Components of a Computing System
Introduction to Computer Architecture and Operating Systems

Albert Cohen — Albert.Cohen@inria.fr

École Polytechnique — Licence 3 — INF422

2013–2014

About Us

Albert Cohen

Senior research scientist at INRIA Paris-Rocquencourt and DI, ENS Paris, PARKAS group
http://www.di.ens.fr/ParkasTeam.html

- Automatic parallelization, optimizing compilation
- Synchronous languages, data-flow languages, parallel programming

Vincent Pilaud

CNRS researcher at LIX, École Polytechnique, Combinatorics group

Nhat Minh Lê

PhD student at ENS Paris, INRIA PARKAS group

Organization

Practical Information

- 9 lectures (in English) and 9 labs (in French)
- One term exam (principles, algorithms, programmer interface)
- INF422 is not business as usual: lots of information, most of it is out in the wild (books, web, code, experience)
- If you are lost, do not wait before asking for help
- Elect a pair of delegates before November 16
  - Have lunch once or twice with the teachers
  - Interface for course and labs (global) concerns
  - Coordinate the course feedback/evaluation report

Prerequisites

- Attending lectures and labs
- Programming, reading code and documentation after lab hours

http://www.enseignement.polytechnique.fr/informatique/INF422

Labs

Goals

- Concrete, realistic examples
- Survey of the whole software system on a virtual machine
- Illustration of hardware principles through the study of device drivers
- Balance between principles, Java, script and system programming

History

- INF422 was the first Android-based course on computer organization and systems: it started with the Android SDK v0.9 in August-October 2008

  Note: the very first course was created by Hal Abelson and Andrew Yu at MIT, for advanced programmers:
  http://people.csail.mit.edu/hal/mobile-apps-spring-08
- *We hope to teach the most relevant concepts, introducing standard interfaces and system architectures from the real world, without asking you to become a professional software developer*

Outline