Does software architecture research have any impact on software architecture practice?

Eltjo Poort
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Logica NL Lead Expert Architecture
- Reviewing Bids & Projects
- Standardising & Improving Architecture Practice in Logica NL

Logica Architecture Community of Practice lead

Researcher
- Improving Architecture Practices
- With Universities (VU, Twente, Utrecht, Eindhoven)
- Member if IFIP WG 2.10 Software Architecture
This is Logica / CGI

- Leading Business and technology service company, employing 39,000 people
- Revenues of £3.7 billion in 2010
- Providing business consulting, systems integration and outsourcing to clients around the world, including many of Europe’s largest businesses
- Creating value for clients by successfully integrating people, business and technology
- Committed to long term collaboration, applying insight to create innovative answers to clients’ business needs
- Listed on both the London Stock Exchange and Euronext (Amsterdam)
What do architects really do?
P. Kruchten, 2008

Outwards
- Listening to customers and users
- Watching technology
- Developing a long-term vision

Inwards
- Driving development teams
- Spending time to make the right design choices
- Validating and documenting design choices

“A metastable equilibrium”
Duties, skills and knowledge of software architects
P. Clements, R. Kazman, M. Klein, 2007

Duties
- architecting
- managing/interacting with life-cycle phases other than architecture
- technology related
- interacting with stakeholders
- management
- organization and business-related issues
- leadership and team building

Knowledge
- computer science
- technologies and platforms
- organizational context and management
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Duties

- architecting
- managing/interacting with life-cycle phases other than architecture
- technology related

“We realized, from our many interactions with practicing architects, that their jobs are far more complex than just making technical decisions.”

- computer science
- technologies and platforms
- organizational context and management
Three surveys among hundreds of practicing architects. Looking for correlations between methods, techniques, challenges and project success.

“Good solution architecting is not so much a technical problem, but rather a socioeconomic one. The most important observations [...] revolve around non-technical keywords like trust, emotions, risk and cost, responsibility and authority.”
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The good news:

- Some good cooperation projects between industry and academia
- More accessible papers in conferences
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Solutions that architects work on are getting more heterogeneous:

- Hardware
- Middleware
- Application software
- Scripting & parameterization
- (Business) services
- Wetware

Pure software architecture is becoming less relevant. There is an emerging solution architecture practice.

- Solution architecture research anyone?
How software architecture research can increase impact on software architecture practice

Need more holistic, less silo-oriented research.
• Gap between RE and SA research is ridiculous – RE and SA cannot be separated, but academic communities hardly talk to each other.
• Don’t leave the integrating job to industry – we just don’t have the time to integrate 3 tools and 4 methods from 5 research communities.

Need more research into the socio-economic side of software architecture.
• Also requires cross-discipline academic research: economics, psychology.

Make conferences more attractive for practitioners.
• Allow papers that ask questions without giving answers.
• Allow diversion from highly theoretical papers.
Logica is a business and technology service company, employing 39,000 people. It provides business consulting, systems integration and outsourcing to clients around the world, including many of Europe’s largest businesses. Logica creates value for clients by successfully integrating people, business and technology. It is committed to long term collaboration, applying insight to create innovative answers to clients’ business needs. Logica is listed on both the London Stock Exchange and Euronext (Amsterdam) (LSE: LOG; Euronext: LOG). More information is available at www.logica.com