Workshop: Architecture in an Agile World

Dennis Mancl
Alcatel-Lucent
Murray Hill, NJ, USA
dennis.mancl@alcatel-lucent.com

Steven D. Fraser
Cisco Systems
San Jose, CA, USA
sdfraser@acm.org

Bill Opdyke
JP Morgan Chase
Chicago, IL, USA
opdyke@acm.org

1. Main Theme and Goals
Agility is important in the business world – but in many problem domains, architecture is valuable too. The combination of agile and architecture-driven approaches is often essential to success – it creates some opportunities for discovering potential problems early in the development cycle.

For example, Agile development techniques are best for highlighting issues that are linked to the “uncertainties in customer requirements.” But some architecture practices can help surface some of the key “technical unknowns” in a complex product development effort.

The goals of this workshop are to explore the issues and obstacles in doing agile development – with an eye on building and maintaining a sound architecture. We plan to delve into these subjects:
- Understanding some of the risks and opportunities of blending agile and architecture-driven software development practices.
- Determining how architects establish credibility with software development teams.
- Definitions of some key characteristics of good architects and good agilists.
- Discussion of why agile groups have problems with architecture-driven processes and why architects have problems with agile project organizations.
- How both agile and architecture-driven practices are used in technologies such as cloud computing and software as a service.
- Exploration of some of the “good practices” that should be part of the toolkit of agilists and architects – “how to get just the right amount of architecture.”

2. Abstract
The world is moving faster than ever, and our software development techniques are struggling to keep up. We feel we need to have an agile feature set, but without a well-defined and understandable architecture, we feel like everything is in chaos. How do we manage the balance between architecture and agility?

This workshop will explore the clash between agile and architecture-centric philosophies, and some practical ideas for combining the two approaches. This workshop continues a discussion started in an OOPSLA 2009 workshop and panel session.

3. Organizers
- Primary Contact - Dennis Mancl, Alcatel-Lucent, 600 Mountain Ave., Murray Hill, NJ 07974, USA
  - email: dennis.mancl@alcatel-lucent.com
- Steven D. Fraser, Cisco Research, San Jose, CA, USA
  - email: sdfraser@acm.org
- Bill Opdyke, JP Morgan Chase, Chicago, IL, USA
  - email: opdyke@acm.org

Dennis Mancl has been an internal consultant on OO design within Alcatel-Lucent and AT&T, with considerable experience in assisting software project teams with design patterns, requirements modeling, and reengineering existing software.

Steven Fraser joined Cisco Research in July 2007 as Director (Engineering). From 2005 to 2007, Steven was senior staff at QUALCOMM’s Learning Center, with responsibilities for technical learning. From 2002 to 2004 Steven was an independent software consultant on tech transfer and disruptive technologies. Previous to 2002, Steven held a variety of software roles at Nortel and BNR including: Process Architect, Senior Manager (Disruptive Technology and Global External Research) and Software Reuse Program Prime. In 1994 he spent a year as a Visiting
Scientist at the Software Engineering Institute (SEI). Steven holds a Doctorate in Electrical Engineering from McGill University in Montreal, Canada. Steven is a Senior Member of the IEEE and a member of the ACM. His work focuses on alleviating the “soft” challenges of developing and deploying products highly dependent on software.

Bill Opdyke has (throughout much of his career) worked in software and systems architecture roles, including projects adopting agile related techniques. At JP Morgan Chase, he is involved in architecture issues for large financial systems. At Motorola, he was a distinguished member of technical staff, currently focusing on Information Assurance/ security and software architectures in support of government & public safety application development. He was also a technical lead on several advanced development projects that applied agile techniques at Bell Labs, and he spent several years teaching agile principles as part of his software engineering and project management courses (while a faculty member at North Central College). His doctoral research at the University of Illinois focused on object-oriented refactoring.

The workshop organizers have run eight workshops on various software engineering topics at previous OOPSLA conferences:

- Tackling the Discovery Costs of Evolving Software Systems (OOPSLA ’02)
- Beyond Green-Field Software Development: Strategies for Reengineering and Evolution (OOPSLA ’03)
- Challenges in Outsourcing and Global Development: How will your job change? (OOPSLA ’04)
- Fostering Software Reliability in an Increasingly Hostile World (OOPSLA ’05)
- Escaped from the Lab: Software Practices in Large Organizations (OOPSLA ’06)
- No Silver Bullet – a Retrospective on Essence and Accident in Software Engineering (OOPSLA ’07)
- Escaped from the Lab: Crossing the Gap from Invention to Practice (OOPSLA ’08)
- Architecture in an Agile World (OOPSLA ’09)

4. Anticipated Attendance

8-15 (maximum 20)

5. Advertisement

The workshop will be advertised by email to our personal networks of software professionals who are interested in agile development issues, as well as to participants in previous OOPSLA workshops. Workshop details will be posted on the workshop website:

http://mysite.verizon.net/dennis.mancl/splash10/index.html

6. Participant Preparation

Pre-workshop readings will be posted on the workshop website – including a list of current articles relating to the workshop’s topic. Workshop participants are requested to submit a short position paper in advance. This paper can include some discussion of the participant’s experiences or some of the questions the participant wants to see addressed in the workshop.

7. Activities and Format

The workshop activities will be a series of brief position statements and experiences followed by a roundtable discussion. Tentative agenda:

- 8:30-9:30 -- short presentations of the position statements of the workshop participants
- 9:30-10:00 -- brainstorming session: gathering and prioritizing the main ideas and questions from the workshop participants
- 10:00-4:00 -- at least 3 iterative working sessions: based on the material prioritized in the brainstorming session
- [working lunch will take place somewhere in this interval]
- 4:00-5:00 -- wrap up: creation of a poster for the SPLASH poster session

The brainstorming and working sessions will be facilitated using a variety of techniques (NGT, Categorization, and others).

8. Post-workshop Activities

We plan to write a report and create a poster summarizing the most significant ideas shared and questions generated during the session. The poster will be displayed at the SPLASH poster session.

The report and poster will also appear on the workshop website after the conference:

http://mysite.verizon.net/dennis.mancl/splash10/index.html

9. Special Requirements

This is a relatively low-tech workshop – no special computer or video equipment will be required.