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## Enhance Rule Based Detection for Software Fault Prone Modules

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**Abstract:** Software quality assurance is necessary to increase the level of confidence in the developed software and reduce the overall cost for developing software projects. The problem addressed in this research is the prediction of fault prone modules using data mining techniques. Predicting fault prone modules allows the software managers to allocate more testing and resources to such modules. This can also imply a good investment in better design in future systems to avoid building error prone modules. Software quality models that are based upon data mining from previous projects can identify fault-prone modules in the current similar development project, once similarity between projects is established. In this paper, we applied different data mining rule-based classification techniques on several publicly available datasets of the NASA software repository (e.g. PC1, PC2, etc). The goal was to classify the software modules into either fault prone or not fault prone modules. The paper proposed a modification on the RIDOR algorithm on which the results show that the enhanced RIDOR algorithm is better than other classification techniques in terms of the number of extracted rules and accuracy. The implemented algorithm learns defect prediction using mining static code attributes. Those attributes are then used to present a new defect predictor with high accuracy and low error rate. Keywords: Data mining, software quality, software fault tolerance, software mining, fault prone modules, rule extraction