Introduction to the course Year 2016-17

(01OPJIU) Empirical Methods in Software Engineering

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Who

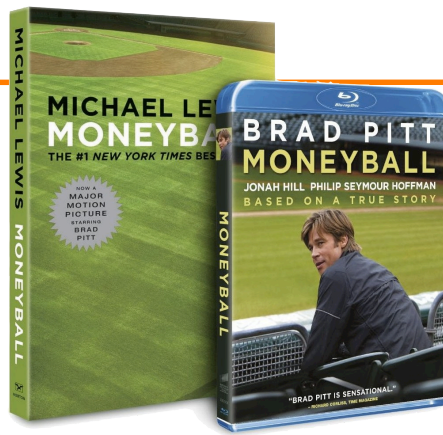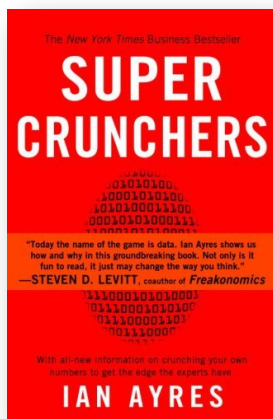- Marco Torchiano
  - ◆ Software Engineering group

- And what about you?
  - ◆ Who are you?
  - ◆ Which is your research topic?
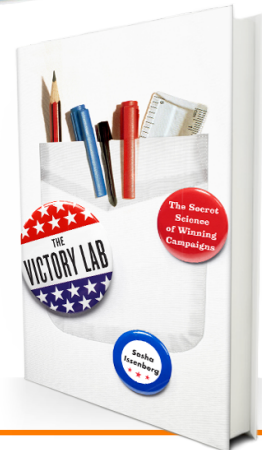 - ◆ What do you expect from this course?

Motivation

- An increasing number of empirical studies are being conducted
- A common basic knowledge is required
  - ◆ To improve quality of studies
  - ◆ To design and discuss the studies
  - ◆ To understand and assess them

Not only Soft Eng

Sample results from a study

Elapsed

Algorithm

B

A

230 240 250 260 270 280 290 300
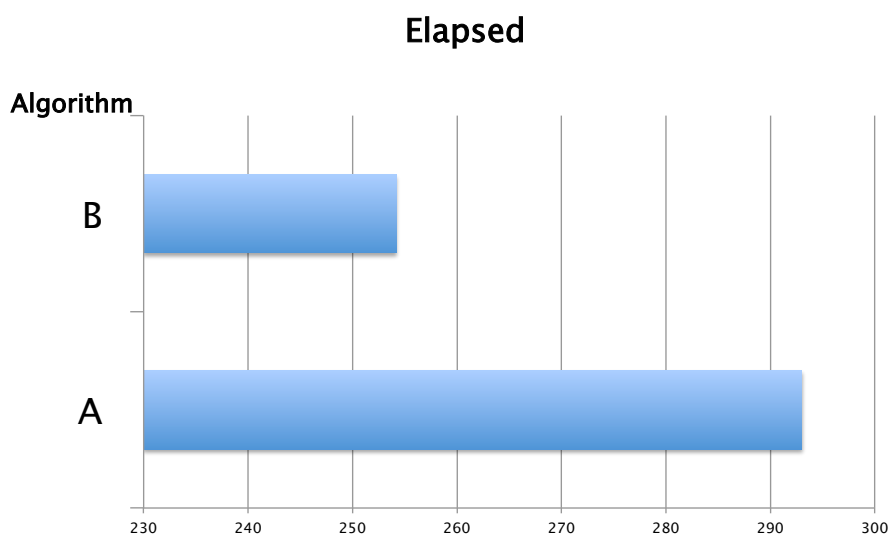
The actual data
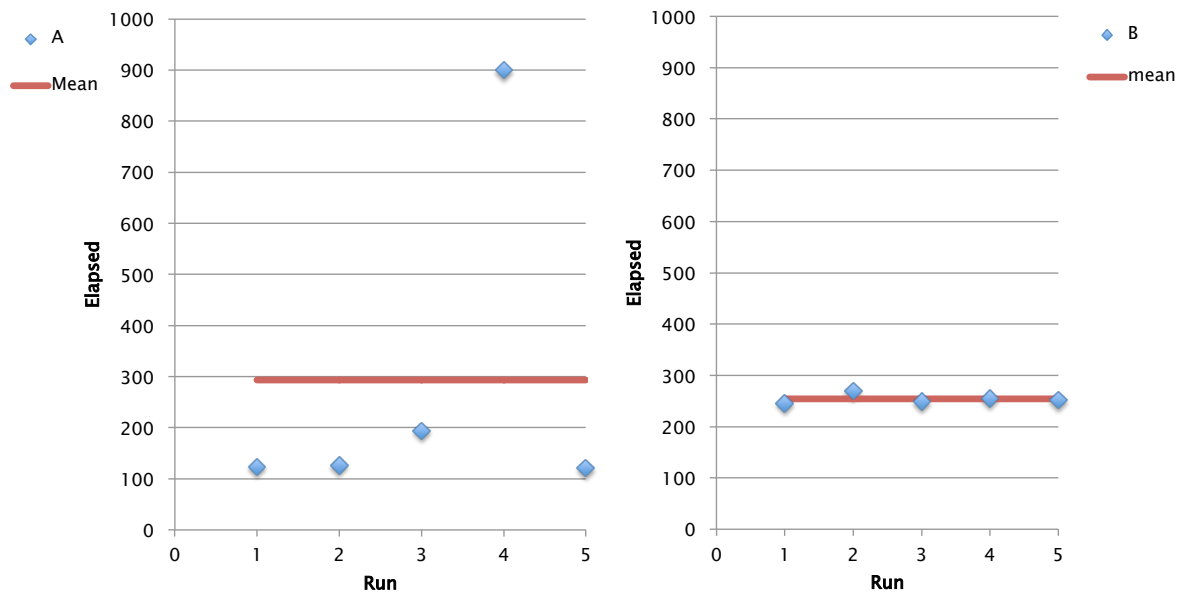
Required Skills

- Visualize data properly
- Design a valid experiment
  - ◆ Define proper measures
- Analyze data
- Assess existing literature evidence

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Understand the epistemological basis

Topics

- Empirical Method
- Systematic Literature Review
- Experimental Process
- Measurement
- Data Analysis
- Data Visualization
- Surveys

Exam rules

- Alternatives
  - ◆ Dirtying your hands with an experiment
    - – Collective experiment
    - – Re-analyze data
  - ◆ Appraisal
    - – Perform a SLR on a topic of your choice
    - – Characterize and assess empirical study
- Must be completed within July 2017

Schedule

- Tue 7 Feb, 14:00 – Introduction
- Wed 8 Feb, 14:00 – Experimental process
- Wed 22 Feb, 14:00 – Software Measurement
- Thu 23 Feb, 9:00 – Systematic Literature Reviews
- Fri 24 Feb, 14:00 – Data visualization
- Tue 28 Feb, 14:00 – Data analysis
- Thu 2 Mar, 14:00 – Population surveys