

Software Engineering and Architecture

Introduction to Agile Software Development

Olivier Liechti

HEIG-VD

olivier.liechti@heig-vd.ch



MASTER OF SCIENCE
IN ENGINEERING

Quick personal intro...

- Olivier Liechti
- Professor at the **HEIG-VD** since **2007**, teaching various topics related to **software development** (network programming, protocols, web services, mobile development, object-oriented frameworks, Java EE, etc.).
- CTO at **Lotaris**, a start-up active in the mobile Internet space and based in Yverdon-les-Bains.
- Before joining the HEIG-VD, worked for 6 years at **Sun Microsystems** as a “Java architect” (doing software development on small and large integration projects).
- Ph.D. at **Hiroshima University**, working on computer supported cooperative work, ubiquitous computing and web-based systems. Master degree from **University of Fribourg**, working on object-oriented frameworks.

Topics for the course

- **Software engineering**

- Agile methodologies and practices (XP, scrum, lean)
- Continuous integration & continuous delivery

- **Software evolution**

- Scientific approach
- Engineering approach

- **Software architecture**

- Software engineering in the cloud & for the cloud
- Domain Specific Languages
- Design of (REST) APIs

Activities

- Lectures
- Guest speakers
- Labs and “mini”-projects
- Readings & personal research

Quick survey...

- Who knows about **XP**? About **scrum**?
- Who has already used an **agile methodology** in a **professional environment**?
- Who has already **worked in a team** (on a significant project)?
- Who has already used **Jira** and **Greenhopper**?
- Who is used to work with **continuous integration tools** & processes?
- Who is familiar with **continuous delivery**?
- Who is familiar with **Behavior-Driven Development**?
- Who is a contributor to an **open source** project?

Planning

Date		Theory	Practice
20.09.12	agile	Introduction to agile & scrum	
27.09.12	agile	Agile development tools	Agile development tools
04.10.12	agile	User Stories	Guest speaker (Lotaris)
11.10.12	agile	The Product Owner	Presentations Agile Development Tools
18.10.12	agile	Lean Development	Guest speaker (Octo)

01.11.12	agile	Continuous Delivery	Lab
08.11.12	architecture	Development in and for the Cloud	Guest speaker (Cloudbees)
15.11.12	architecture	Behavior Driven Development (BDD)	BDD lab
22.11.12	architecture	BDD lab	BDD lab
29.11.12	evolution	Software Evolution	Guest speaker (SonarSource)
06.12.12	evolution	OO Reengineering	Presentations BDD
13.12.12	evolution	Intro to Repository Mining Lab	Repository Mining Lab
20.12.12	evolution	Repository Mining Lab	Repository Mining Lab

10.01.13	architecture	Domain Specific Languages	Lab
17.01.13	architecture	The design of APIs	Guest speaker (Evrythng)
24.01.13	evolution	Repository Mining Presentations	Repository Mining Presentations

Evaluation

- **Written** examination
- 120 minutes
- Written documentation authorized
- The labs and projects will not be evaluated separately, but there will be questions about them in the exam.

Today's planning

- **Introduction**
17h30 - 17h45, 15'
- **Agile software development & extreme programming**
17h45 - 18h35, 50'
- **Introduction to Scrum**
18h50 - 19h40, 50'
- **Conclusion & instructions for next week**
19h40 - 19h55, 15'