

# Increasing Interaction in the Classroom with WLANs

Oliver Trachsel, Cristian Tuduce  
Laboratory for Software Technology  
ETH Zurich

<http://lectcomm.sourceforge.net>

# Overview

- Client/server software system to increase interactivity between students and lecturer
- Goals
  - Enhance student participation for active learning
  - Improve lecture quality due to continuous feedback
- Based on WLAN infrastructure and portable computers brought to class
- Aimed at university classes with 20+ students
- Runs on all platforms/operating systems where Java  $\geq 1.4$  is available
- Used at ETH Zurich in 2nd year courses; more extensive used planned for spring/summer 2004

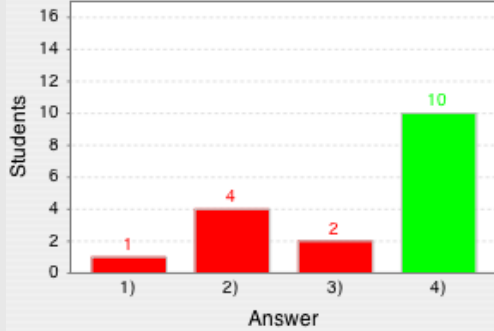
# Functionality

- Enables organized, bidirectional communication
  - Lecturer asks questions related to lecture content or style
  - Questions of understanding from students can be rated by their colleagues
- Automatic and instant processing of student input wherever possible
- Students can see the rating of their own and other student's questions (gives them some feedback)
- Tool is not intended for grading or exams
- Student-part is a Java applet that can be started from a web browser (avoids extra installation)

# Assessment types

Which of the following statements is true?

- 1) Constructors can be final
- 2) Constructors can be abstract
- 3) Constructors can be static
- 4) Constructors cannot be static, final or abstract



Multiple Choice Quiz

How would you initialize a one-dimensional String array called myAry of length 2 with the values "Dog" and "Cat".

String [] myAry = {"Dog", "Cat"};

17 characters remaining

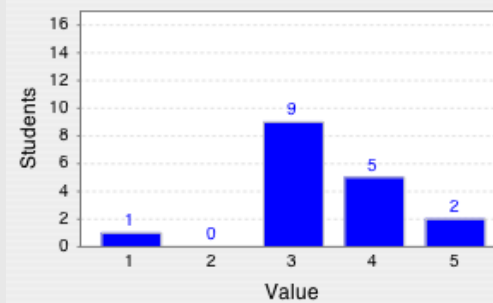


```
String [] myAry = {"Dog", "Cat"};
String myAry[] = new String[] {"Dog", "Cat"};
String myAry[] = new String[2] {"Dog", "Cat"};
String myAry[2] = {"Dog", "Cat"};
String myAry[] = {"Dog", "Cat"};
String [] myAry = {"Dog", "Cat"};
```

Short Answer

I think the pace of the lecture is

- 1 - much too slow
- 2 - too slow
- 3 - just OK
- 4 - too fast
- 5 - much too fast

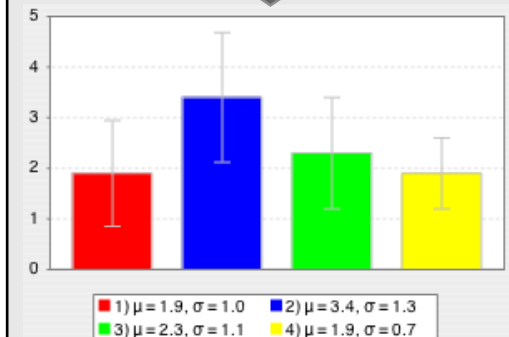


$\mu = 3.4, \sigma = 0.9$

Lickert-Scale

Rate the following aspects of the lecture "Compiler Design" on a scale from 0 to 5 (where 5 is the best rating).

- 1) Provided material.
- 2) Cleanness of oral presentation.
- 3) Explanations for homework tasks.
- 4) Joke-quality during lecture.



Item Rating

Match the networking protocols on the left to the corresponding layer of the OSI reference model.

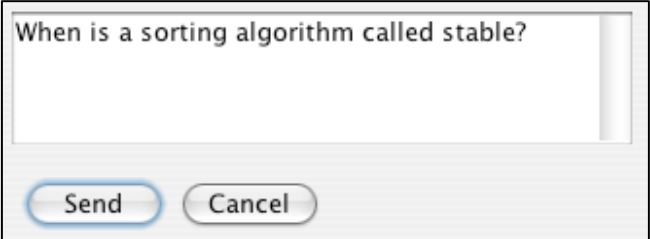
- TCP ↔ Application layer
- IP ↔ Network layer
- FTP ↔ Application layer
- HTTP ↔ Transport layer
- UDP ↔ Transport layer



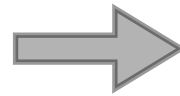
Show Wrong Matches

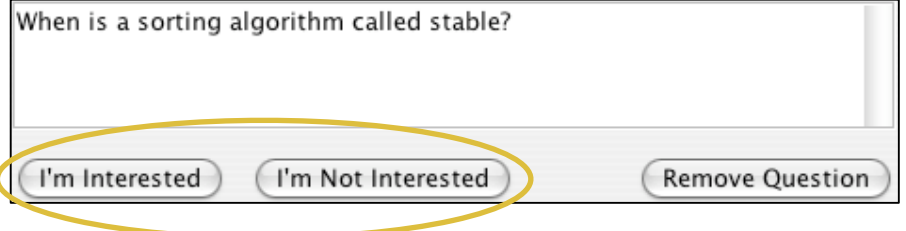
Matching

# Student Questions

1. 

A student asks a question.

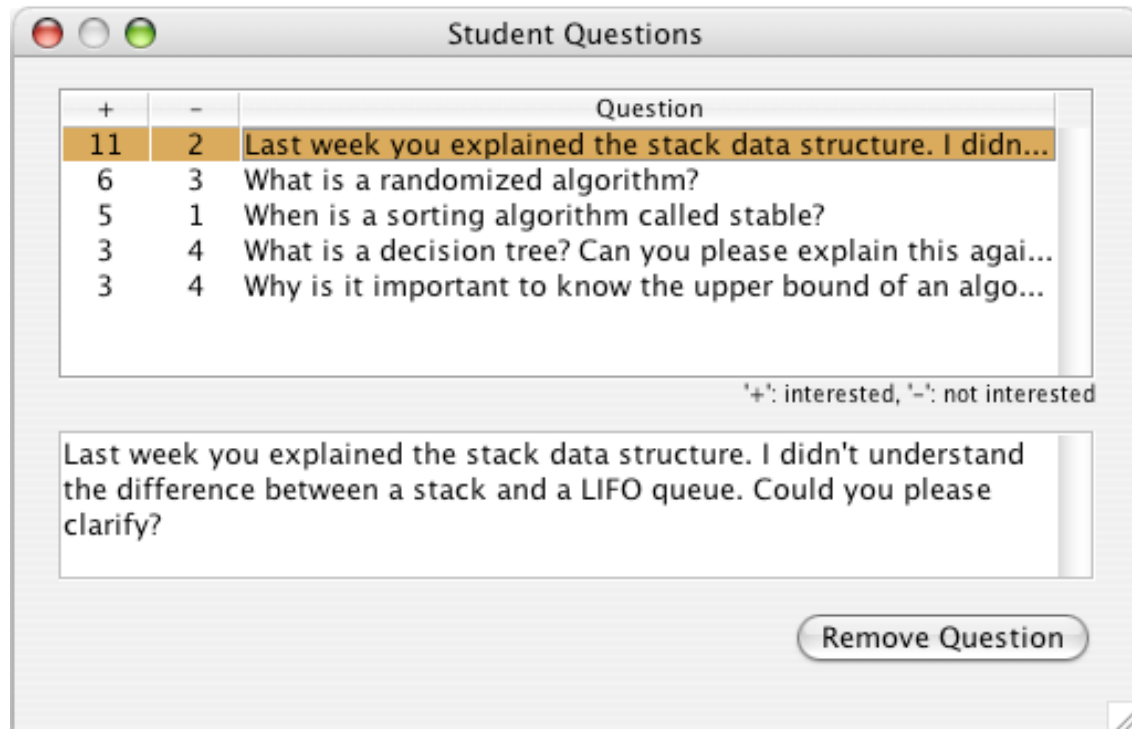


2. 

The other participants rate it.



3.



+	-	Question
11	2	Last week you explained the stack data structure. I didn...
6	3	What is a randomized algorithm?
5	1	When is a sorting algorithm called stable?
3	4	What is a decision tree? Can you please explain this agai...
3	4	Why is it important to know the upper bound of an algo...

+: interested, -: not interested

Last week you explained the stack data structure. I didn't understand the difference between a stack and a LIFO queue. Could you please clarify?

Remove Question

The lecturer can answer the most favored questions first.