A Report on Software Engineering Education Workshop (SEED) collocated with ISEC 2015

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ABSTRACT
SEED 2015, The 1st International workshop on Software Engineering Education (co-located with India Software Engineering Conference - ISEC 2015 from 18-20 February) with a theme Evolving Body of Knowledge of Software Engineering - New ideas and Innovative methods in the era of Cloud Computing, Big Data and Internet of Things (IoT), aims to bring together Software Engineering (SE) educators and practitioners into a dialogue to build a shared understanding of Software Engineering curriculum topics and specific issues in teaching and learning of Software Engineering with respect to the emerging topics of Cloud Computing, Big Data and Internet of Things (IoT). SEED 2015 invited Position Papers (maximum 6 pages long) in the area of Software Engineering. The workshop accepted 7 papers and consisted of invited talks as well as group discussions in addition to the position paper presentations.

Categories and Subject Descriptors
D.2.0 [Software Engineering]: General

Keywords
Software Engineering Education

1. ACCEPTED PAPERS
2. Modular Approach in Teaching Software Engineering by Sadhana Kamatkar
4. Graduate Course in Software Testing by Meenakshi Dsouza and Sujit Kumar Chakrabarti
5. A Framework for Enhancement in Education in Software Engineering by Bharti Suri, Nishtha Jatana and Ashish Dwivedi and Santanu Rath
6. Industry Oriented Curriculum Design and Teaching of Distributed Systems and Data Science for Computer Science Undergraduate Programme by Srinivasa K G and Pramod N
7. Ontology Based Modeling of Design Patterns for the Internet of Things by Ashish Dwivedi and Santanu Rath

2. KEYNOTE & INVITED TALKS
2.1 Achieving Excellence in Software Engineering in a Digital World
In the 21st century, the world is becoming more and more digital and we are seeing disruptive transformation of entire industries through software. While doing so, software itself is getting more and more complex, more connected, and more life-critical. To master the challenges in developing software in such an environment and to achieve excellence in software engineering, two topics have to be addressed: creating a software engineering culture as well as a people oriented culture. At the Siemens Corporate Development Center we defined our 4 C approach to address these topics. On one hand, the approach focuses enhancing cooperation, competence, community, and code quality to establish an effective software engineering culture. On the other hand, it balances culture, content, career, and compensation for better people orientation. The talk will give an overview on how software is changing the world and how we implemented our 4C approach in order to achieve excellence in software engineering in a digital world.

2.1.1 Gerd Hoefner
Gerd Hoefner is the managing director and CEO of Siemens Technology and Services Private Limited, which employs about 5,000 professionals and combines services, research, and development to generate technological innovations for Siemens. He is also responsible for Siemens’ global Corporate Development Center, an in-house development center with about 4,500 engineers, providing product development services for Siemens businesses from more than 20 locations across nine countries. Gerd is also a member of the Board of Directors of Method Park Holding AG and Method Park Software AG in Germany, a member of the NASSCOM GIC council, the Advisory Board of the Fraunhofer Institute for Experimental Software Engineering, the South Western Region Council of the Indo-German Chamber of Commerce, the European Business Group Bangalore, the Bangalore Fo-
rum for IT, and a member of the Siemens Software Strategy Board.

2.2 Disruptive Trends in Software Engineering - an Industry Perspective

Software Engineering as a discipline has evolved much from the days of COBOL programs and clean-room engineering. The discipline is at a point of major inflection now. There are disruptions visible everywhere: the technology shifts (social, mobile, analytics, cloud), the shifts in the concept of -abilities (scalability, availability, reliability etc.), the shifts in DevOps (prototyping, agile development, continuous integration, new testing paradigms), and the shifts in developer demographics and development tools (the millennial engineer, the power of crowd, predictive coding, cognitive systems). This talk will cover the key emerging trends in software engineering and discuss how all these will fundamentally change the industry.

2.2.1 Shubhashis Sengupta

Shubhashis Sengupta is a Research Fellow at Accenture Technology Labs. He is a PhD in systems from Indian Institute of Calcutta specializing in algorithms and combinatorial optimization. He currently works in the area of software engineering, cloud computing and natural language processing. Dr. Sengupta is a senior member of ACM and senior member of IEEE.

3. PROGRAM COMMITTEE

1. Andrei Stefan, Lamar University, USA
2. Abhishek Srivastava, IIT Indore, India
3. Cauvery N. K, RVCE, Bangalore, India
4. David Lo, Singapore Management University (SMU), Singapore
5. Deepak Singh Tomar, MANIT Bhopal, India
6. Gill Dobbie, University of Auckland, New Zealand
7. Hironori Washizaki, Waseda University, Japan
8. Jagadeesh Balakrishnan, National University of Singapore (NUS), Singapore
9. Jitender Kumar Chhabra, NIT Kurukshetra, India
10. Olga Baysal, University of Waterloo, Canada
11. Pornsiri Muenchaisri, Chulalongkorn University, Thailand
12. Punam Bedi, Delhi University, India
13. Rajesh Vasa, Swinburne University of Technology, Australia
14. Rashina Hoda, University of Auckland, New Zealand
15. Ruchika Malhotra, Delhi Technological University (DTU), India
16. Sandeep Kumar, IIT Roorkee, India
17. Stan Jarzabek, NUS, Singapore
18. San Murugesan, University of Western Australia, Australia
19. Swarnalatha Ashok, National University of Singapore (NUS), Singapore
20. Yasutaka Kamei, Kyushu University, Japan

4. REFERENCES


4. ORGANIZERS

4.1 Bimlesh Wadhwa

Bimlesh a University educator since 1990, has spent more than 24 years researching and teaching in the area of Software Engineering. She holds an MTech and a PhD in Software Engineering. Currently a Senior Lecturer, she has been a Faculty at the School of Computing, National University of Singapore since year 2000. Her current research interests includes innovative pedagogy of Software Engineering and Human Computer Interactions. She has published several papers in International conferences and journals.

4.2 Bharat Gera

Bharat is a Big Data Cloud technology Evangelist in IBM India, Information Management Group. He has both technical and management oversight to the development of IBM Big Data Stack powered by a Cloud First design. He has worked primarily in Storage, Database, Data Warehouse, Cloud interoperability Analytics domain over the past decade and a half. He is a PMP Certified Professional and holds an Executive Management Degree in Business Analytics from IBM, Bangalore.

4.3 Ashish Sureka

Ashish is an Adjunct Professor at Indraprastha Institute of Information Technology, Delhi (IIIT-D). His current research interests are in the area of Mining Software Repositories, Software Analytics, and Social Media Analytics. He graduated with an MS and PhD degree in Computer Science from North Carolina State University (NCSU) in May 2002 and May 2005 respectively. He has worked at IBM Research Labs in USA, Siemens Research Lab (India) and was a Senior Research Associate at the RD Unit of Infosys Technologies Limited before joining IIIT-D in July 2009.