Abstract

Ever since the evolution of software, prediction of desirable level of product quality which is measured at every phase of development is deemed a continuous and consistent effort. Quality is however viewed in various dimensions which also includes effective defect management. However, predicting the defect pattern within the empirical projects which directs the efficient management of defects in the future projects is always a challenging task in software industry.
Clustering technique enables one to mine the defect associated information in order to achieve the above said challenge. Hence, there is dire need to develop software defect prediction model based on unsupervised learning which can help to predict the defect proneness of projects when defect labels for modules do not exist. This paper provides an empirical analysis of defects logged in several projects developed at various software industries using data mining and Fuzzy C-means (FCM) clustering approaches. This approach enables one to predict the characteristics of software projects early in the development phases. It further aids the project manager to plan and control the project activities which aims towards implementation of strategies for improved productivity and sustainability of the company in the industrial market.

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Index Terms

Computer Science

Data Mining

Keywords

Software Engineering  Data Mining  Clustering  Fuzzy C Means Clustering  Metrics  Software Quality  Project Management