Munics
Problem-Based Learning in Computer Science

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Problem

Education in computer science in Germany does not fulfill the demands of computer science professionals:

- Knowledge remains passive.
- Knowledge can not easily be applied to solve concrete problems.

Aim of Munics:

- Support students in acquiring applicable knowledge.
Pedagogic Concept

Problem-Based Learning:

- Working on an authentic problem.
- Learning as an active and self-directed process.
- Support and guidance.
- Learning as a process of social interaction.
Munics - An Overview

- Interactive Problem Context
- Lecture Notes in the Web
- Support for Cooperative Learning
- Generic Tools to Support Problem Solving Process
Authentic Problem

Example for a typical class of problems:

- Design of a university course catalog.

Goals:

- Teaching how to apply theoretical knowledge on real world problems.
- Presenting our students the “nuts and bolts” of distributed systems, esp. Groupware systems.
Interactive Problem Context / 1

What is it ?

• Multimedia adventure, designed for interactive use.

• Students do interviews with the people working at the university department.

• Videos to keep the process of information gathering close to real life.
Why Interactive Problem Context?

- Students are free to choose their interview partner. No predefined order.
- Students must decide on which topic they need more information.
- Students must filter out important details.
Exercises

Examples for exercises:

- “Analyze the current workflow at the Department of Empirical Pedagogics and write a short report.”
- “Use the Modeler Tool to visualize the current workflow. Identify bottlenecks.”
- “Develop a concept to enhance the currently applied workflow.”
Support of Learning Groups

Tools for communication and coordination provided by Munics:

- Chat-Tool.
- Shared Blackboard.
- Document Repository.

Special services to provide basic support for learning groups in every Munics tool.
Modeler Tool / 1

Purpose:

- Allows the students to model and analyze the flow of information and work.

Here:

- Analyze and enhance the flow of information at the Department of Empirical Pedagogics at Universität Garmisch.
Support for learning groups:

- All learning group members share a common view.
- All learning group members work on the same data.

Immediate update as soon as a component gets modified.
Future Directions

First evaluation in July ‘99.

- Results will be available in fall ’99.

If you have any questions....

....please feel free to contact us! 😊

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