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SOFTWARE QUALITY MANAGEMENT

CSP587

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Computer Science

Reading

- Rules to Live By
- Reading
 - Ch. 9 - Policies, processes, and Procedures
- Objectives
 - What are the benefits of rules?
 - To what extent must they be documented and enforced to be effective?
 - We can quantify the cost of training, how can we quantify the benefit of training a set of procedures?
 - How do templates help?, checklists?

Topic of Discussion

- Describe a set of rules an organization can employ to proactively improve quality.
- Describe a metric which could be used to help assess the effectiveness of this procedure.
- Describe a process for determining whether or not a training program to train employees on the procedure is “worth it”.
- Discuss the benefit of templates and checklists with respect to reuse.
- Reflect on the role of establishing rules and associated training in managing employees vs. contractors vs. outsource partners.



Week 10

Rules to Live By

Rules Improve Quality

- A particular way of performing
 - Procedures – binding across the organization
 - Work instructions – specific to a team or department
- Goals
 - Effectiveness and efficiency in performance and communications
 - Adherence to quality requirements
 - Simplified coordination between units

Rule Violations

- Some violations are obvious
 - Programming language syntax errors (compiler)
 - Test failures (discovery of defects)
 - Missed delivery dates (project management)
 - Contract violations (legal)
- Others are more subtle and therefore require more intensive manual review
 - Omitted system requirements
 - Failure to adhere to coding standards
 - Documentation shortcomings
 - Employee / contractor conduct
 - Ethics

Procedures in Writing

- Documentation facilitates
 - Training,
 - Acceptance,
 - Adherence,
 - Improvement,
 - Enforcement, etc.
- What, how, when, where and who
- Work instructions in writing
 - Adapted to the requirements of an organizational unit

Managing the Process

- The procedure of procedures
 - Preparation
 - Propose, draft, revise then finalize
 - Ad hoc internal committee
 - Alternatively, outside experts
 - Updating
 - Changes in technology, environment, knowledge of best practices, strategy, etc. make updating inevitable
 - Procedure changes must be managed formally
 - Approval

Templates and Checklists

- Simple support devices for repetitive tasks
 - Time savings, consistency, etc.
- Templates
 - A guide or established format to be followed to produce a given work product
- Checklists
 - Steps to be completed in order to satisfy given objectives

Benefits of Templates

- Facilitates document preparation
 - Less time, less effort
- Ensures completeness
 - Sections are established and clear
- Eases integration of new team members
 - Easier to find information
- Facilitates document review
 - Structure is already established so reviews can focus on content

Benefits of Checklists

- Assists in self-checking of work products
 - Developers can “pre-evaluate”
 - Focus is on quality requirements early in the life cycle
- Focuses effort on completing items on the checklist
 - Success is understood up front
- Assures completeness of work product reviews
 - The checklist is the review agenda
- Improves efficiency of reviews
 - Order of discussion is well known in advance