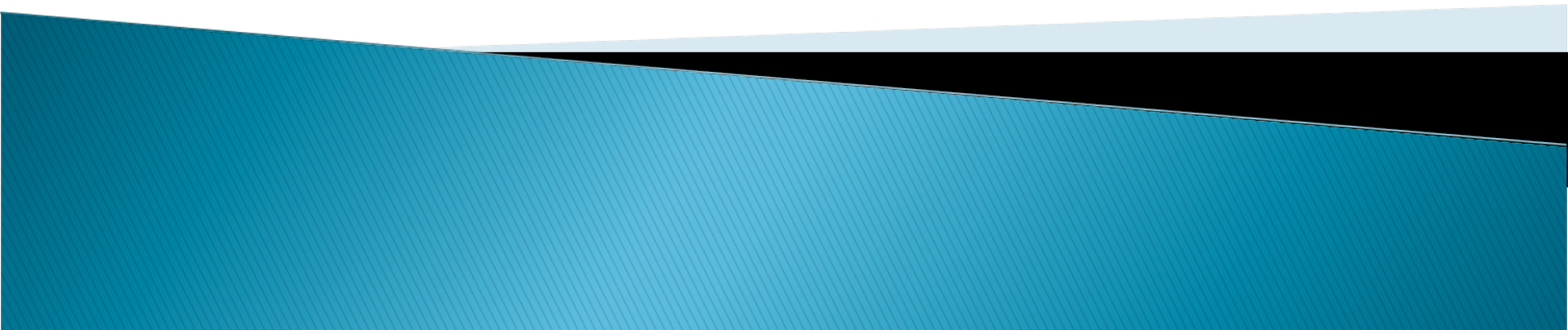


APORT: WEB PORTAL FOR ASSISTING TEACHING

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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.

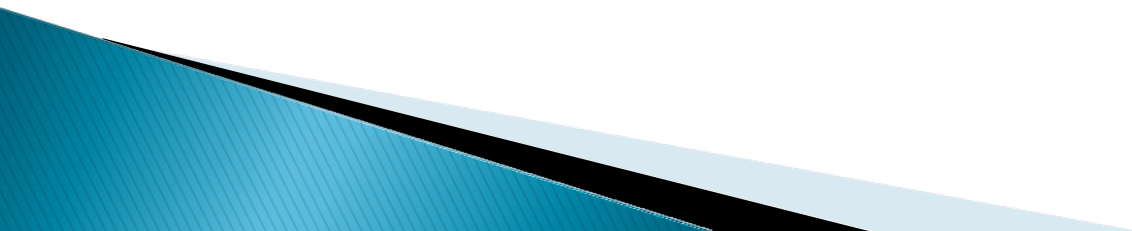
AMS

Assignment Management System

PHP
Utility
used in
PULSE
Laboratories for Student Evaluation

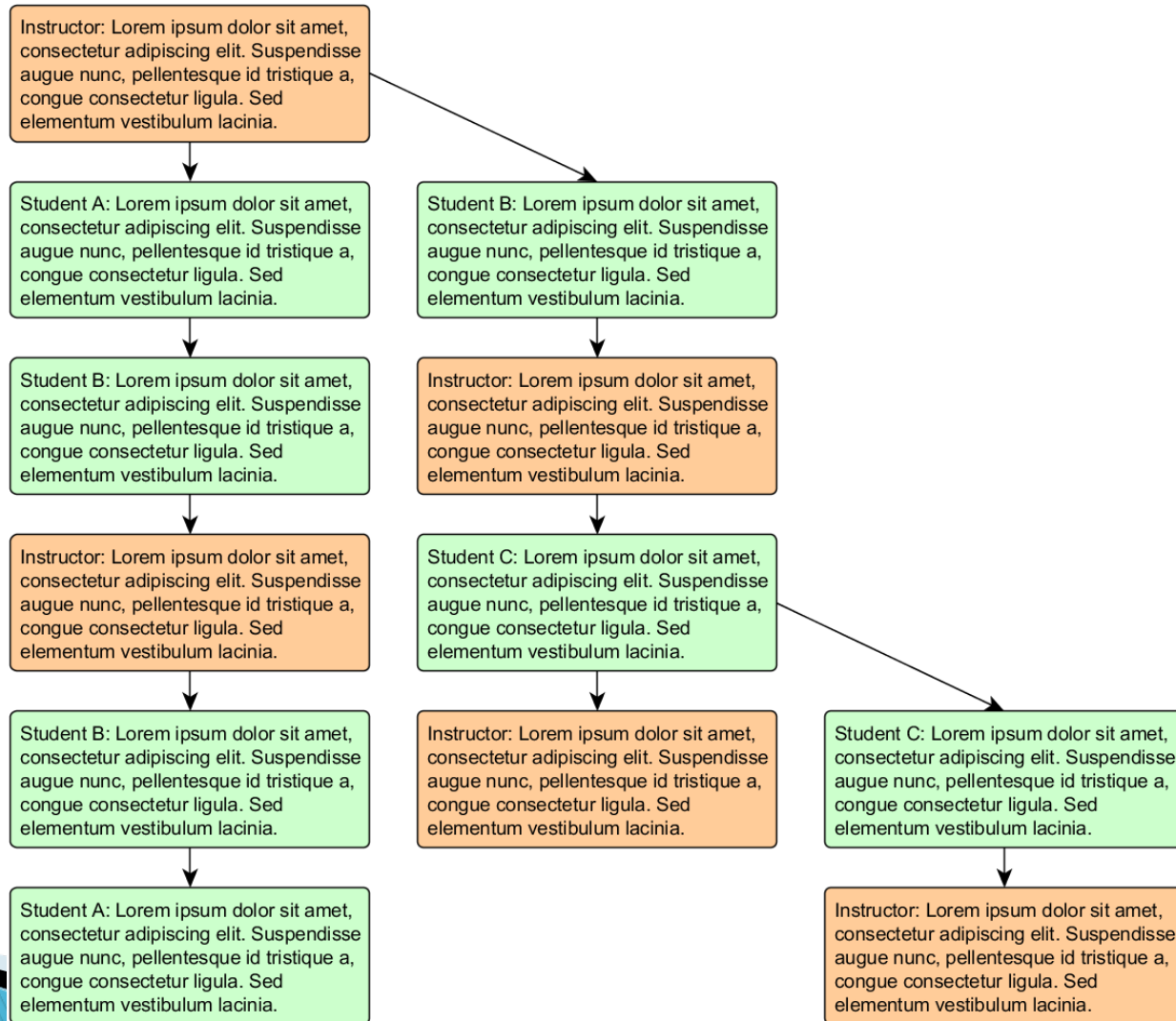
Collaborative Features

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
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Collaborative Features

2. Threaded Instant Messaging



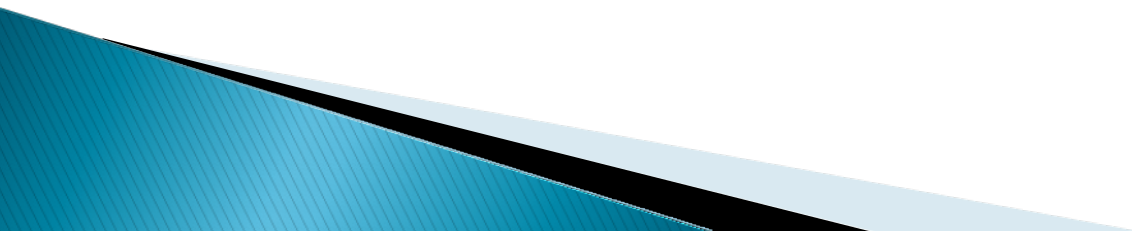
Collaborative Features

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.
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Dealing with Plagiarism

▶ Prevention

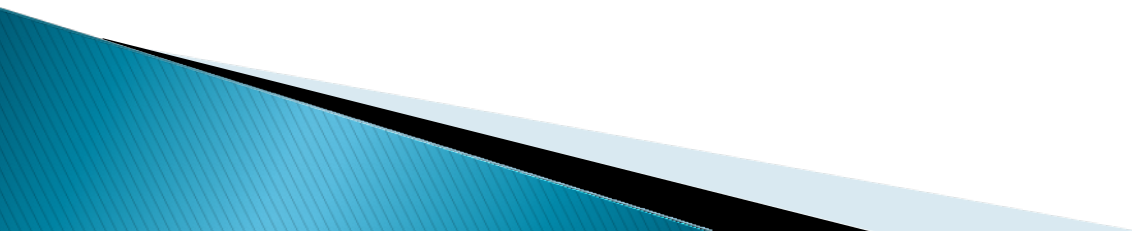
- create a large set of problems for each project and to arbitrarily assign them to students
- provide means for marking each problem's difficulty for balancing the overall difficulty level

▶ 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

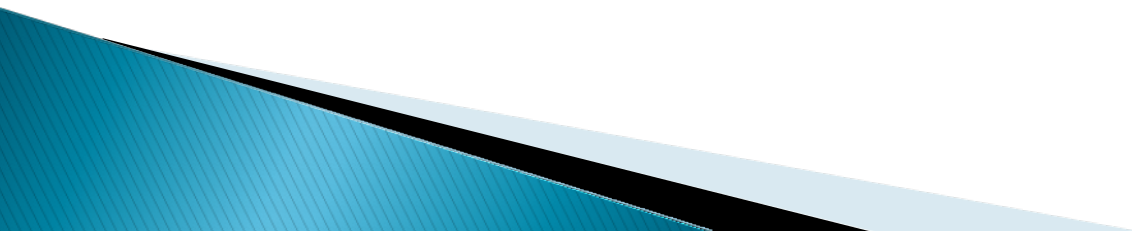
Assisting Frontal Teaching

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

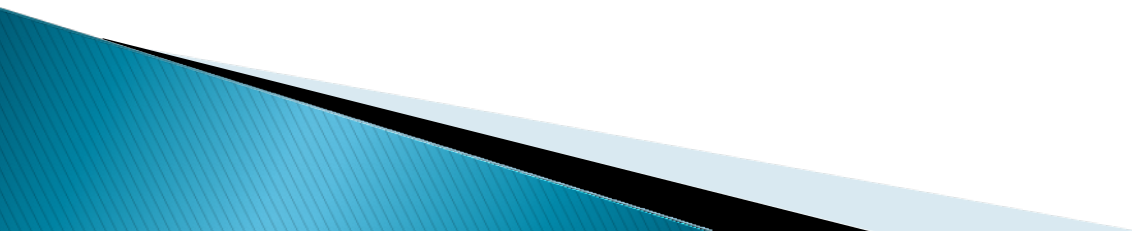
2. Online Solution Review

- ▶ 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.
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Thank you for listening!

Questions?

