
Editorial

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Software quality has become an increasingly important issue during the last decade. Most of us are affected by the quality of the software we create because our organisation's viability depends on it. Companies and countries continue to invest a great deal of time, money, and effort in improving software quality (Kitchenham and Pfleeger, 1996). The software quality is primarily determined by the quality of the software development process and management. Even minor improvements in the software development process can result in significant improvements in software quality. By using sound project management process and practices, project managers can successfully implement software projects in an effective way. A process focuses the efforts so that dependencies can be managed more efficiently to achieve the project's goals (Russ and McGregor, 2000). Over the last decade, there has been a substantial rise in the research on the practice of software quality assurance (Rai *et al.*, 1998).

Seven papers presented in this special issue can be divided into two groups.

The first group includes four papers related to software quality and software development aspects. The second group covers three papers, regarding addition of new property in set of Weyuker's properties for evaluating the complexity measure, solving problems related to geographic information systems, and possibility of providing a quality-based service to the user of object-oriented distributed system.

The first paper of this special issue addresses the software quality issues for small and medium organisations. These organisations account a major share in software development and IT outsourcing, but they are lacking in quality assurance implementation due to lack of infrastructure and resources. The paper compares the existing software quality models for such organisations on different characteristics along with the benefits and limitations of these models.

Intelligent solutions, based on Expert Systems (ES), to solve complex problems in various sectors are widely spreading. In the second paper, the authors present a framework for successful expert systems to assess quality and possible mistakes and illustrate an empirical evaluation of three expert systems to validate the framework.

Olli-Pekka Hilmola and Petri Helo in the third paper analyse software management by using system dynamics simulation. According to the authors, smaller projects offer greater reusability and help in accomplishing high productivity. It is important to manage the information flow in the final stages of a software project to ensure success of a software project.

In the fourth paper, A.K. Tripathi and Manjari Gupta argue for risk analysis in reuse-oriented software development. According to this paper reuse software development project may have some risks because of reuse orientation. They try to identify such possible risks which might be possible due to improper assumptions. They argue that performance is also strongly connected to applied software development methodology.

In the first paper of the second group, Sanjay Misra and A.K. Misra propose addition of a new property in set of Weyuker's properties. The authors argue that this proposed property is useful for evaluating the complexity measure.

Vinay Kumar and Vandana Sharma analyse the algorithm used in GISNIC, an in-house-developed software, to clean the spatial data and build topology from line (segment) data and later on associating these topology with point data.

Deo Prakash and Kirti Rani's work explores the possibility of providing a quality-based service to the user of object-oriented distributed system by incorporating a distributed shared memory architecture in this system. The distributed object environment is the software layer over the object-oriented distributed computing system to facilitate so.

While the articles in this special issue advances our understanding of quality and other aspects of software development to a certain degree, it shows that new frontiers are ahead and evolving each day in information technology. It is expected that this special issue can motivate information technology and software community to seek further research in these areas.

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