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Panel Session at CSEE&T 2016

Delivering Software Engineering Content to Computer Science Majors

Moderator:

Donald J. Bagert, Benedictine College

Panelists:

Michael Barker, MCIS, Nara Institute of Science and Technology

Richard E. Fairley, Software and Systems Engineering Associates

David C. Kung, University of Texas at Arlington

Abstract

During the last 20 years, the software engineering education community has focused much of its effort in developing undergraduate and grand graduate degree programs in the discipline. However, far more software is created and maintained by computer science graduates and other individuals who do not possess a degree in software engineering. Therefore, it is critical that the amount of space available in an undergraduate computer science curriculum to deliver content from the software engineering knowledge area be used in the most effective manner possible.

Most computer science curricula confine their study of software engineering (possibly including a capstone project) to only 1-2 courses, sometimes not taken until a computer science major's final year of study. Meeting the task of delivering such a course to the satisfaction of students, faculty and external stakeholders has been one that has been an ongoing challenge to many computer science programs.

About the panelists

Don Bagert has a Bachelor's Degree in Engineering from Tulane University, a Master of Science from the University of Louisiana at Lafayette, and a Ph.D. from Texas A&M University. Dr. Bagert taught his first software engineering course in 1988 at Texas Tech University, and went on to serve 14 years on its faculty. At the Rose-Hulman Institute of Technology he co-created, directed, and led a successful accreditation effort for their software engineering degree program. At Southeast Missouri State University, he served as computer science department chair and led their first successful CS accreditation effort. In, 2014, Dr. Bagert was the recipient of the Nancy Mead Award for Excellence in Software Engineering Education. He currently coordinates the computer science program at Benedictine College in Atchison, Kansas, where his teaching responsibilities include the software engineering course and overseeing the capstone senior projects.

Michael Barker has almost 40 years of software engineering experience, first in industry with companies such as RCA and BBN, then nine years at MIT leading the Athena group and developing the first LMS for the MIT community. In 2003, he moved to Japan and joined Nara Institute of Science and Technology, where he teaches software engineering, project management, and research methods. In 2015, he was a visiting professor at the University of Information Science and Technology in Ohrid, Macedonia where he taught a 3-week intensive course on research methods in science and technology. He has also been the steering committee chair for CSEE&T since 2012, and a longtime member of ACM, IEEE, and a PMP-certified member of PMI.

Richard E. Fairley is principal associate of Software and Systems Engineering Associates (S2EA) – a consulting and training company. He is also an adjunct professor in the software engineering program at Colorado Technical University in Colorado Springs, Colorado. He is past chair of the IEEE Computer Society's Software and Systems Engineering Committee. In his career of 40+ years, Dr. Fairley has been a tenured professor, department chair, academic dean, and industry consultant and trainer. His research interests are in systems engineering, requirement engineering, software design, software project management, and in understanding and documenting the relationships between software engineering and systems engineering. He holds bachelors and master's degrees in electrical engineering and a PhD in computer science and applied math. Dr. Fairley is a member of IEEE, the IEEE Computer Society, INCOSE, and PMI.

David Kung is a full professor of the Department of Computer Science and Engineering at The University of Texas at Arlington. He has more than 30 years software engineering experience education and collaboration with industry in training, consulting, and research. His interest areas include agile methods, software design patterns, testing OO software and Web applications, mobile security, and software automation. He and students have designed and implemented prototypes of an agile development environment, and an OO software testing and maintenance environment, called OOTWorks, which was licensed to several companies.