Federal University of Santa Catarina
Software/Hardware Integration Lab

Call for Participation

Date: 25 jul 2011   Room: INE 105
Time: 14:00

Fundamentals of Software Aging Theory

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Since the notion of software aging was introduced seventeen years ago, the interest in this phenomenon has been increasing from both academia and industry. The majority of the research efforts in studying software aging have focused on understanding its effects theoretically and empirically. However, conceptual aspects related to the foundation of this phenomenon have not been covered sufficiently in the literature. This talk discusses foundational aspects of the software aging phenomenon, presenting the fundamental concepts of the software aging theory. The most important elements of the body of knowledge in software aging will be revisited, making connections between their theoretical and practical aspects. Real case studies of software aging are presented with the purpose of exemplifying many of the concepts discussed. Finally, ongoing projects in software aging experimental research will be presented to exemplify research opportunities in this area.

Rivalino Matias, Jr. received his B.S. (1994) in Informatics from the Minas Gerais State University, Brazil. He earned his M.S (1997) and Ph.D. (2006) degrees in computer science, and industrial and systems engineering from the Federal University of Santa Catarina, Brazil, respectively. In 2008 he was with Department of Electrical and Computer Engineering at Duke University, Durham, NC, working as a research associate under supervision of Dr. Kishor Trivedi. He also works for IBM Research Triangle Park in researches related to embedded system availability and reliability analytical modeling. He is currently an Associate Professor in the School of Computer Science at Federal University of Uberlândia, Brazil. Dr. Matias has served as reviewer for IEEE Transacions on Dependable and Secure Computing, Journal of Systems and Software, and as a PC member of several international conferences. He is also member of the Steering Committee of the WoSAR (Workshop of Software Aging and Rejuvenation), the most important International venue for the SAR community. His research interests include software aging theory, reliability engineering applied to computing systems, experimental software dependability, and operating systems for high performance computing.

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