Software Architecture

Syllabus

Olivier Boissier

Mines Saint-Etienne

Olivier.Boissier@emse.fr

Fall 2019

Objective

- To understand the current issues and problems in the definition of the architecture of IT system
- Considered IT systems:
  - result from the integration of existing systems (systems of systems),
  - operate in distributed environments Web, IoT, Cloud, …

- Content:
  - Software Architecture:
    - Definitions and global overview, modeling
  - Architectural styles
    - Pipes and Filters, Shared-data
    - Client/Server (two-tiers, three-tiers, n-tiers),
    - User Interface Styles,
    - Service Oriented Architecture Styles (SOA, REST, micro-services), Cloud Computing,
    - P2P (e.g. blockchain)
      …
  - Architecting, Role of the Architect

Agenda

- **SA 1 – 22/11/19 13:30 – 16:45** (O. Boissier)
  - Introduction to Software Architecture
  - Architectural Styles part I
- **SA 2 – 29/11/19 13:30 – 16:45** (O. Boissier)
  - Architectural Styles part II
- **SA 3 – 13/12/19 08:15 – 11:30** (S. Col)
  - Agile Architecture Development
  - How to Architect a Software System part I
- **SA 4 – 13/12/19 13:30 – 16:45** (S. Col)
  - How to Architect a Software System part II
- **SA 5 – 20/12/19 13:30 – 16:45** (O. Boissier)
  - Case Studies (Oral Presentations)

- S. Col Architecte au sein de Kuehne/Nagel

Grading Policy

- Case Study (CS)
- Grade = CS