

2017 SEI Software Engineering Workshop for Educators

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Session Objectives

Share and refine ways to include software engineering methods and concepts in college and university courses

Form working relationships among participants and nurture a software engineering educator community

Get you to write brief “impact” stories that enable us to justify continuation of the workshops

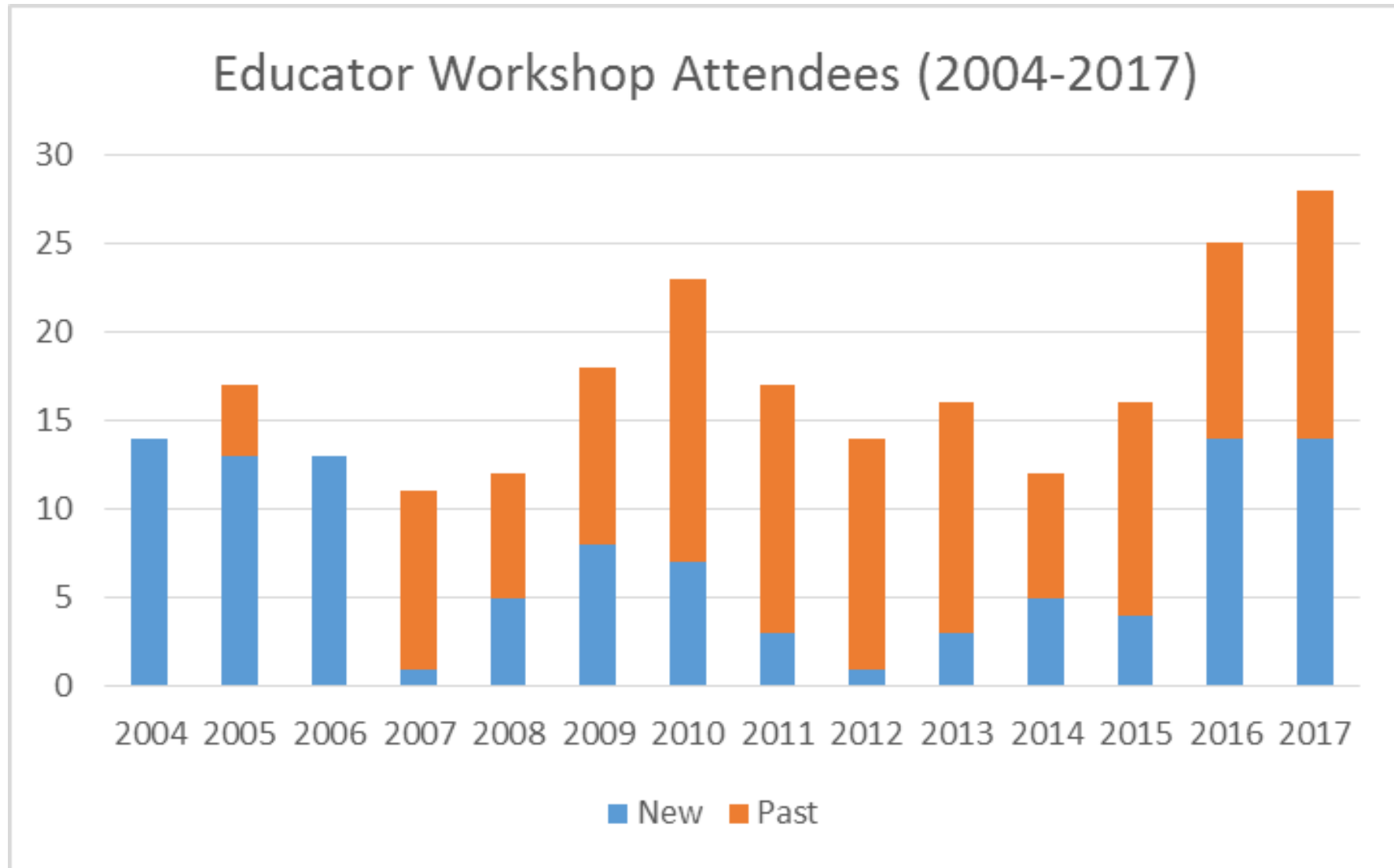
Agenda: Afternoon Day 2

14:00 – 14:30	Discussion Kickoff
14:30 – 15:00	Break
15:00 – 17:00	Facilitated Discussion of Shared Artifacts
17:30 – 19:30	Reception – Danforth Lounge, CMU University Center

Agenda: Day 3

08:00 – 08:30	Breakfast
08:30 – 10:20	Facilitated Discussion of Shared Artifacts
10:20 – 10:30	Group Picture
10:30 – 10:45	Break
10:45 – 12:15	Facilitated Discussion of Shared Artifacts
12:15 – 13:00	Lunch
13:00 – 14:45	Facilitated Discussion of Shared Artifacts
14:45 – 15:00	Break
15:00 – 15:30	Next Steps and Wrap-Up <ul style="list-style-type: none">• Future• Collaborations• Graduation• Write impact statements

Workshop History



Workshop Evolution 1

From how to teach software architecture ...

- 2004: Fitting essential concepts into a “small package”
- 2005: How to think architecturally — quality attributes and working in teams
- 2006: Exercises and tool support for exercises

... to teaching others ...

- 2007: Forming and expanding the software architecture educator’s community
- 2008: Switch from “How can we do this?” to “Here’s how we do this in my programs”
- 2009: Half-day tutorial presented at CSEET on March 11, 2010
- 2010: Workshop at CSEET on May 22, 2011; group decision to ask for a shared artifact as the “entry fee” for the workshop.
- 2011: Workshop accepted for SIGCSE; low enrollment forced cancellation

Workshop Evolution ₂

... to learning from others

- 2013: Unique opportunity to interact with like-minded teaching colleagues face to face as well as to connect to a growing community
- 2014: How to apply what I just learned
- 2015: How to include emerging topics in courses

... to moving beyond software architecture

- 2016: Expanding the software engineering educator's community

... to software engineering practices in 2017

Shared Artifacts

Form panels around topics of interest

- Fill out a post-it note with your name, type of artifact, subject matter keywords.
- Sessions from last year: architecture core concepts, reflection on teaching experience, design, technology, software life cycle, quality attributes / security
- Organizing themes from last year:
 - topic: architecture concepts, design, test, requirements, security, analysis, devops
 - level: undergrad, master, professional
 - reflection: teaching experience, what belongs in curriculum, how to teach/engage students
 - medium: video game, case study, lecture, assignment, syllabus, curriculum
 - scope: curriculum, syllabus, course, module
 - technology: IoT, Java, big data, SOA, microservices
- Group post-it notes by affinity and suggest a name for a session
- Organize groups into panels of about 4 people

Shared Artifact Presentations

Panel discussions (45 minutes)

- Panelists present “shared artifact” abstracts.7 minutes each
 - overview, learning objectives
 - issues: pros and cons, tips on usage
 - question for the group to discuss
- Each panelist comments
 - how might I use or adapt the artifact for my own use in the classroom?
 - what advice might I offer to my colleague in using the artifact?
 - how does this make me think differently about the topic?
- The topic is open to the entire group for discussion.

Potential Discussion Topics

Time Permitting ... Potential Discussion Topics

- How to incorporate the this year's topics into courses
- Software Engineering in Undergraduate Curricula
 - What from the workshop can be used in undergraduate courses?
 - What format is best? How would you include the topics?
 - What materials would you need to teach the topics?
- Software Engineering in Graduate Curricula
 - Same topics as above
- Others?

Some “Impact” Bullets from Last Year

Reasons to attend:

- *“SEI Ed Workshop pushes you to exit your comfort zone. It also helped me answer many questions about software problems I have been having. Also the tremendous opportunity to connect with like minds or different minds.”*
- *“Every time I participate, I use what I learn directly in my curriculum.”*
- *“Excellent for staying current in a fast moving field.”*

Take-aways

- *Topics in technology: “Some of the cutting edge tools and techniques used in industries. The current trend of software industries and areas where we should focus our teachings.”*
- *Teaching: “The improved clearer understanding on how to convey SOA and Big Data key concepts to graduate and undergraduate students.”*
- *Networking: “Meeting new people and establishing new work relationships,” “Collaboration,” “Shared artifacts, talks.”*

What Should We Do Next Time?

Potential offerings

- The Architecture Analysis and Design Language (AADL)
- Software Architecture Design and Analysis (SADA) — New version
- Measurement and Analysis
- Process and Performance Improvement
- Personal Software Process (PSP) — New version
- Technical Debt
- Software Assurance
- Portions of the Cyber-Security curriculum

What would you like to hear about?

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