Does Software Architecture Research have any impact on Software Architecture Practice?

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Absolutely, Particularly for the Aspiring Architects

• ‘I read your book! It was my undergraduate text on software architecture!’
  – accessible expert knowledge at $50!
  – Master-apprentice relationship
  – Disciplined way to do design
  – Principles to fall back onto in the midst of chaos

• Particular noteworthy impact in
  – Architecture review, assessment methods and process
  – Architecture documentation
The Widening Gap

• Divergent goals
  – Different career progression/incentives
  – Different timeline to success: WICSA looks at 20 years of impact, internet industry achieves ~3monthly upgrades
  – Generic Principles vs. Specific products to ship: principles do not help all the way, knowing how your technology behaves in some quantitative detail matters!
  – We end up with different languages, location for experience and knowledge sharing: WICSA vs. Vendor Conference (eg. Microsoft TechEd), Qcon, JAOO, SOA/Cloud Symposium
**Bridging the Gap – An Engagement Model?**

- **Establish Mutual Interest**
  - Common Goal: Sustainable, high quality architecture across enterprise, product lines over time
  - Not #papers vs. dollars

- **Demonstrated Ability to deliver**
  - Strike the right balance between research goals vs. delivering value to industry partners
  - Spend some time to get to know the domain! Hang out at industry conferences that practicing architects hang out at!
  - Help your industry partner see the value of engagement, conceptual integrity, intellectual horsepower, alternative perspectives, critical analysis and critique, etc.

- **Ongoing, meaningful two-way exchanges**
What can we do as the WICSA community?

• More real world case studies
• More practitioner/researcher collaboration war stories
• More exploration into specific domains
• Matters of topical nature to industry at large
• Less ‘invented problem’, more ‘real problems’, inspired by those that:
  – Need to ship products
  – Need to innovate to sustain competitive advantage
• Solve the hard problem over the long term, not just low hanging fruit that gets you a publication or PhD
From imagination to impact
**NICTA’s mission**: to be an enduring world-class ICT research institute that generates national benefit.

Australia’s National Centre of Excellence in ICT Research

Research focused on *areas of importance to Australia*

Publicly funded, not for profit

Best of breed research teams
(400 staff + 300 students)
7 University partners

Industry engagement

Engagement models include...
- Contract R&D
- Consulting services
- Strategic Partnerships
- Licensing

Industry outcomes
Enduring solutions
‘Spinout’ companies

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NICTA Research and Business areas

University Partners

- Software Systems
- Networks
- Optimisation
- Machine Learning
- Control and Signal Processing
- Computer Vision

Industry and Government

- Broadband and the Digital Economy
- Infrastructure Transport and Logistics
- Health
- Security and Environment

Research

Wealth