Enhancing the Performance of Bug Reporting System by Handling Duplicate Reporting Reports: Artificial Intelligence Based Mantis

Authors : Afshan Saad, Muhammad Saad, Shah Muhammad Emaduddin

Abstract : Bug reporting systems are most important tool that guides regarding different maintenance activities in software engineering. Duplicate bug reports which describe the bugs and issues in bug reporting system repository increases processing time of bug triage that monitors all such activities and software programmers who are working and spending time on reports which were assigned by triage. These reports can reveal imperfections and degrade software quality. As there is a number of the potential duplicate bug reports increases, the number of bug reports in bug repository increases. Identifying duplicate bug reports help in decreasing development work load in fixing defects. However, it is difficult to manually identify all possible duplicates because of the huge number of already reported bug reports. In this paper, an artificial intelligence based system using Mantis is proposed to automatically detect duplicate bug reports. When new bugs are submitted to repository triages will mark it with a tag. It will investigate that whether it is a duplicate of an existing bug report by matching or not. Reports with duplicate tags will be eliminated from the repository which not only will improve the performance of the system but can also save cost and effort waste on bug triage and finding the duplicate bug.

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