Session Objectives

Brainstorm, share and refine ways to include software architecture methods and concepts in college and university courses.

Form working relationships among participants and nurture an educators software architecture “community.”

SEI resource:
http://www.sei.cmu.edu/architecture/comm_resources.html
Agenda

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9:00 – 10:00 ArchE presentation
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  - How to connect in the future
2:45 End of the workshop (hard stop!)
# 2004 Workshop Attendees

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
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<tbody>
<tr>
<td>Marty Barrett</td>
<td>East Tennessee State University</td>
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<tr>
<td>Len Bass</td>
<td>SEI</td>
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<tr>
<td>Mike Battig</td>
<td>Saint Michael’s College</td>
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<tr>
<td>Steve Chenoweth</td>
<td>Rose-Hulman Institute of Technology</td>
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<tr>
<td>Janet Hartman</td>
<td>Embry-Riddle Aeronautical University</td>
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<tr>
<td>Larry Jones</td>
<td>SEI</td>
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<tr>
<td>Mike Lutz</td>
<td>Rochester Institute of Technology</td>
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<tr>
<td>Manton Matthews</td>
<td>University of South Carolina</td>
</tr>
<tr>
<td>Linda Northrop</td>
<td>Software Engineering Institute</td>
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<tr>
<td>Arturo Sanchez</td>
<td>University of North Florida</td>
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<tr>
<td>Celia Schahczenski</td>
<td>Montana Tech of The University of Montana</td>
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<tr>
<td>Jim Tomayko</td>
<td>Carnegie Mellon University</td>
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<tr>
<td>Robert A. Willis</td>
<td>Hampton University</td>
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<tr>
<td>Rob Wojcik</td>
<td>SEI</td>
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</tbody>
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2004 Discussions - 1

Fitting essential concepts into a “small package”
  • one week in a single software engineering course
Threading concepts throughout the curriculum
A single course in software architecture and design (Rose Hulman)
How do you teach synthesis?
Forums for spreading the word
  • OOPSLA (Educator’s workshop, panels, workshops, Design Fest, birds-of-a-feather session)
  • SIGCSE
  • CSEET
2004 Discussions - 2

Forums for spreading the word

- OOPSLA (Educator’s workshop, panels, workshops, Design Fest, birds-of-a-feather session)
- SIGCSE
- CSEET (Conference on Software Engineering Education & Training)
- Frontiers in Education
- ITiCSE (Innovations and Technology in CS Education) sponsored by SIGCSE
- Consortium for Computing Sciences in Colleges

Funding sources

- NSF, Department of Education, Andrew Mellon Foundation, US Labor Department, ACM SIGCSE
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<tr>
<td>Mari Anvari</td>
<td>ZIFIT</td>
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<td>SEI</td>
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<tr>
<td>Roger Champagne</td>
<td>Ecole de technologie superieure</td>
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<tr>
<td>Mario Garcia</td>
<td>Texas A&amp;M University - Corpus Christi</td>
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<tr>
<td>Elsa Golden</td>
<td>Carnegie Mellon University</td>
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<tr>
<td>Larry Jones</td>
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<tr>
<td>Roger Lee</td>
<td>Central Michigan University</td>
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<tr>
<td>Bhabani, Misra</td>
<td>University of St. Thomas</td>
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<tr>
<td>Warren Moseley</td>
<td>Southwestern Oklahoma State University</td>
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<tr>
<td>Parviz Partwow-Navid</td>
<td>California State University</td>
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<tr>
<td>Rodney Rambally</td>
<td>University of Trinidad and Tobago</td>
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<tr>
<td>William Sheers</td>
<td>Washington &amp; Jefferson College</td>
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<tr>
<td>Ludwig Slusky</td>
<td>California State University</td>
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<tr>
<td>Mei-Huei Tang</td>
<td>Gannon University</td>
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<td>Cui Zhang</td>
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2005 Discussions - 1

How to think architecturally

- What are the skills needed to be an architect?
- What are architects thought processes?

Key ideas to incorporate into software engineering course(s)

- quality attributes
- working in groups
2005 Discussions - 2

Exercises and tool support for exercises
- maintenance exercise as a motivator
- students start their own company
- students present case studies
- take on the role of advocate for a particular quality attribute
- Lego robot project

Forming and expanding the software architecture educator’s community
- influence model curricula
- share contacts and work products
- apply to be an SEI visiting scientist
2006 Attendees

Mohammad Ayati  Cal State Los Angeles
Mehdi Beheshtian  University of La Verne
Vijay Deokar  Cal State Los Angeles
Ajantha Herath  The Richard Stockton College NJ
Suvineetha Herath  The Richard Stockton College NJ
Allen Holliday  Cal State Fullerton
Adam Hurang  Cal State Los Angeles
Suradet Jitprapaikulsarn  Naresuan University
C.Luis Fernando Castro  Universidad Autonoma Metropolitana
Eduardo Rodriguez-Flores  Universidad Autonoma Metropolitana
Robert Silverman  Cal State Stanislaus
Ming Wang  Cal State Los Angeles
George Wang  Cal State Northridge
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ArchE Presentation

See Len’s slides.
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Seed Topics for Discussion

Software Architecture Documentation in Undergraduate Curricula

• What from the course can be used in undergraduate courses?
• What format is best? How would you include the topics?
  – a complete course in software architecture versus embedding software architecture in existing courses
  – weaving software architecture into a curriculum
  – packaging blocks of instruction: what to include and where to include it
• What materials would you need to teach the topics?
  – supporting instructor materials
  – exercises and lab assignments
  – pedagogical examples

Software Architecture Documentation in Graduate Curricula

• Same topics as above

Others?
Group Discussion

Brainstorm topics
Cluster topics
Prioritize topics
Develop time budget
Discuss topics
  • Larry facilitate
  • Len record
  • Judy kibitz
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Judy Stafford  jas@cs.tufts.edu

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