Initiating Change in Documentation Practices

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The Need for Documentation

“Information is data endowed with relevance and purpose. Converting data into information thus requires knowledge” (Drucker, 1998, p. 46).

As database systems continue to grow in size and complexity, organizations may find themselves struggling with the burden of poorly documented systems. In many cases, developers and testers are forced to work directly with cryptic and unstructured applications potentially introducing errors or delaying schedules. This occurs far too often when the “experts” are no longer available to explain system functionality and semantics. One developer pointed out that “we have little documentation because we don’t have the time or the resources to implement a formal process. What we need is a simple documentation process that can be readily used so that we no longer have to wait in line to talk to the experts.”

How does an organization address documentation deficiencies? A good starting point is an assessment of the strengths and weaknesses of current documentation practices. The objective is to identify all information requirements that would support organizational goals of quality, functionality, time-to-market, and resource utilization. Typically, information requirements include data definitions, relationships, constraints, and data usage, among others. These components may be readily documented by the tools or techniques supporting the database. What is also needed is documentation of lessons learned, best practices and other experiential information in order to build an effective knowledge repository.

There are other activities that can be performed to initiate improved documentation practices. An inventory of tools, templates, techniques, and standards can be compiled in order to identify availability and type of documentation support. Interviews held with development personnel can focus on documentation-related best practices that haven’t been disseminated within the organization. The “experts” may provide insight not only as to how system components work but also on effective development activities thus providing a documentation trail based on their experience, skills, and expertise. In a previous study, it was found that typically there are development processes in place even when they are not formally documented (Carmel & Becker, 1995).

Risk Assessment and Solution Areas

A risk assessment is an important step in determining what documentation practices need to be improved. The risk factors in Table 1 illustrate the type of problems that may be identified during this activity. Weight assignment, though somewhat arbitrary, may provide a means of prioritizing what needs to be done in the short and long run in order to support quality, functionality, and time-to-market goals (Frenzel, 1996).

Once risks have been identified, the organization has an opportunity to explore potential solutions to documentation issues. The following improvement areas illustrate how solutions may be readily supported by the personnel and processes that are currently in place.

Standards - Documentation standards can be implemented in order to maintain consistency, correctness, and completeness within and across system deliverables. A standard approach to specification, design, and code generation supports error detection during team reviews, promotes reusability, and provides a documentation trail of changes that were made to the original component.

The impact on quality and time may significantly outweigh the cost associated with standardization of writing styles (e.g., comments, descriptions), and data definitions (e.g., pseudonyms, case sensitivity) among others. Individuals and teams can start tracking “best practices” associated with documentation standards as part of the team review process. These are shared within the organization as a means of continuously improving the standards that are in place.

Training - Typically, there is a training program that could be readily enhanced with a component on documentation standards, practices, tools, and reward mechanisms. During training activities, it is important to discuss the objectives of effective documentation in order to promote its good use. An existing training program may be expanded to offer seminars as a means of disseminating documentation best practices and lessons learned.

Guidelines - Documentation guidelines are needed to