CEET 2017 Workshop Overviews

Academy for Software Engineering Education & Training (ASEET) Workshops

Software Architecture Educators Workshop
Grace Lewis

Workshop Description:

The software architecture of a system is the set of structures needed to reason about the system, which comprise software elements, relations among them, and properties of both [1]. It manifests early design decisions, enables communication between stakeholders, and is a transferable abstraction of the system that can be applied to other systems with similar quality requirements. As such, software architecture constitutes a valuable tool for computer science and software engineering students as they head out to the build the software systems of the world. Not surprisingly, in 2016 software architect was listed as the second highest paying tech job in the US by Business Insider [2]. However, educators struggle incorporating this topic into already full curricula, especially in undergraduate programs where students often do not have the maturity and experience to grasp the importance of the subject.

The goal of this one-day workshop is to bring together university faculty who are teaching or are interested in teaching software architecture. The first half of the workshop will be an "Introduction to Software Architecture." The second half will be a combination of invited presentations from workshop attendees, identification of challenges and opportunities for teaching software architecture, and break-out sessions related to identified challenges and opportunities.

The workshop will be led by Grace A. Lewis, a principal researcher at the Carnegie Mellon Software Engineering Institute, who has been co-leading the SEI Software Engineering Educators workshop for the past six years. More information about these workshops is available at https://www.sei.cmu.edu/community/edworkshops/

Grace Lewis Bio Sketch

Grace Lewis is a Principal Researcher at the Software Engineering Institute at Carnegie Mellon University. Lewis has over 25 years of professional software development experience in industry and research environments. Her main areas of expertise include edge computing, cloud computing, software architecture, service-oriented architecture, and technology evaluation. Her current areas of work are in secure and efficient computing and communications in resource-constrained environments, and IoT security. Lewis hold a BSc in Software Systems Engineering from Icesi University in Cali, Colombia; a Post-Graduate Specialization in Business Administration from Icesi University; a Master of Software Engineering from Carnegie Mellon University in Pittsburgh, PA USA; and a PhD in Computer Science from Vrije Universiteit Amsterdam, Netherlands.

Second DevOps Educators Workshop
Len Bass

Workshop Description:

DevOps and Rapid Deployment have quickly become established practice in large software companies. The goal of these practices is to bring smaller features to the end user faster, without sacrificing quality. They rely on a combination of choosing the right software architecture, deployment process and tool chain. While large companies have developed their current DevOps and rapid deployment methodology largely from scratch -- by training employees on the fly -- they have done this out of necessity. There is a very limited supply of experienced, knowledgeable deployment engineers to keep up the process. Similarly, small and medium sized enterprises and startups want developers trained in DevOps and Rapid Deployment principles to quickly make strides.

However, standard university and college curricula largely skip the idea of deployment and operations, and rarely expose students to a complete continuous deployment pipeline. The goal of this one day workshop is to bring together university faculty who are interested in teaching DevOps and Rapid Deployment to share ideas and materials. This workshop and its predecessor are outgrowths of a panel at the 2016 Conference on Software Engineering Education and Training where it became clear that a) there was a desire to incorporate the material presented at the panel into curricula, b) there was a lack of knowledge of DevOps and c) the materials (texts and tools) useful in teaching the material were unfamiliar to many faculty.

How It Works

The format of this full-day workshop will be partially an "Introduction to DevOps" and partially an in depth discussion. The first DevOps Educators Workshop consisted of presentations by faculty who had taught DevOps. After the presentations, there was a presentation of industrial needs and in depth discussions of topics related to instructional issues. A report on the first workshop can be found at https://github.com/devopseducator/2016workshop/blob/master/workshopSummary.pdf

Len Bass Bio Sketch

Len Bass is an award-winning author who has lectured widely around the world. His books on software architecture are standards. His new book on DevOps is, in the words of an Amazon reviewer, "the first DevOps book that shows a realistic and achievable view of the full implementation of DevOps." He has over 50 years' experience in software development, 25 of those at the Software Engineering Institute of Carnegie Mellon. He also worked for three years at NICTA in Australia and is currently an adjunct faculty member at Carnegie Mellon University, where he teaches a course in DevOps.