Software Engineering: On Theory Versus Practice

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Abstract

Two important challenges for educators of software engineering are to ensure the relevance of what they teach for the job the students will eventually get, and to ensure that they teach fundamental skills that go beyond, for instance, the syntax of a particular programming language. These twin challenges often work at cross purposes.

For instance, should extra time be devoted to ensuring that a student has a solid grounding in algorithms, or should the extra time be devoted to a large programming project? The former would provide the student with a basis of knowledge that he may never again have the opportunity to learn; the latter will enable him to hit the ground running on his next job.

Should the student be given a solid grounding in the principles of programming languages, or should he be taught the syntax of three different programming languages? The former may keep him versatile for life, as languages come and go, but the latter will ensure that he gets his next job!

These trade-offs are difficult, and judging by the results, there is a tendency to classify this as a choice between the theoretical and the practical, which to our mind, makes matters worse.

In this talk we will examine these trade-offs and offer our perspective.

Biography

Ravi Ganesan is currently Chief Technology Officer and Executive Vice President of CheckFree Corporation, where he is responsible for the corporate technology direction and leads the development of all retail software.

Previously, he was Vice President of Information Technology at Bell Atlantic where he was responsible for developing and driving the information technology standards architecture for the corporation. In prior positions at Bell Atlantic, he established and ran the Internet Services Center of Excellence, he managed the operations of the Electronic Commerce Center of Excellence, and he was responsible for the Network Planning and Applied Research groups.

Ravi Ganesan is a founder, and currently the general chair, of the ACM Conference on Computer and Communications Security. Plus, he has been a member of the Technical Program Committee of the Internet Society Symposium on Network and Distributed Systems Security.