Creating Software Engineers - a Systemic View

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Abstract

Software Engineering as a profession and its associated Education & Training have to be addressed in a holistic way. We need to identify all relevant stakeholders along with their unique needs and constraints before embarking on design interventions. Looking at the attributes of a generic engineering artifact, we derive the framework for producing a "total" software engineer. We look at Software Development as a problem solving and model refinement activity. We need to rely on linkages with other established branches of engineering and science. Formal academic institutions have to create an ambience for learning knowledge of permanent value. We discuss the responsibility of Industry in shaping professionals who can deliver safe and dependable solutions to societal problems. Professional bodies such as IEEE need to play a more proactive role in setting standards for the profession, duly taking into account the needs of all stakeholders. We provide pointers of how the Indian industry has been able to harness the country's Human Resources in building robust Software Enterprises.

Bio

FC Kohli is a visionary who has been instrumental in two different engineering revolutions in India - Power Engineering and Software Engineering. He has created, nurtured and grown India's Software industry from scratch and put India's software prowess on the global map.

Kohli did his BS and MS in Electrical Engineering from Queen's University, Canada and MIT respectively. He is a Fellow of numerous national and international professional institutions. This includes IEEE in which he has served as a Director of the Board. A number of universities around the globe have honored themselves by conferring Doctorate degrees on him. He has been the recipient of countless national and international awards and honors. He has left his footprint in various initiatives of Government, Academic Institutions, Trade Associations, Company Boards and Professional Bodies.

Generations of youngsters have been inspired from his strong commitment to give back to society something of what he has received from it. He is currently using multimedia technology to change India's literacy graph through a unique "Functional Learning" concept.