A Joint Course on Software Engineering: 
a Challenge for Cooperation, education and research

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1. Goals

Elaboration of a complete course on Software Engineering

- instructions for the lecturer
- exercises / assignments
- case studies
- recommendations for literature
- recommendations for SE tools
- examinations

- completely Web-based
  (advantage: students do not need textbooks)

discussion forum between the participating universities
2. Motivation: Why are we doing that?

a) Knowledge transfer:
   reuse experience of one university

b) Transfer of expenses:
   reuse of material (slides, exercises ...)

c) Discussion forum:
   - development of material in a group is productive
   - discussion about didactics, motivation, contents, literature ... is stimulating for all parties

d) Challenge for education and research:
   - multilingual
   - Web-based
   - distanced

→ CSEET: Conference on Software Engineering Education and Training
3. Basic course material

State of SE educational course material at HU

● 1995 - 2001

  continuing accumulation of material:
  conventional slides, exercises ...  -> see next slide

  all material Web-based (except for the slides)

● 2002 (April - July)

  1st version of ppt-slides:
  - not ideal
  - but not bad: because of experience

"under development"
SE home page (English)

Summer semester 2001

Introduction to
Software Engineering

lectures Mo 12 - 14, We 12 - 14, exercises Mo 14 - 16, We 14 - 16

I Overview
II Contents
III Exercises (*)
IV Guests
V Tools
VI Project
VII Literature / books SE
VIII Examinations (*)

since 2002: IV PPT slides in PDF:

1-, 2-, 6-sided

(remark: (*) only with pass word)
4. History and activities

DAAD project 2000 - 2003
Novi Sad workshop: idea 'Joint Course SE'

First steps:

   - translation of first slides: topics 19, 21, in Novi Sad: Topic 22 (new)
   - implementation of English SE Website
   - discussion of special problems:
     case studies, exercises ...

   paper
   "Multilingual Virtual Classroom Network
   for Software Engineering Module"

   - translation of slides for topics 11, 12, 23

   - translation of slides for topics 3, 20

5. Kay Schützler, Klaus Bothe
   - translation of slides for topics 1, 4, 5, 6

  ready:  1  3  4  5  6  11 12  19 20 21 22 23
  missing:  2  7  8  9  10  13 14 15 16 17 18  24 25 26

Novi Sad: Case study 'seminar organization'
  - requirements document in English
  - implementation in Java
5. Principles

PPT-slides:  
for the lecturer

PDF-slides:  
for the students

case study throughout the book

instructions  
for the lecturer:  
- about the content  
- about methodology

systematical structure of course material:  
- software phases  
- basic concepts
6. Remarks

- The material is an offer to be used as a whole or in parts

- The material should grow during next years (discussed, improved ...)

- Take into account the burden each of us has in normal university environment: Development of material will grow, but not in a high speed.

- Take the "joint course on SE’ as a scientific experiment:
  - produce material
  - evaluate: process of production of material
  - evaluate: use in lectures
  - new challenges / research topics:
    a) how to organize project Web sites
    b) how to organize communication / discussion: discussion forum
    c) how to manage version of ppt-slides:
      - version management for ppt
      - information system about modification
6. Remarks (cont.)

- Try to start with English slides first year
  (versions: D, E -> MK/SC/BG...)

- Case study: SemOrg as a prototype (prototype solution)
  modular inclusion / exchange of other case studies

- On the role of XCTL: use parts (e. g. manual adjustment)
  as a case study

- Several subjects of SE course: can emerge to separate courses:
  OOA/AAD with UML
  Testing
  Metrics
  Software Ergonomics
  Project management
  Petri nets
  Data Base
  Formal methods

  or: a course with a double volume
7. Perspectives

Planning:

HU: 2002 (with ppt slides)

Novi Sad (Zoran Budimac): 2003

???

DAAD program "Stability Pact" 2000 - 2003

Joint course: our chance to get support after this time