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**A SYSTEM TO PREDICT BUGS BEFORE PUSHING COMMITS TO  
GIT REPOSITORY**

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## Abstract

Fixing bugs is generally a very challenging task throughout the software development and maintenance process. Predicting software bugs in earlier phase beforehand it causes a big impact, is a vital task which can improve the quality, consistency, efficiency and reduces the overall cost of a software. However, developing a robust system to predict and identify potential bugs is a challenging task. Especially when it comes to version control, pushing codes with a smaller number of faults to a repository, is a rare scenario in working environment. A system to identify bugs, before it goes to GIT based on Machine Learning and GIT hooks, is proposed in this thesis. Furthermore, several interviews and surveys have been conducted among software developers in Sri Lanka who has experience in the field for a certain period.

Subject Description: Metrics—complexity measures, performance measures

Keywords: Software bugs, bugs prediction, GIT commits, future bugs