

# Svetovid

Special submission system

# Svetovid

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# Introduction

- Before reforms, students were assessed based on their solutions written on paper
- Now, we concentrate on practical exercises as a form of continual assessment

# Motivation

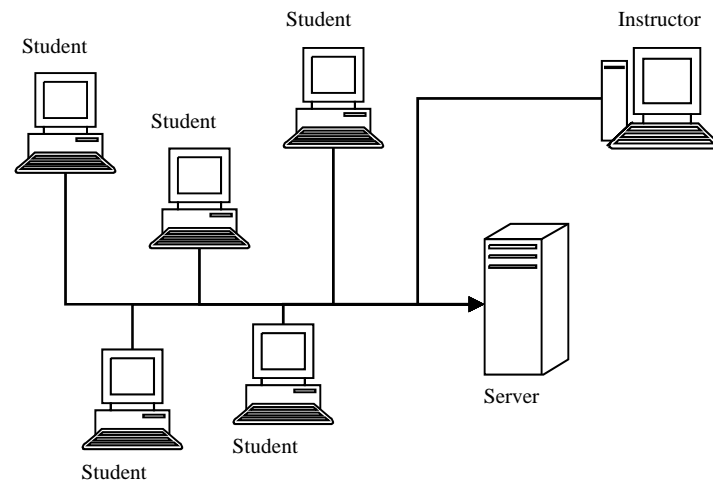
- Now instructors have to much work
  - Collect all solutions
  - Compile each program
  - Run it with some test cases
  - Examine all of the output
- Not all students are producing their own solutions
  - Solutions are easily shared
  - Awareness and honesty is on a poor level

# The goals

- Allow students to comfortably develop their programs
- Allow access to support literature
- Disallow students to share programs and solutions, intentionally or unintentionally
- Keep a detailed log of student efforts
- Help instructors to mark student solutions
- Allow students to test their programs before submission
- Be flexible enough and usable for different courses
  - Wide range of programming languages
  - Different project stages: coding, documenting...

# Architecture

- Server
  - Running on one computer
- Any number of clients
  - Running on other computers
- Both server and clients are written in Java 5
- Recommended server platform
  - Windows XP
  - Windows NT
  - Any UNIX platform



# Client applications

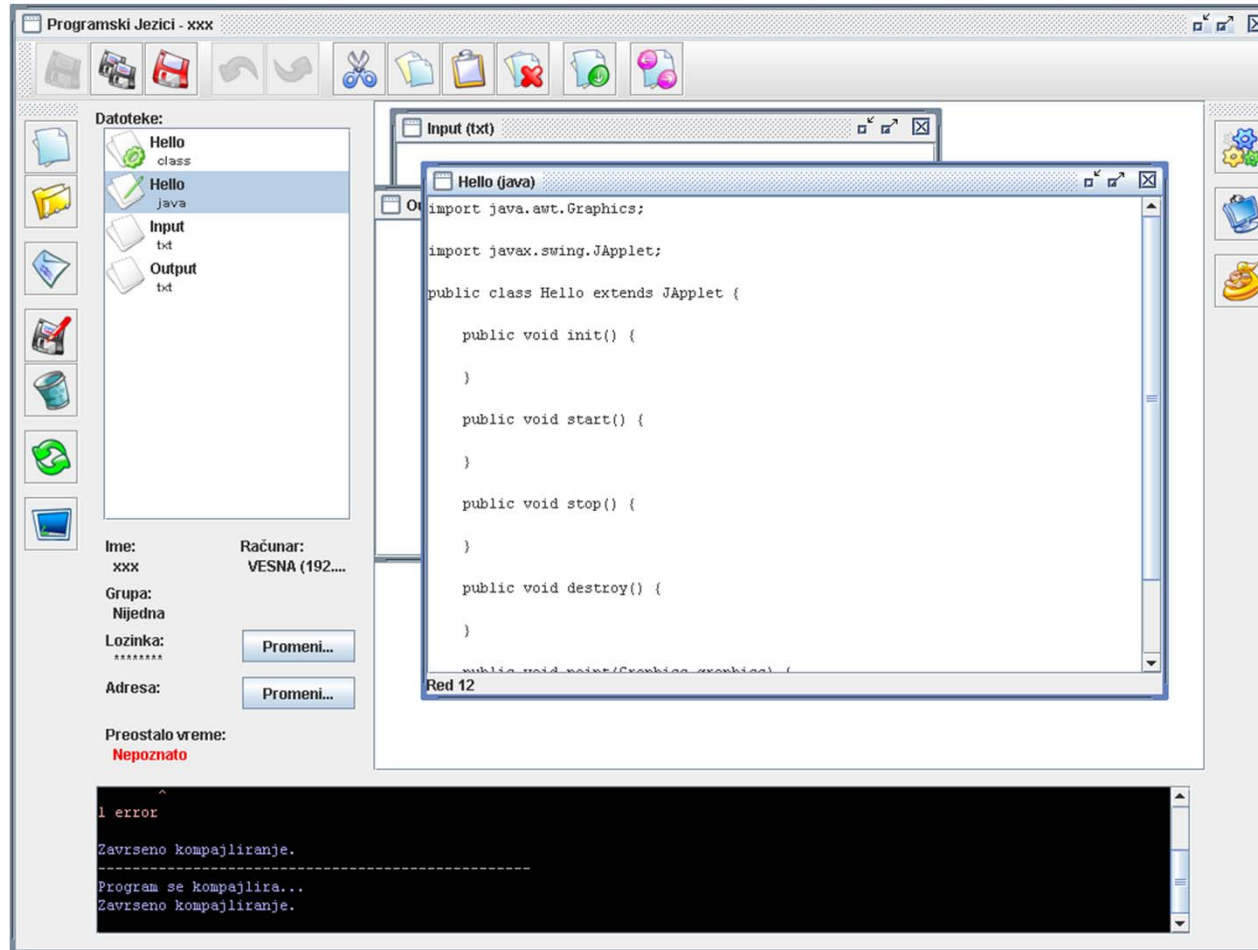
- Comprised of 3 main parts
  - The server
  - The student client
  - The instructor client

# Student client

- IDE allowing the student comfortable work
- Prompts a login dialog
- The files owned by a student are contained in virtual directory
- Content of virtual directories can be saved to local file system or sent via e-mail only after assessment



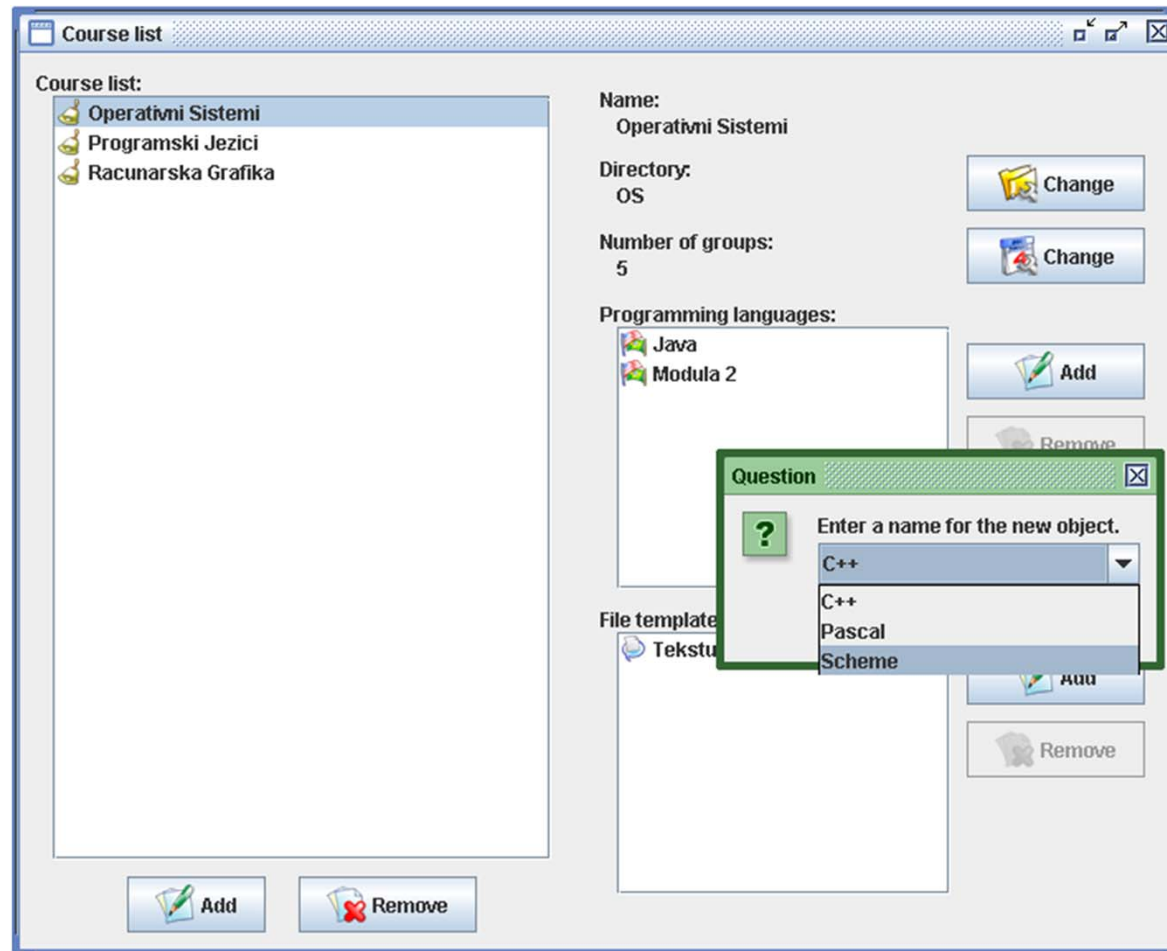
# Student client



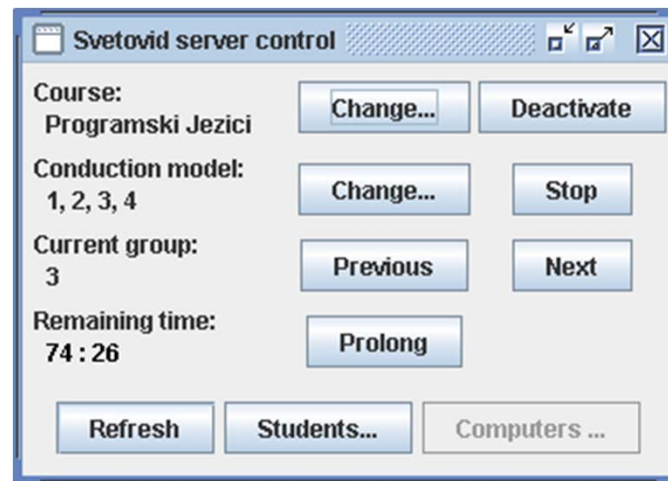
# The instructor client

- Set of configuration dialogs
  - Setting up courses
  - Managing students
- Full control over the conduction of practical exercises
  - Groups
  - Order
  - Timing

# Setting up courses



# Running exercises



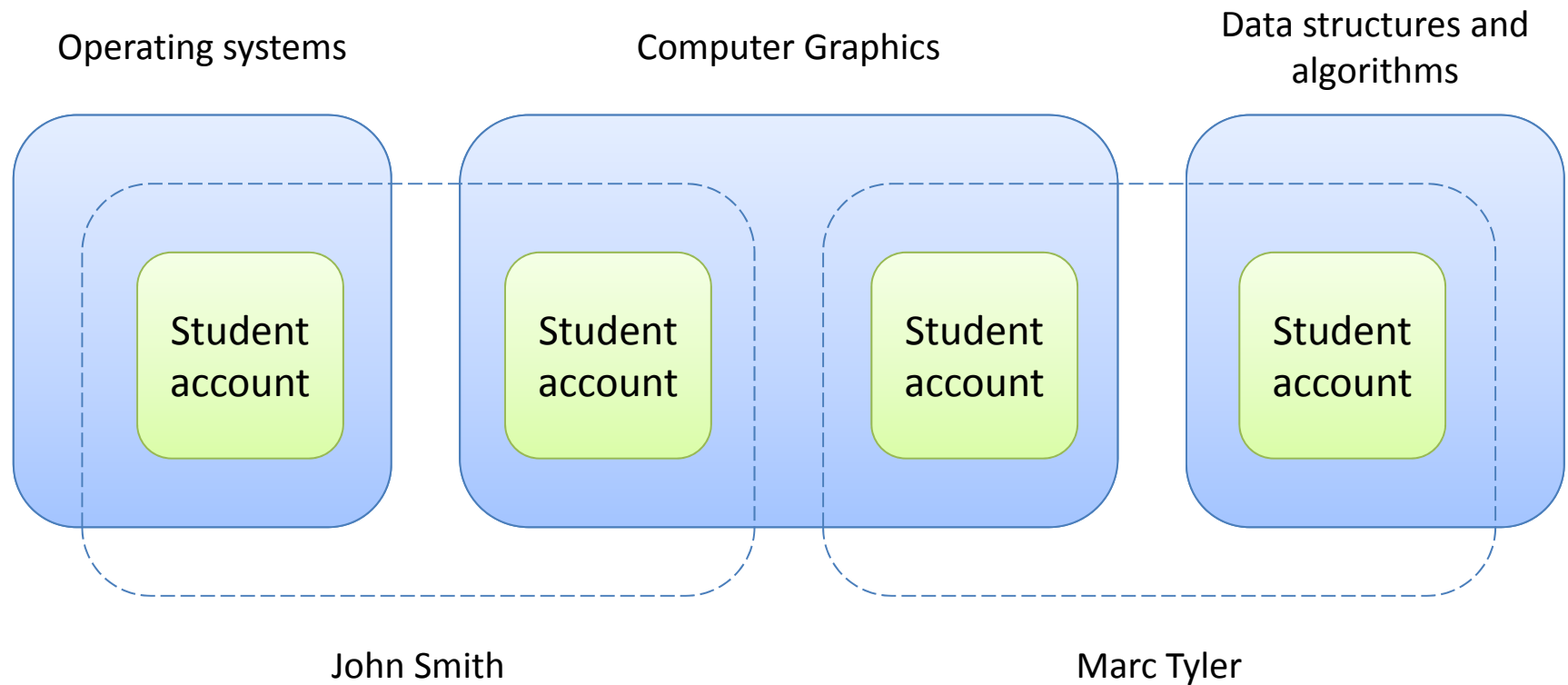
# Managing students

The screenshot shows a window titled "Student list" with a list of students on the left and a details panel on the right. The details panel shows information for the selected student, BlagojevicKatarina, including their name, computer name, group, password, address, and remaining time. There are buttons to manage these details and the student's status.

Students:	Name:	Computer:
BaranovskiNenad	BlagojevicKa...	VESNA (192....
BarjaktarovicMarko		
BearaVladimir	Group:	Change...
BertokGabor	2	
BikickiPavle	Password:	Reset
<b>BlagojevicKatarina</b>	*****	
BorsosAndor	Address:	Change...
Bosanac.Jasenska	Kath@EUnet....	
BoskovicMarko	Remaining time:	Prolong...
BozanicAleksandar	Run out	

Buttons at the bottom: Add student ..., Remove student, Refresh, Switch groups ...

# Internal workings



# Course information

```
<Course>
  <Name>Programming Languages</Name>
  <Directory>PJ</Directory>
  <GroupNumber>8</GroupNumber>
  <Language>Java</Language>
  <Language>Scheme</Language>
  <Template>Textual file</Template>
  <Template>Java program</Template>
  <Template>Java applet</Template>
  <Template>Java class</Template>
  <Template>Scheme function</Template>
  ...
</Course>
```

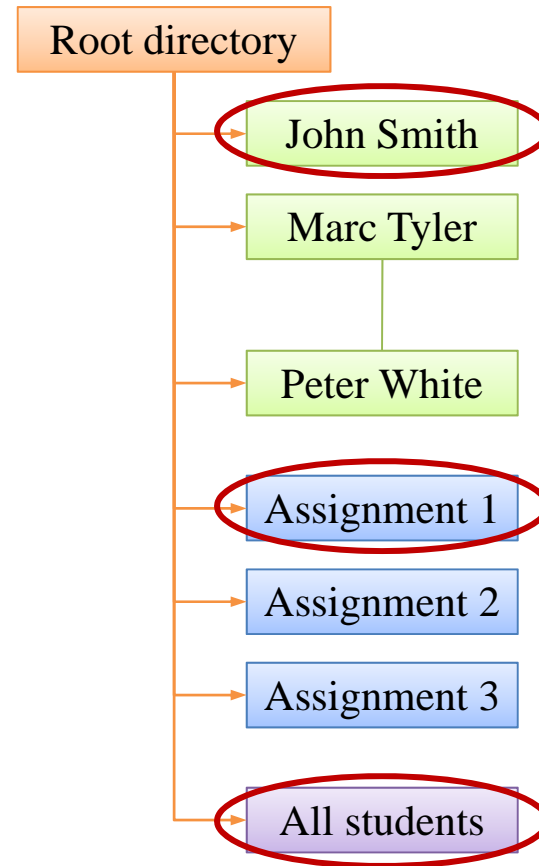
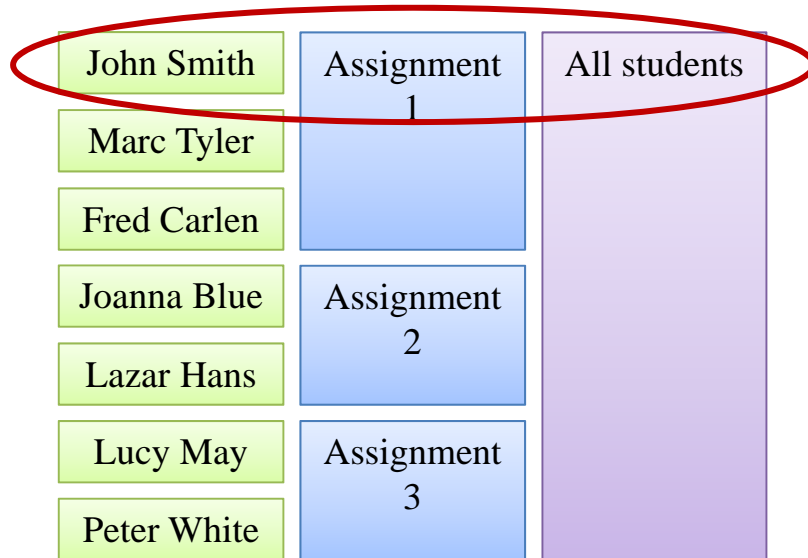
# Measures against cheating

- System clipboard not used
  - Using a local static clipboard
- Overriding cut, copy, paste, drag, drop...
- No files exist on local computer
  - All files are contained only in a virtual directory



# Virtual directories

One virtual directory



# The testing system

- A separate system
  - Can test solutions gathered by other means
  - Can swap-in other testing or submission systems
- Support of interactive and batch testing
- Students can test their solutions at any time
- Instructor can test all submitted assignments at once
- In both cases detailed reports are generated

# Conclusions

- Software fulfilled its goals
  - Less time spent on submission
  - Less effort spent on assessment
- Has been successfully used in many courses
  - Operating systems, Programming languages, Computer graphics, Compiler construction...
- There is room for improvement
  - Client IDE
  - Test repository
  - Plagiarism detection

Thank you for your attention

Questions?