APORT: WEB PORTAL FOR ASSISTING TEACHING

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Motivation

- handling effectively a large number of students
- keeping the interaction meaningful and focused on the course material
Drawbacks in traditional teaching system

- lack of interaction means
- insufficient time during the scheduled hours
- lack of time and instruments for checking the integrity of the students’ solutions
- performing class administrative work

numerous e–learning systems exist both as research projects and as commercial products
APORT (Academic PORTal)

- a work-in-progress system that draws its approach from:
  - the way collaboration takes place in the business world;
  - the experience gathered implementing and using two older e-learning systems.
Collaborative Features
1. Audio/Video Conferencing

- the most intuitive way of exchanging information
- the professor acting as a moderator and main speaker
- the students will have to ask for permission to speak before being given control of the microphone
Collaborative Features

2. Threaded Instant Messaging

Instructor: Lorem ipsum dolor sit amet, consectetur adipiscing elit. Suspendisse augue nunc, Pellentesque id tristique a, congue consectetur ligula. Sed elementum vestibulum lacinia.

Student A: Lorem ipsum dolor sit amet, consectetur adipiscing elit. Suspendisse augue nunc, Pellentesque id tristique a, congue consectetur ligula. Sed elementum vestibulum lacinia.

Student B: Lorem ipsum dolor sit amet, consectetur adipiscing elit. Suspendisse augue nunc, Pellentesque id tristique a, congue consectetur ligula. Sed elementum vestibulum lacinia.

Student C: Lorem ipsum dolor sit amet, consectetur adipiscing elit. Suspendisse augue nunc, Pellentesque id tristique a, congue consectetur ligula. Sed elementum vestibulum lacinia.
Collaborative Features

3. Remote Assistance

- at distance assistance for students for problems they cannot solve
- free solutions for remote desktop access (e.g. Mikogo [2])
Collaborative Features

4. Support for Students with Disabilities

- teaching computer science to a blind person raises serious challenges

- the portal will be designed with an alternative hierarchical interface which is easier to comprehend through the use of an automated screen reader.
Dealing with Plagiarism

- **Prevention**
  - create a large set of problems for each project and to arbitrarily assign them to students
  - provide means for marking each problem’s difficulty for balancing the overall difficulty level

- **Detection**
  - Compare solution to an already existing set of solutions
  - analyze the source code in blocks with and without comments, and with and without taking into account the names of the variables and functions
Assisting Frontal Teaching

1. Presentation Slides

- difficulty in taking accurate and detailed notes while still following the flow of the lecture
- the students can make on-line annotations
- the possibility of sharing class notes in a uniform manner
- professor can also consult this notes and get a good insight into the student’s understandings and confusions
Assisting Frontal Teaching

2. Online Solution Review

- online solution review and annotation, with the possibility of attaching forum-like discussions to each annotation

- reduce the amount spent in class explaining the issue

- leaving time for answering more specific questions from the students
Automatic Grade Calculation

- provide the professor with means of specifying the grade calculation algorithm either graphically or programmatically
Effectiveness Evaluation And Feedback

the portal will feature:

- an integrated user feedback module
- a web analytics engine which will help the authors evaluate and improve its effectiveness through interface changes.
Thank you for listening!

Questions?