Instituto de computação uff

Configuration Management Course Outline

Leonardo Gresta Paulino Murta

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Why this course is in English?

- English is the official language of the scientific community worldwide
- Not practicing English makes it difficult to
  - Read papers
  - Write papers
  - Present our work at conferences
  - Understand and answer questions related to our work
- This is not an English course!
  - We will use English only as a communication tool

Language Skills	Explicit	Tacit
Input	Read	Listen
Output	Write	Speak

Introductions

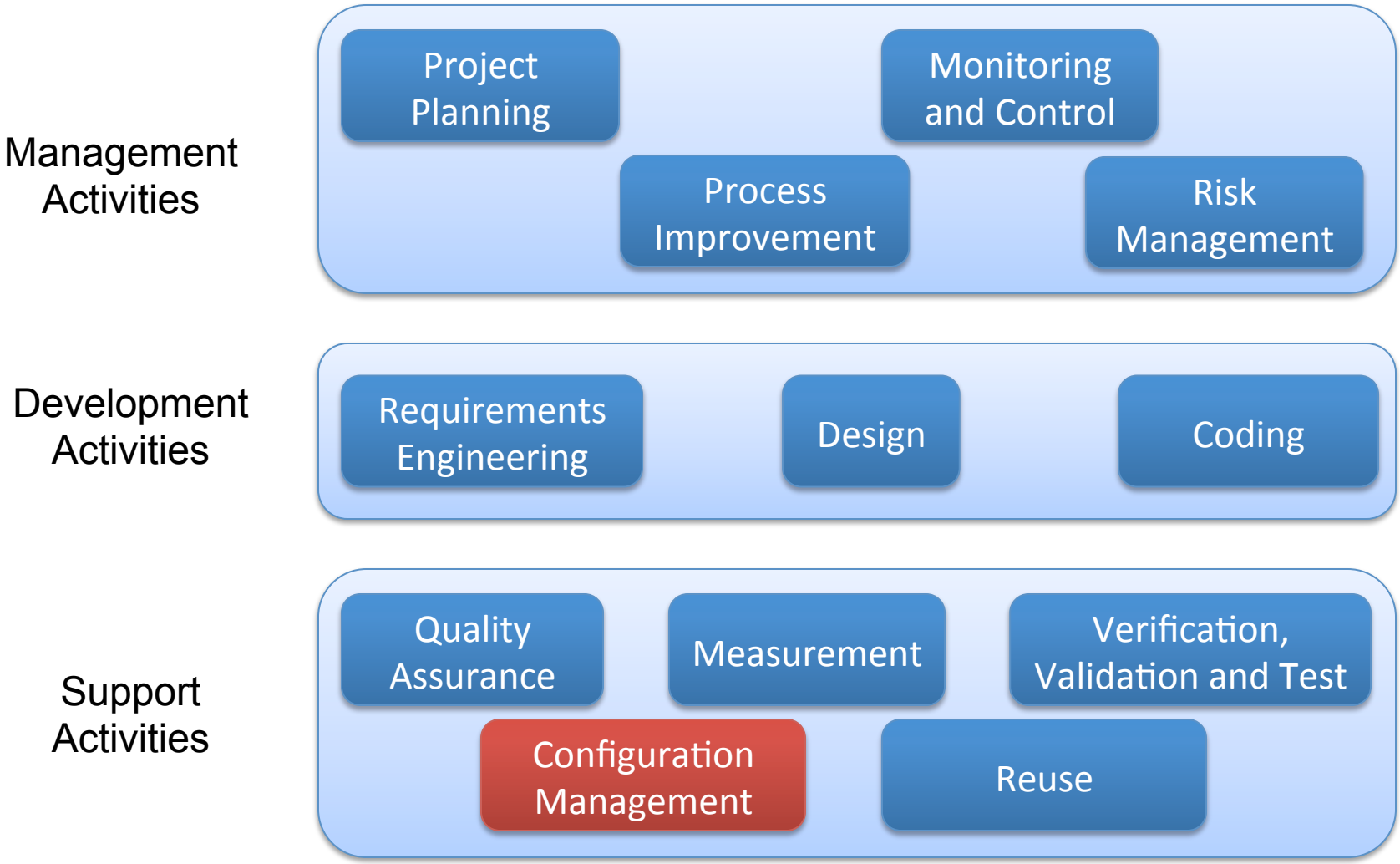
- Who am I?
  - Leonardo Murta
  - http://www.ic.uff.br/~leomurta
- Who are you?
  - Name? Level (BSc, MSc, DSc)?
  - Job? Internship?
  - Research Area? Thesis topic? Advisor?
  - Previous experience with Configuration Management?
  - What you expect for this course?

What is Configuration Management?

"CM is a discipline for **controlling the evolution** of software systems"

Susan Dart (1991)

CM and Software Engineering



Groups

- Undergrad students **may** perform all activities in groups of two
  - Groups should be defined in the first weeks and keep the same until the end of the course
- Grad students should perform all activities individually

Course Dynamics

- Usual week
  - Wednesdays: lecture (me)
  - Fridays: paper presentation and discussions (you)
- Seminar week
  - Presentations about the ongoing work of the term project
  - Three seminars during the course

Tentative Schedule

Date	Activity	Deliverable
13/08/2014	Lecture	
15/08/2014	Lecture	
20/08/2014	Lecture	
22/08/2014	Paper Presentation (1st reading)	
27/08/2014	Lecture	
29/08/2014	Paper Presentation (2nd reading)	
03/09/2014	Seminar (1st round)	
05/09/2014	Seminar (1st round)	
10/09/2014	Lecture	
12/09/2014	Paper Presentation (3rd reading)	
17/09/2014	Lecture	
19/09/2014	Paper Presentation (4th reading)	
24/09/2014	Lecture	
26/09/2014	Paper Presentation (5th reading)	
01/10/2014	No Class (CBSoft)	
03/10/2014	No Class (CBSoft)	
08/10/2014	Seminar (2nd round)	
10/10/2014	Seminar (2nd round)	
15/10/2014	No Class (Agenda Acadêmica)	
17/10/2014	No Class (Agenda Acadêmica)	
22/10/2014	Lecture	
24/10/2014	Paper Presentation (6th reading)	
29/10/2014	Lecture	
31/10/2014	Paper Presentation (7th reading)	
05/11/2014	Lecture	
07/11/2014	Paper Presentation (8th reading)	
12/11/2014	Lecture	
14/11/2014	Paper Presentation (9th reading)	
19/11/2014	Lecture	
21/11/2014	No Class (Recess)	
26/11/2014	Seminar (last round)	Term Paper (submitted via **EasyChair**)
28/11/2014	Seminar (last round)	
03/12/2014	No Class	Paper Reviews (submitted via **EasyChair**)
05/12/2014	Review of Course Grades	
10/12/2014	No Class	
12/12/2014	Supplementary Test	

Reading topics
(one or two papers per topic)

- CM Introduction
- Version Control Systems
- Versioning
- Concurrency Control (lock x merge)
- Pull Request
- Branching Strategies
- Research vs. Practice
- Repository Mining and Visualization
- Non-source-code Versioning

Paper Presentation

- Each student/group will be in charge of presenting some papers
  - Send me ASAP 4 papers from the list (see site) sorted by preference
  - Around 30 minutes
  - Using slides

- The remaining students/groups are supposed to ask questions and discuss about the papers
  - All students/groups should read all papers

Term Project

- Goal:
  - Apply CM over some other area
  - Apply some technique to support CM
  - Mine/Visualize CM repositories
  - Study some advanced CM technique
- Try to align the course project with your thesis theme
- It is important to define the term project theme in the first weeks
  - The first seminar will occur in less than one month!

Seminars

- 1st round
  - Context
  - Methodology
- 2nd round
  - Work progress
  - Partial results
- Final round
  - Final results
  - Experience report

Term Paper

- Types of projects
  - Theoretical: focus on related works and formal definitions
  - Implementation: focus on a tool and its evaluation
- Format:
  - 8 pages
  - SBC Style
- Content
  - Introduction: motivation and goal
  - Related work
  - Approach
  - Evaluation
  - Conclusion: contribution, limitation, and future work

Paper Reviews

- Papers will be submitted through a real conference management system, simulating a conference
- Each student will be a member of the program committee in this simulated conference, and will receive 3 papers to review
- All authors will receive 3 anonymous reviews of their papers by the end of the course
- The reviews will not influence the score of the term papers

Grading

$$Score = \frac{(2 \times \text{Paper Presentations} + 2 \times \text{Seminars} + 2 \times \text{Term Paper} + \text{Paper Reviews})}{7}$$

Grading

- Approved

Presence ≥ 75%

AND

Score ≥ 6

- Supplementary Test

Undergrad Student

AND

Presence ≥ 75%

AND

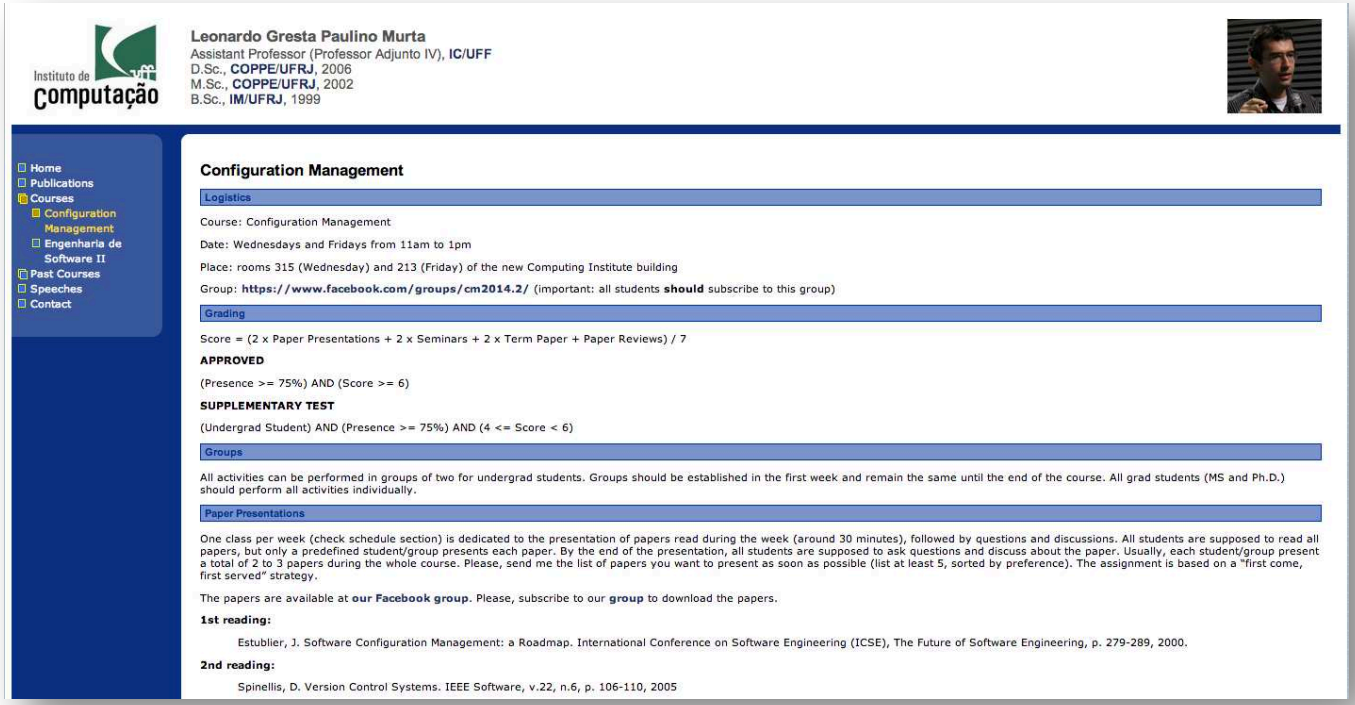
4 ≤ *Score* < 6

Important research tools…

- http://scholar.google.com.br
- http://www.informatik.uni-trier.de/~ley/db
- http://www.scopus.com
- http://ieeexplore.ieee.org
- http://portal.acm.org
- http://citeseer.ist.psu.edu

- Reference management: http://www.zotero.org

Course homepage



Instituto de computação

Leonardo Gresta Paulino Murta
Assistant Professor (Professor Adjunto IV), **IC/UFF**
D.Sc., **COPPE/UFRJ**, 2006
M.Sc., **COPPE/UFRJ**, 2002
B.Sc., **IM/UFRJ**, 1999

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Configuration Management

Logistics

Course: Configuration Management

Date: Wednesdays and Fridays from 11am to 1pm

Place: rooms 315 (Wednesday) and 213 (Friday) of the new Computing Institute building

Group: **https://www.facebook.com/groups/cm2014.2/** (important: all students **should** subscribe to this group)

Grading

Score = (2 x Paper Presentations + 2 x Seminars + 2 x Term Paper + Paper Reviews) / 7

APPROVED

(Presence >= 75%) AND (Score >= 6)

SUPPLEMENTARY TEST

(Undergrad Student) AND (Presence >= 75%) AND (4 <= Score < 6)

Groups

All activities can be performed in groups of two for undergrad students. Groups should be established in the first week and remain the same until the end of the course. All grad students (MS and Ph.D.) should perform all activities individually.

Paper Presentations

One class per week (check schedule section) is dedicated to the presentation of papers read during the week (around 30 minutes), followed by questions and discussions. All students are supposed to read all papers, but only a predefined student/group presents each paper. By the end of the presentation, all students are supposed to ask questions and discuss about the paper. Usually, each student/group present a total of 2 to 3 papers during the whole course. Please, send me the list of papers you want to present as soon as possible (list at least 5, sorted by preference). The assignment is based on a "first come, first served" strategy.

The papers are available at **our Facebook group**. Please, subscribe to our **group** to download the papers.

1st reading:

Estublier, J. Software Configuration Management: a Roadmap. International Conference on Software Engineering (ICSE), The Future of Software Engineering, p. 279-289, 2000.

2nd reading:

Spinellis, D. Version Control Systems. IEEE Software, v.22, n.6, p. 106-110, 2005

Read the course rules!!!

http://www.ic.uff.br/~leomurta

(hint: monitor changes with http://www.changedetection.com)

Important: subscribe to our group at Facebook!
(all readings are available in the group)

Fair Play!

http://www.claybennett.com/pages/ethics.html

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