

In this issue

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The four research papers in this issue deal with the following diverse software quality topics: software process improvement, detecting faults in Boolean expressions, discovering test case patterns and customers' perceptions of the quality of outsourced software development.

In "Entropy based software processes improvement", Jos Trienekens, Rob Kusters, Dirk Kriek, and Paul Siemons observe that although many software development organizations have adopted process improvement models they still find it difficult to improve their processes in a way that matches the needs of the organization. They go on to suggest a new approach for deciding how to improve processes, based on the concept of entropy, where entropy is taken to reflect the level of order in the business system and its environment. The approach has been empirically evaluated by carrying out interviews in 11 software development organizations in The Netherlands. The entropy concept may facilitate the use of popular software process improvement methodologies such as the CMMI.

Software testing is a very important technique for software quality assurance. In "On Detecting Faults for Boolean Expressions", Tsong Y Chen, Man Fai Lau, Kwan Y Sim, and Chang-ai Sun discuss an amalgamation of three strategies for generating test cases to produce a strategy that can detect eight types of faults. The authors report on a series of empirical studies to investigate the fault detecting ability of the strategy. The results suggest that the strategy can be highly effective when generating test sets.

Continuing with the testing theme, in "Using test case patterns to estimate software development and quality management costs" Ayman Issa, Faisal Abu Rub, and Fadi Thabata describe a process for discovering test case patterns which has enabled them to produce a test case patterns catalog. An expert system is planned which will automate the process of selecting and reusing test case patterns.

As more and more companies outsource their software development, so an increasing number of software houses is turning to process maturity models as a way of demonstrating the value of their products as well as improving their processes. In particular, the CMM/CMMI process maturity model is now proving to be popular. In "Evaluating the service

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quality of software providers appraised in CMM/CMMI”, Rodrigo Pinheiro dos Santos, Kathia Marçal de Oliveira, and Wander Pereira da Silva describe an assessment of the perceived quality of services provided by software developers who have been appraised using the CMM/CMMI models. The results show that customers’ expectations of high quality services from such providers are not always met.

I hope that you enjoy this issue and benefit from reading it. I look forward to receiving your submissions to the journal.