

Configuration Management Course Outline

Leonardo Gresta Paulino Murta

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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 and Version Control?

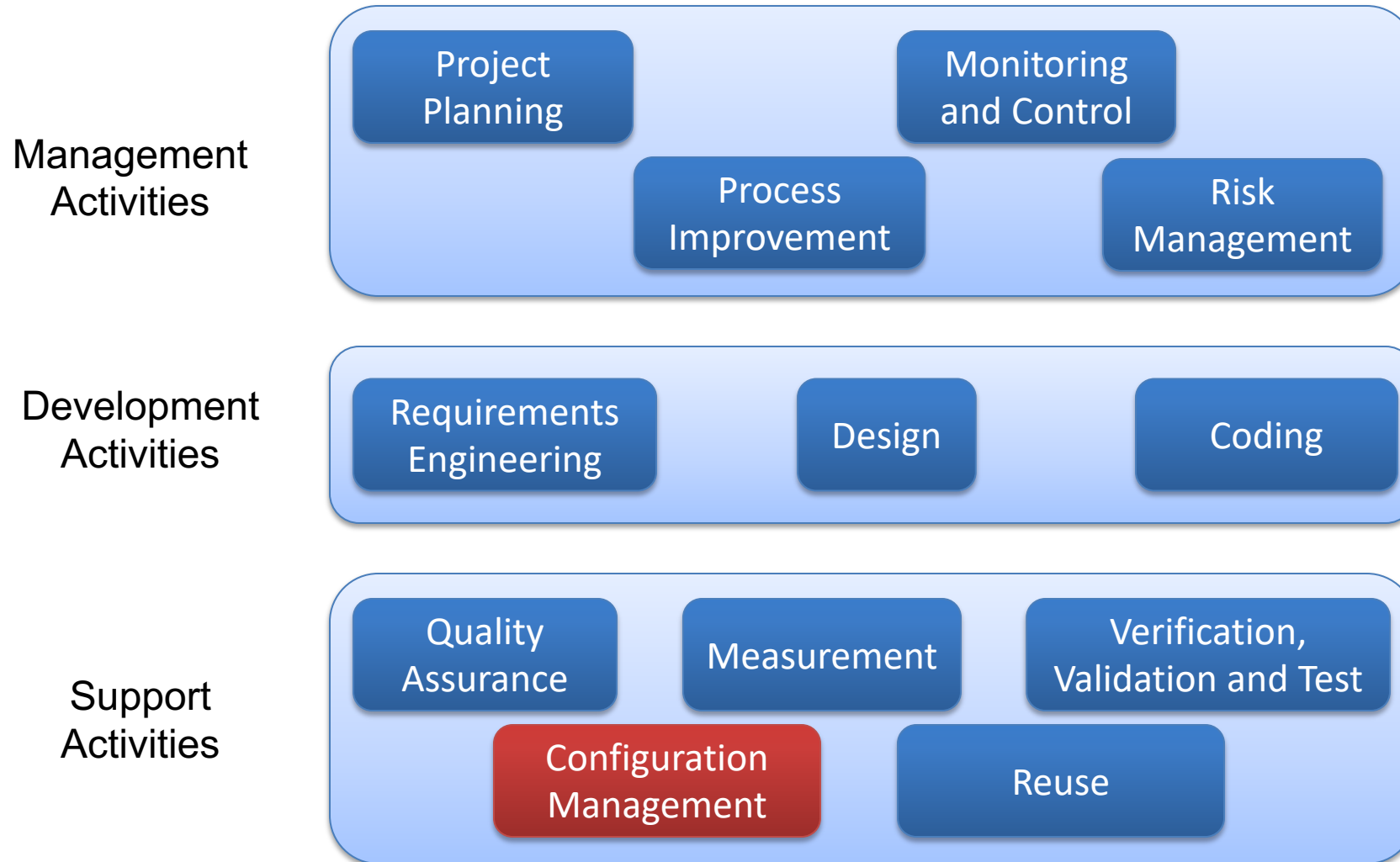
“**Configuration Management** is a discipline for **controlling the evolution** of software systems”

Susan Dart (1991)

“**Version control** is a system that **records changes** to a file or set of files **over time** so that you can recall specific versions later”

Scott Chacon and Ben Straub (2014)

Software Engineering vs Configuration Management

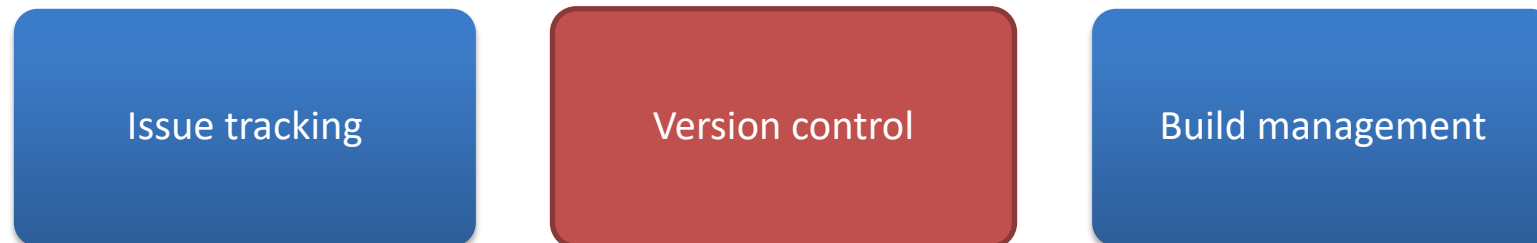


Configuration Management vs Version Control

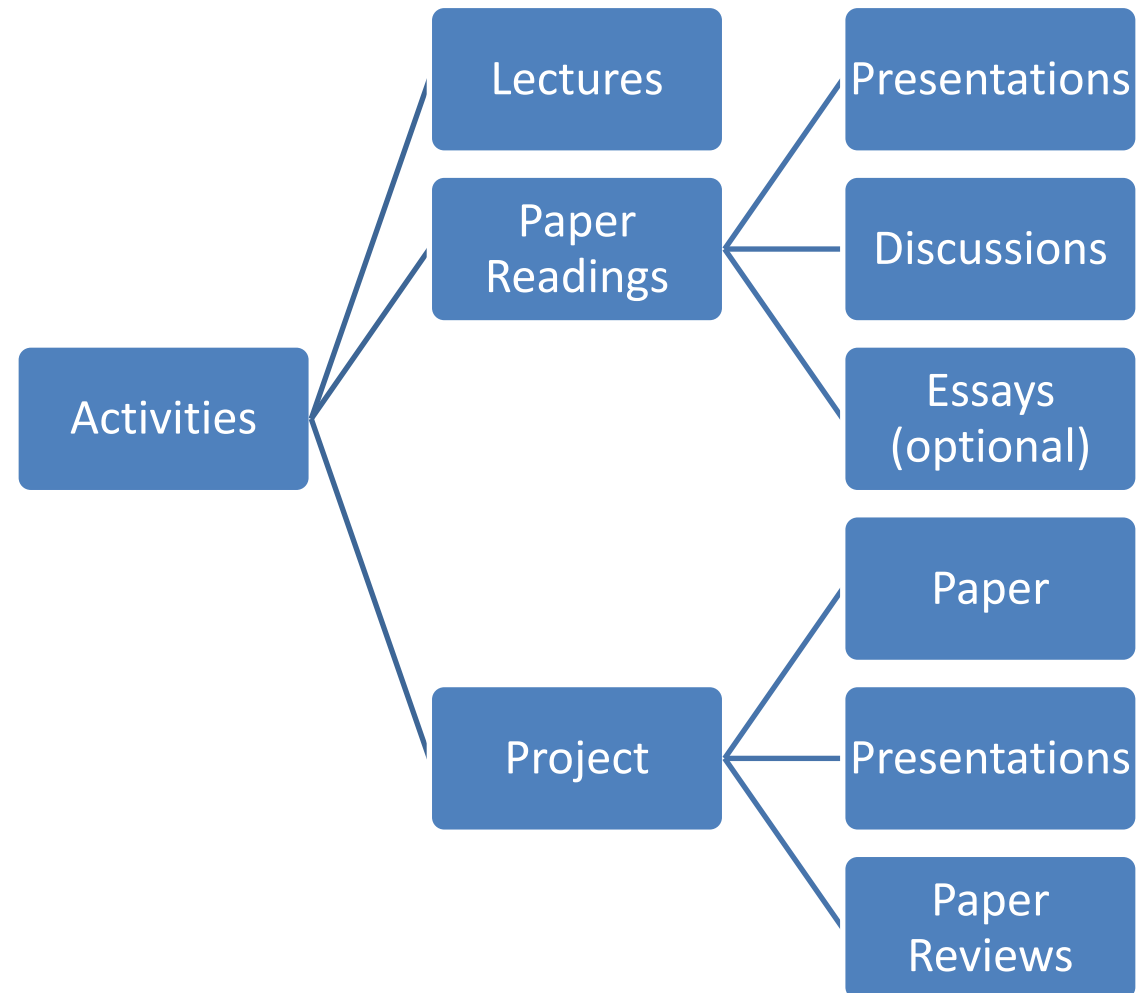
Processes
(management
perspective):



Systems
(development
perspective):



Course Dynamics



Course Dynamics

- Usual week
 - Tuesdays: paper presentation (you) and discussions (us)
 - Thursdays: lecture (me)
- Project presentations week (x3)
 - Presentations about the ongoing work of the project
 - Three presentations during the course

Reading topics

1. Git (getting started)
2. Git (basics)
3. Git (branching)
4. Git (distributed)
5. Git (tools)
6. Git (internals)
7. Versioning
8. Merge
9. Branching
10. Repository Mining (promises and perils)

Paper Presentation / Discussions

- All students should read all papers
- Each student will be in charge of presenting some papers (around three)
 - Send me ASAP five papers from the list (see site) sorted by preference
 - 30 minutes maximum
 - Using slides
 - Demos are welcome!
- The remaining students are supposed to ask questions, provide comments, and answer questions about the paper being presented
 - Deepness of the questions
 - Quality of the discussion
 - Intensity of the interaction

Project

- Goal:
 - Apply Configuration Management over some other area
 - Apply some technique to support Configuration Management
 - Mine/Visualize Configuration Management repositories
 - Study some advanced Configuration Management technique or tool
 - Implement some Configuration Management algorithm
- Try to align the course project with your thesis theme
- It is important to define the project theme in the first weeks
 - The first seminar will occur in about a month!

Project Paper

- Types of projects
 - Theoretical: focus on the literature and formal definitions
 - Implementation: focus on a tool and its evaluation
 - Analytical: study some phenomena usually by mining repositories
- Format:
 - 4 pages
 - ACM Style
- Content
 - Introduction: motivation and goal
 - Related work
 - Approach
 - Evaluation
 - Conclusion: contribution, limitation, and future work

Project Presentations

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

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 **around three papers to review**
- All authors will receive three anonymous reviews of their papers by the end of the course
- The reviews will not influence the score of the papers

Essays

- Students that are not in charge of paper presentations in the week **may** individually write essays about the papers of the week
- Format: A4 page, font 12, margin of 2 cm, single spacing
- Content: paper title, student name, and the essay
- Students with final grade between 5.5 and 6.0 will have their essays graded, summing up to 0.5 points, eventually rounding the grade to 6.0

Tentative Schedule

Data	Atividade	Entrega
19/03/2024	Aula	
21/03/2024	Aula	
26/03/2024	Apresentações de artigos (1a e 2a leituras)	Resumos (opcional)
28/03/2024	Aula	
02/04/2024	Apresentações de artigos (3a leitura)	Resumo (opcional)
04/04/2024	Aula	
09/04/2024	Apresentações de artigos (4a leitura)	Resumo (opcional)
11/04/2024	Aula	
16/04/2024	Apresentações de trabalhos (1a rodada)	Slides
18/04/2024	Apresentações de trabalhos (1a rodada)	Slides
23/04/2024	Apresentações de artigos (5a leitura)	Resumo (opcional)
25/04/2024	Aula	
30/04/2024	Apresentações de artigos (6a leitura)	Resumo (opcional)
02/05/2024	Aula	
07/05/2024	Sem aula (CibSE)	
09/05/2024	Sem aula (CibSE)	
14/05/2024	Apresentações de trabalhos (2a rodada)	Slides
16/05/2024	Apresentações de trabalhos (2a rodada)	Slides
21/05/2024	Sem aula (SBRC)	
23/05/2024	Sem aula (SBRC)	
28/05/2024	Apresentações de artigos (7a leitura)	Resumo (opcional)
30/05/2024	Sem aula (Corpus Christi)	
04/06/2024	Apresentações de artigos (8a leitura)	Resumo (opcional)
06/06/2024	Aula	
11/06/2024	Apresentações de artigos (9a leitura)	Resumo (opcional)
13/06/2024	Aula	
18/06/2024	Apresentações de artigos (10a leitura)	Resumo (opcional)
20/06/2024	Aula	Trabalho (submeter via EasyChair)
25/06/2024	Apresentações de trabalhos (3a rodada)	Slides
27/06/2024	Apresentações de trabalhos (3a rodada)	Slides e avaliações de artigos (submeter via EasyChair)
02/07/2024	Vista de avaliações de 9h às 10h na sala 433 (opcional)	
04/07/2024	Verificação suplementar (somente graduação)	
09/07/2024	Vista de prova de 9h às 10h na sala 433 (opcional)	

Grading

$$\text{Score} = \frac{2 \times \text{Paper Presentations} + \text{Discussions} + 2 \times \text{Project Paper} + \text{Project Presentations} + \text{Reviews}}{7}$$

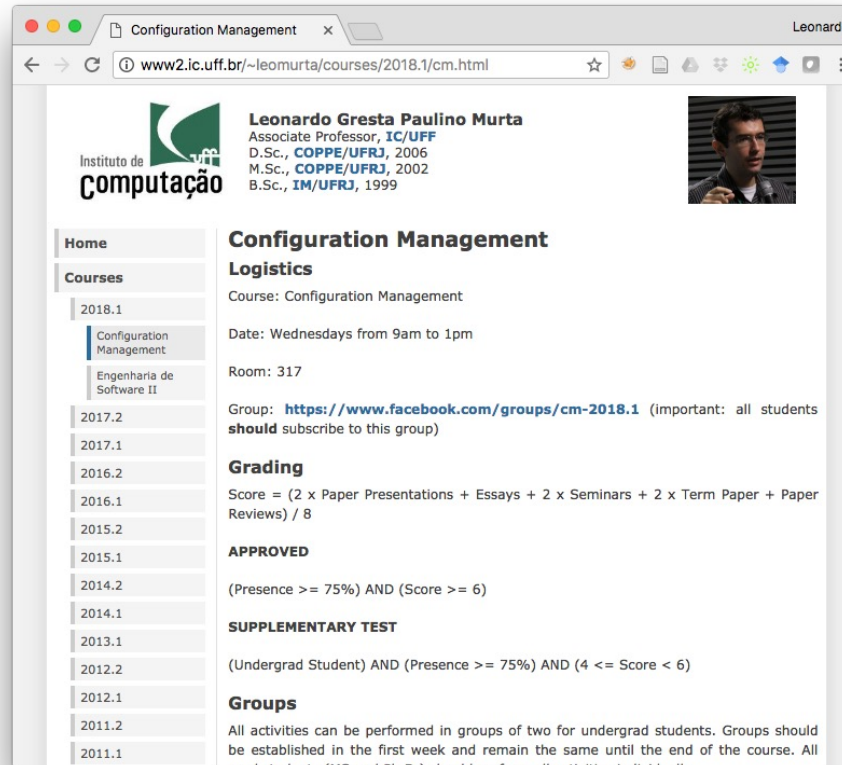
Approved if $\text{Score} \geq 6$

Important research tools...

- <http://scholar.google.com.br>
- <https://dblp.org>
- <http://www.scopus.com>
- <http://ieeexplore.ieee.org>
- <http://portal.acm.org>
- <https://www.periodicos.capes.gov.br>

- LaTeX editor: <http://www.overleaf.com>
- Reference management: <http://www.zotero.org>

Course homepage



Configuration Management

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Associate Professor, IC/UFF
D.Sc., COPPE/UF RJ, 2006
M.Sc., COPPE/UF RJ, 2002
B.Sc., IM/UF RJ, 1999

Configuration Management
Logistics
Course: Configuration Management
Date: Wednesdays from 9am to 1pm
Room: 317
Group: <https://www.facebook.com/groups/cm-2018.1> (important: all students should subscribe to this group)

Grading
Score = (2 x Paper Presentations + Essays + 2 x Seminars + 2 x Term Paper + Paper Reviews) / 8

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

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

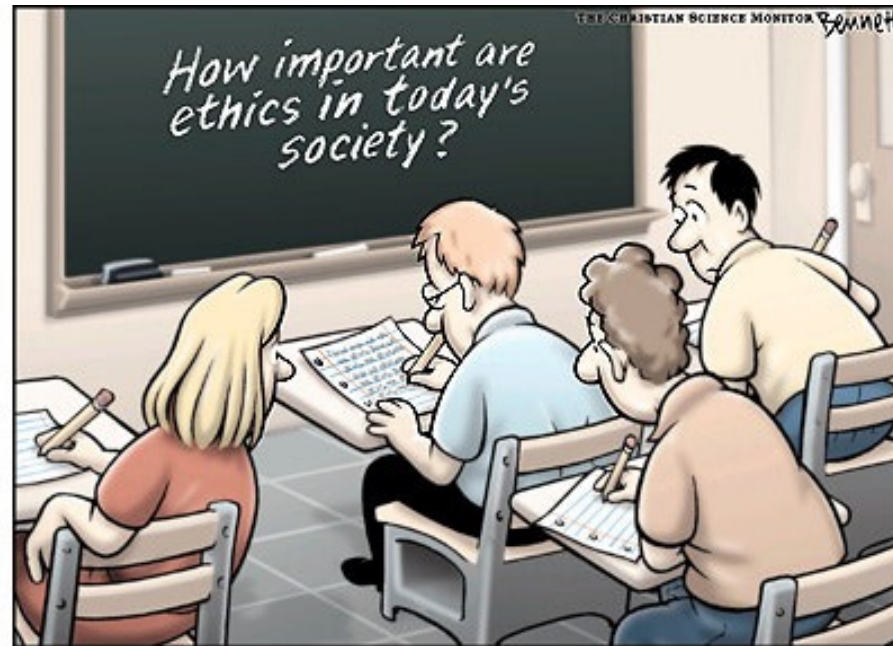
Groups
All activities can be performed in groups of two for undergrad students. Groups should be established in the first week and remain the same until the end of the course. All grad students (M.Sc. and Ph.D.) should perform all activities individually.

Read the course rules!!!

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

Important: all readings are available in our Google Classroom

Fair Play!



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

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