Lessons from Industrial Adoption of Software Engineering Practices

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Industrial adoption of software engineering practices can take years and academia needs to help speed up this process. The challenge that industry faces in widely adopting just one of these practices — software inspections — is traced through over 15 years of company-wide experience at Hewlett-Packard. Four historical stages give insight into many lessons learned within HP and elsewhere. Each period is illustrated with some of the most successful techniques learned so far, as well as some of the mistakes that were made and the lessons learned. Finally, a model that HP is currently using to measure and track adoption is given and it shows our current approach to accelerating continued inspection process improvements. The final challenge is: what do these industrial lessons mean to educators and what should they do to help speed up the adoption of the best practices?

Biographical Data

Software development and project management using software metrics have been key professional interests for much of Bob Grady’s 25-year career at Hewlett-Packard. He has managed projects in the areas of compilers, measurement and control systems, firmware, manufacturing automation and information systems.

Bob started HP’s Corporate Software Engineering Lab in 1983, and while he managed it during 1983-1986, he and Deborah Caswell established and led the company-wide software metrics program. Presently, he is the Software Metrics Program Manager for HP’s Corporate Engineering Software Initiatives, and he continues to be instrumental in the progress HP is making in software metrics.

Bob is a member of the IEEE Computer Society. He has written and coauthored numerous papers and articles on software subjects, including the books Software Metrics: Establishing a Company-Wide Program and Practical Software Metrics for Project Management and Process Improvement, published by Prentice-Hall.

A native of Chicago, Illinois, he received a B.S. degree in electrical engineering from the Massachusetts Institute of Technology in 1965 and a M.S. degree in electrical engineering from Stanford University in 1969. Prior to joining HP, he worked for Ford Aerospace Corporation.

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