Abstract

This paper presents a fault prediction model using reliability relevant software metrics and fuzzy inference system. For this a new approach is discussed to develop fuzzy profile of software metrics which are more relevant for software fault prediction. The proposed model predicts the fault density at the end of each phase of software development using relevant software metrics. On the basis of fault density at the end of testing phase, total number of faults in the software is predicted. The model seems to useful for both software engineer as well as project manager to optimally allocate resources and achieve more reliable software within the time and cost constraints. To validate the prediction accuracy, the model results are validated using PROMISE Software Engineering Repository Data set.

Reference
- http://promisedata.org/
- D. C. Montgomery, Design and Analysis of Experiments, Wiley-India, New Delhi, 2005.

**Index Terms**

Computer Science  
Software Engineering

**Key words**

Reliability Relevant Software Metrics  
Software Fault Prediction  
Fault Density  
Fuzzy profile  
Fuzzy  
Inference System (FIS)