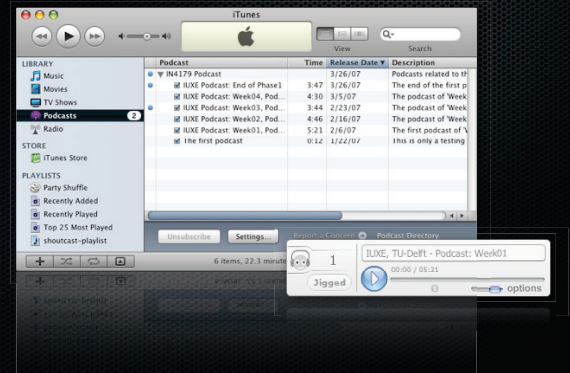




Online manual

Usage statistics: 982 visits, 3516 page-views

Sound recordings



Sound recordings usage

Number of times each recording was played

Student opinions

	Useful (0-4 scale)	Enjoyable (0-4 scale)
Blackboard	2.6	1.9
Manual	3.0	2.1
Sound Recordings	2.3	2.2
Video tutorials	3.0	2.7
Lecture Recordings	2.9	2.2
Message board	1.6	1.5
Collaborative report	1.9	1.7

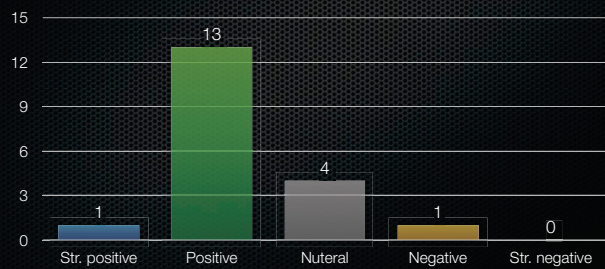
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Results: course format

Student feedback

Considering the new educational tools, how would you rate your attitude toward the course



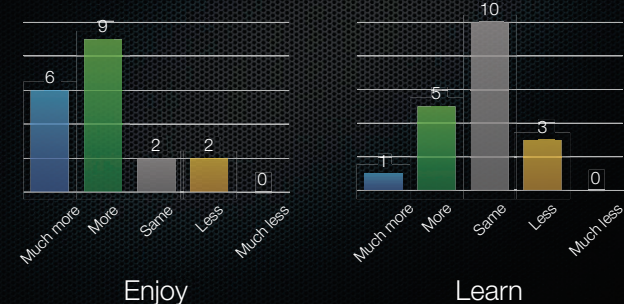
Student feedback

Comparing this format with traditional course format, How would you rate the new course?



Student feedback

All else being equal, compared to other courses, how much did you enjoy/learn in this course



Conclusions

Conclusions

- Results are mostly positive
- Students are more **motivated** in course
- Instructors also benefited from tools
- More work is needed on the university level

IUXE 2008

IUXE 2008

- Similarities
 - Same course content & instructors
 - Similar course project (Diabetes website)
- Differences
 - Different study material (no book)
 - Some tools were left out

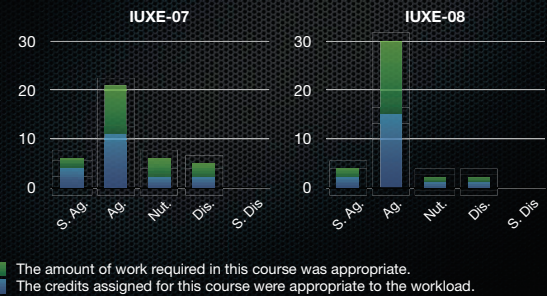
The tools



Comparative Results

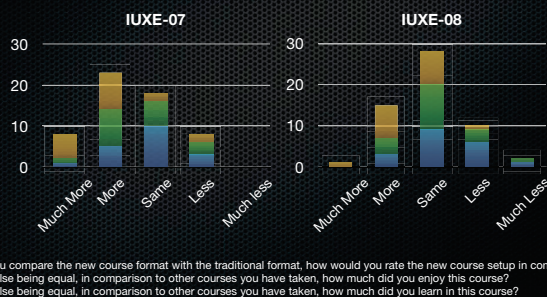
Comparative results

Opinions about the course workload



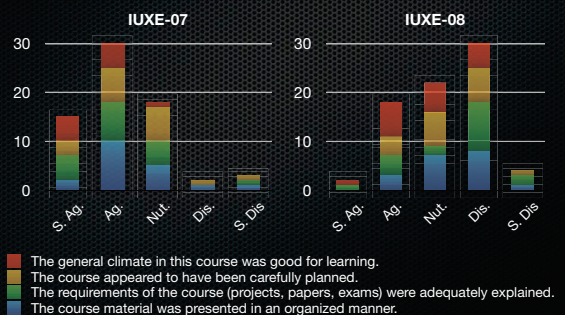
Comparative results

Opinions about the course format



Comparative results

Opinions about the organization of the course



Conclusions 2008

Conclusions 2008

- The tools used in IUXE 2007 improved course organization
- Educational tools need extra effort from students
- Students enjoy & benefit despite extra effort

In summary

Summary

- Internet offers great **potential** for education
- Methodology for designing support tools
- Tested tools in **real life** situation
- Results are positive, **more efforts** are recommended
- It is **hard to maintain** educational tools

Questions?