Software Engineering Project

David Baelde   Lucca Hirschi

{baelde,hirschi}@lsv.ens-cachan.fr

MPRI, ENS Cachan, 2016/2017

Goals

Project

- Realistic software development experience
- Produce finalized application, usable and maintainable
- More programming experience

Software Engineering

- Problems: large code base, large team, long time
- Various "solutions":
  methodology, design, coding techniques, tools. . .
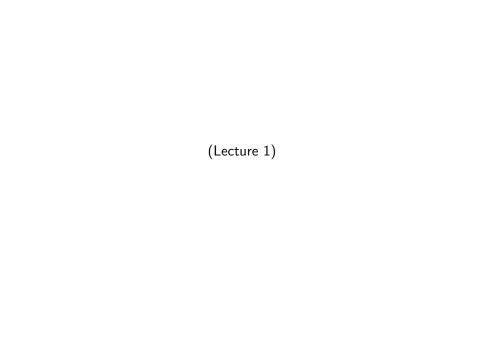- Fundamental concepts as well as some practical techniques

Organization

Lectures

- ▶ Principles of software engineering
- ▶ Architecture, design and modeling
- ▶ Rigorous software development, testing and debugging
- ▶ Tutorials on various useful tools

Project

- ▶ Complete software project, from design to release & demo
- ▶ Mandatory project meetings whenever no lecture
- ▶ Evaluation based on final release and individual activity

(Lecture 1)

Your project

A few constraints

- Groups of 8+ students: enough (development) work for all
- Based on tools freely available on linux (C411 machines)
- Code repository (e.g. git) visible by instructors
- Code hosting platform (e.g. github) with issue tracker, discussions, wiki, continuous integration

Your project

A few constraints

- Groups of 8+ students: enough (development) work for all
- Based on tools freely available on linux (C411 machines)
- Code repository (e.g. git) visible by instructors
- Code hosting platform (e.g. github) with issue tracker, discussions, wiki, continuous integration

Apart from that, you can do
whatever you want!

Project descriptions

Start with a relatively precise description of your project:

- ▶ Avoid endless discussions on what you want to do.
- ▶ Set yourself a clear goal:
  good for motivation (before) + self-criticism (after).

Contents

Not much more than two pages, containing two parts:

1. General description
2. Precise goals (immediate, final, optional)

Need not be present: technological choices, implementation details, organization in subgroups.

Some examples given on the website of the course.

Project proposals

Try to think of something

- Large ⤳ be ambitious!
- Modular ⤳ propose a decomposition in sub-projects.
- Interesting ⤳ exploit various skills, make it fun or useful.

Have an idea?

- Prepare a project description, let everybody know.
- Next time (sept. 22): present your proposals.
- Groups will be formed based on interest.
- Work on final project descriptions, due by oct. 29.

Some ideas

Example project proposals may be found on our website:

- ▶ Rogue-like
- ▶ Banking assistant
- ▶ Smart subtitle system

Other ideas:

- ▶ Your favorite board game, with online playing, awesome graphics and (strong) artificial intelligence
- ▶ Static analysis tools for your favorite programming language
- ▶ Tool to play with your favorite objects from computer science
- ▶ Yet another text editor, mail client, programming language...

Some ideas

Example project proposals may be found on our website:

- ▶ Rogue-like
- ▶ Banking assistant
- ▶ Smart subtitle system

Other ideas:

- ▶ Your favorite board game, with online playing,
  awesome graphics and (strong) artificial intelligence
- ▶ Static analysis tools for your favorite programming language
- ▶ Tool to play with your favorite objects from computer science
- ▶ Yet another text editor, mail client, programming language...

... but you'll probably have better ideas ;)