Two year experience in System integration master course

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Agenda

- Course overview
- Delivery of the course
- Assignments and exams
- Results
- Student feedback
- Conclusions

Course overview

- Lectures on 6 main topics
  - Introduction, Java RMI, CORBA, XML, Web Services, Semantic integration
- Short lab assignments
  - 4 assignments (Java RMI, CORBA, XML, Web Services)
- Final project with oral defense
  - Work in teams
- Both master and undergraduate students
- Held in Serbia and Macedonia

Course history

- 2006/2007
  - R. Cortazar (Bilbao) and M. Stanković (Niš)
  - assistant from Niš
  - Lectures organized in Novi Sad and Niš
  - students from Novi Sad and Skopje
- 2007/08 & 2008/09
  - D. Pešović (Novi Sad), after training in Niš
  - assistents himslef and A. Mišev (Skopje)
  - lectures organized separately in Novi Sad and Niš
- 2009/2010 & 2010/2011
  - Z. Budimac (Novi Sad) and Ivan Pribela (Novi Sad)
  - lectures in Novi Sad (at lest for now)

Delivery of the course (before 2009/2010)

- Lectures
  - Two 3 day sessions (24 hours total)
  - Beginning and middle of the semester
  - Practical examples
- Slides
  - Published on Moodle before lectures
- Other resources
  - Internet and book references during lectures

Delivery of the course (last two years)

- Lectures
  - Two 8 hour sessions (16 hours total)
  - Beginning and middle of the semester
  - Practical examples
- Slides
  - Published on Moodle before lectures
- Other resources
  - Internet and book references during lectures

Assignments and exams (before 2009/2010)

- Assignments (35%)
  - Four 2 hour blocks in labs
  - 2-3 weeks following the lectures
  - Individual work
- Final project and oral defense (65%)
  - Homework during summer
  - Work in teams
  - Flight reservation system
  - Same each year

Assignments and exams (last two years)

- Assignments (35%)
  - Four 2 hour blocks in labs
  - 2-3 weeks following the lectures
  - **Work in pairs**
- Final project and oral defense (65%)
  - **5 weeks homework**
  - **Work in pairs**
  - Flight reservation system
  - **Slightly refactored**

Results
(previous years)

- ≈20 Students Enrolled
- ≈15 Students attended
- ≈10 Teams total
- 3 final projects submitted
  - One original
  - Other two were copies
- One team passed

Results
(last year)

- 36 Students Enrolled
- 30 Students attended
- 16 Teams total
- 91% average on lab assignments
- 70% average on final project
- 8 final projects submitted
  - All unique ☺

Results
(this year)

- ↗ 50+ Students Enrolled
- ↗ 42 Students attended
- ↗ 22 Teams total
- ↘ 88% average on lab assignments
- ↗ 90% average on final project
- ↘ 3 final projects submitted
  - – All unique ☺

Student feedback

- No formal questionnaire
- Amount of knowledge: some to much, some to few
- Difficulty of the lectures: ok, practical examples help much
- Course structure: well structured
- Previous knowledge: not too much (mostly Java)
- English language: sometimes a problem, not big
- Amount learned: younger students learned more
- Usefulness of learned knowledge: very useful

Student comments

- **First real world application during studies**
- This knowledge is really needed for big applications
- We can profit much from the course
- Can the next session be sooner, I can't wait
- The concepts are clear now
- Lecturer and practical examples are making students participate
- And good to keep students awake the whole day
- Too much stuff in only two sessions, too intensive
- Slower lessons, please
- More practical examples
- We know XML, it could be skipped
- Remove semantic integration, it is too theoretical
- I was afraid when I heard that the specification for final project will be in English
- **The final project is too broad and there are many solutions**

Conclusions

- The concepts presented are useful
- The lesions were still too intensive
- Practical examples keep student attention
- Some topics should be shortened (XML), others expanded (Java RMI)
- Assignments are balanced
- Final project illustrates everything presented
- Refactoring of the final project helped

What can be improved

- Continue to improve slide content
- More additional resources for further reading
- Change the final project
  - Completely: very costly
  - Add and remove parts: moderate cost
  - Small refactoring: much cheaper
- Split lesions to smaller blocks?

Thank you for your attention

Questions?