Software Effort Estimation: A Fuzzy Logic Approach

Abstract

There are many equation based effort estimation models like Bailey-Basil Model, Halstead Model, and Walston-Felix Model. Effort and Cost estimation are the major concern of any sort of software industry. They are calculated with the help of Kilo Line Code (KLOC) which are the number of line of code in software. For example if a software contain 1000 lines then it has 1 kilo line of codes. There are several ways to estimate it with various advantages and disadvantages. We can distinguish them in two parts, one is equation based and another is model based estimation techniques. In this paper a KLOC formula is proposed that calculate effort which is integrated with fuzzy logic. These components are vague and fuzzy easily handles them as well. Various fuzzy triangular membership functions are used in this paper. One of the most popular model is COCOMO [5] and its variants, which is mostly used in the industry, along with the other variants such as fuzzy approach, neuro fuzzy approach and cost driver based estimations. There are differences between Equation Based and Model Based effort estimation techniques, model based built on specific model, like architecture & available resources whereas equation based techniques follows some back-ground equations.

References

PhD thesis, University of Southern California, CA, USA.

**Index Terms**

Computer Science

Fuzzy Systems

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Keywords
Empirical Equation  fuzzy logic  effort estimation  membership functions  KLOC.