Software and Systems Engineering*

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Overview

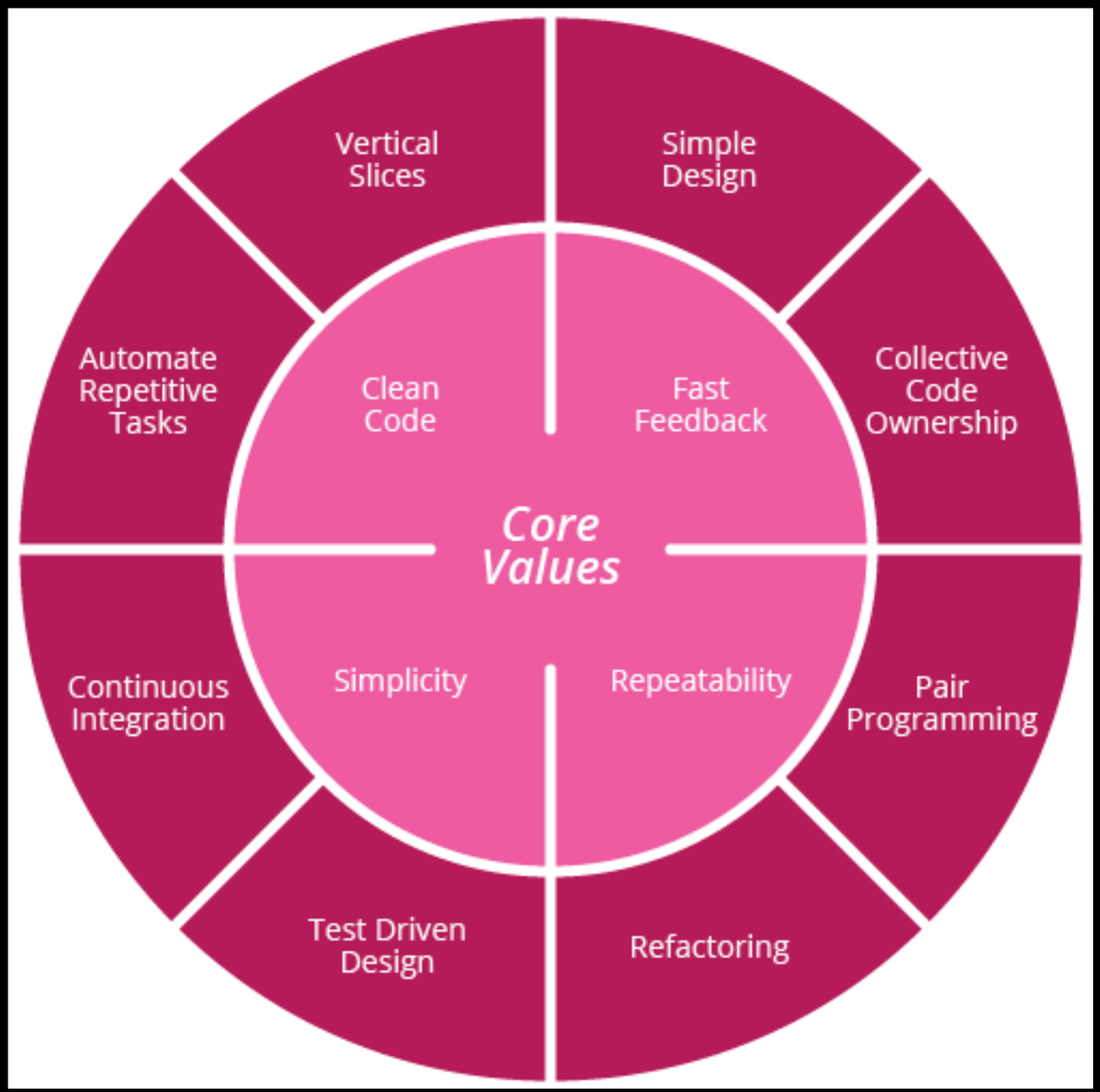
Tasks

1. Defining, maintaining and managing requirements
2. Managing configurations and changes
3. Managing software projects
4. Implementing, maintaining and executing tests
5. Designing, implementing and maintaining features
   - Creating or adapting features
   - Finding and fixing bugs
6. Refactoring
   - Finding and fixing reuse and modularity issues

Background

- Process and collaboration technologies
  - git, GitHub, modular development
- Software architecture concepts
  - web architecture, patterns
- Programming and testing technologies for SaaS (software as a service)
  - HTML, Typescript, Angular, Node.js, Cucumber

Thoughtworks core values and practices



Expected Results

- Develop quality systems, in a productive way, using techniques and tools
- Apply refactoring techniques to increase code reuse and modularity
- Critically compare techniques and tools, identifying their advantages, disadvantages, and limitations

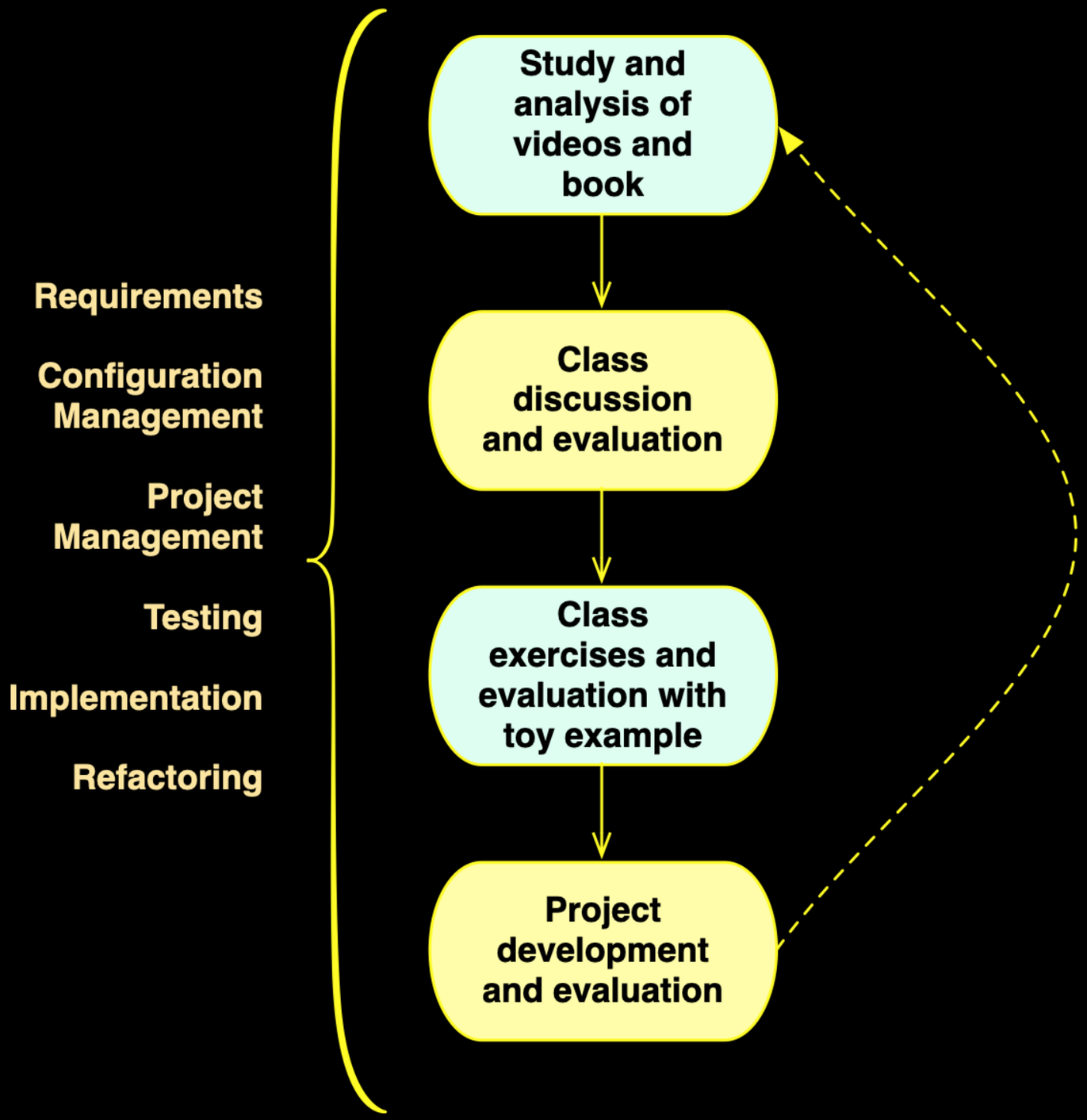
Focus on Software as a Service (SaaS), not systems in general

Focus on Agile development, not more rigorous techniques

You will not become a software engineer with this course, but you will find out the way to become one!

Tasks and recommendations

Course structure



Systems

- Non trivial system
- Frequent access to the stakeholders is mandatory
- Developed with the technology used in the example discussed in the course
- Existing or new system (and small, in case of new)

My expectations

- Ethical behavior (fraud implies in failing the course)
- Attendance to all classes and evaluation sessions (unless progress is shown before class)
- Punctuality
- Good time management and minimum dedication of 10-12 hours a week (including classes)
- Behave as CS elite

Textbook

Engineering Software as a Service: An Agile Approach Using Cloud Computing

by David Patterson and Armando Fox

http://www.saasbook.info

(Portuguese version is available, but English skills are very important for a software engineer)

You should primarily study by reading the textbook!

Studying by reading the slides and wikipedia is a very bad idea!

Classes are for discussing the material studied before the class

Do not expect to learn only through classes!
Watch, read and practice!

Manage your time!

Make sure you make the most of this opportunity!

Resources

Classroom: l4wnrtf

GitHub (slides): damorim/software-engineering-courses

Carefully follow the course guidelines!

https://bit.ly/2T9JVNz

Communication

ess-cc-ufpe.slack.com

#general, #naaula

google classroom

damorim@ (com [ESS] no subject)

Para quem precisa de uma melhor base de leitura e escrita em Inglês, recomendo muito investir agora. Reforço fortemente a importância do domínio do Inglês para a carreira em computação, e a disponibilidade de cursos de Inglês de baixo custo no CAC e no SENAC.

Course evaluation

Learning goals

Entender motivação e conceitos de requisitos	Entender motivação e conceitos de gerência de configuração	Entender motivação e conceitos de gerência de projetos	Entender motivação e conceitos de testes	Entender motivação e conceitos de projeto e implementação	Entender motivação e conceitos de refatoração

Elicitar e escrever com qualidade artefatos de requisitos	Participar efetivamente de equipes de desenvolvimento (revisar artefatos, se comunicar e colaborar efetivamente)	Implementar com qualidade testes de unidade, integração e aceitação	Projetar e implementar com qualidade features e cenários

Evaluation items

- Project (7)
- Class and slack participation (1)
- Quizzes (2)
- Exercise sets (1 extra points)

includes questions related to the Project (so must be delivered on time)

Project evaluation

- requirements (1)
- configuration management (1)
- project management (1)
- tests (2)
- design and implementation (3)
- refactoring (1)
- individual presentation (practical and conceptual questions, auto-evaluation)

Class and slack participation

- Asking questions
- Discussing topics
- Answering questions from other students
- Correcting answers from other students

quizzes are answered during classes (check calendar)

no second chance for quizzes

oral final exam

Assignment: Introduce yourself...

- Name
- What do you expect from this course?
- What questions do you have about the course?

Take care of yourself

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