High Quality, Low Cost Software Inspections

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What do inspections, peer reviews, walk-throughs, and structured reviews have in common? These are all terms that are used interchangeably in software engineering. Yet, the activities that they entail are rarely carried out consistently in the course of developing an application. This article reviews this theme as Ronald A. Radice presents it in his new book.

Inspections also contribute to the culture change experienced by software companies that appreciate the value of data and allow the data to be used safely, in a nonthreatening way by the people who provide the data. However, this is easier said than done and does not happen overnight. The book includes a chapter on managing inspections and another on practical issues you can expect to deal with when introducing inspections. These chapters will prove helpful in preventing lukewarm reception by those who have been identified as participants, or downright failures.

The chapter on economics of inspections is particularly eloquent for anyone who needs to be convinced of their value. It references Infosys, where two teams were set up to assess inspections and unit testing. Inspections found 2.7 times more defects than did unit testing. According to Radice, another feature that differentiates inspections from unit testing is that when defects are found in inspections, the fix is often understood as soon as the defect is identified. Testing is characterized by a more serial approach: After a defect symptom has been observed, its cause must then be sought out and a fix devised.

Radice also takes a jab at the Software Engineering Institute’s Capability Maturity Model® (CMM®) IntegrationSM (CMMISM) for diluting the value of inspections. Whereas peer reviews were deemed important enough to deserve a whole process area in the CMM for Software, they have now been reduced to a goal within the Verification Process Area in the CMMI. Implementation of inspections with the CMMI is now more a matter of choice than a requirement. Potentially, organizations that do not see a need to perform inspections will now have a bigger hole to squeeze through to prove their point that inspections are not required. We can only hope that it will not be the case.

Currently, software development has been hit hard in the technology sectors, which are early contributors to the current economic downturn. Inspections may be low tech, but they represent a sound investment to guarantee that products released by software companies operate as advertised.

Reference

About the Author

Louis A. Poulin is president of G RaP Technologies. He has been involved in assessing the capability of information technology organizations and in developing hazard evaluation, hazard monitoring, and hazard prevention tools and methodologies applicable to various fields. Prior to this, Poulin served in the Canadian Navy as a combat systems engineering officer. He is a member of the Institute of Electrical and Electronics Engineers and a fellow of the Engineering Institute of Canada. Poulin has a bachelor’s degree in engineering physics, a certificate in naval engineering, and a master’s degree in electrical engineering.

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