ACSEAC 2012 Preface

The field of software engineering provides the appropriate engineering principles for building enabling technologies. On the other hand, the discipline of applied computing emphasizes the practicality of such technologies in meeting the desired needs. The African Conference on Software Engineering and Applied Computing (ACSEAC 2012), held in Gaborone, Botswana, September 24–25th, 2012, provides attendees with the opportunity to exchange knowledge and ideas with fellow researchers and practitioners.

The conference is a forum for presentation and evaluation of both currently used methods and techniques and new approaches or directions in software engineering and applied computing.

The main topics of the conference include all aspects of software development and applied computing as follows:

**Track 1: Principles and Practice of Software Engineering**
- Development practices and approaches
- Software development tools and infrastructure
- Software project management
- Software process
- Requirements engineering
- Software architectures & design
- Software security
- Testing & quality assurance
- Software economics
- Software measurement
- Validation and verification

**Track 2: Applied Computing Techniques**
- Artificial intelligence
- Agent-based technologies
- Decision-support systems
- Scheduling and optimization techniques
- Database systems
- Evolving data structures
- Genetic programming and fuzzy logics
- Programming environments
- Distributed systems
- Real-time systems
- Web technologies
- Mobile technologies
- Testing verification and validation of varying applications
- ICT for the developing world

**Track 3: Industrial Session on Software Process Improvement**
- Defining and documenting software processes
- Measuring software processes
- Evaluating software process capability and effectiveness
- Planning and managing software process improvement projects and programs
- Implementing software process change
- Building the requirement management process
- Mastering the software product lifecycle
- Software project management and planning
- Effective risk management techniques
- Agile software development methods
Balanced Scorecard
Software measurement and analysis
The agile software review process
Six Sigma approaches to software process improvement

Track 4: Innovations in Education
Innovative instructional technologies
Evaluation and assessment techniques
Application development environments and frameworks
Use of open-source tools in software engineering courses
Integration of agile practices in software engineering courses
Industry–academia collaboration models
Accrediting long-distance postgraduate degrees in software engineering
Integrating industrial case studies
Corporate continuing education and training
Professional, ethical, and legal issues in software engineering education
Integrating technical writing in software engineering courses
Integration of research results into software engineering courses
Forming learning communities among undergraduate and graduate students
E-learning

This book is based on the presentations given during the conference.

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