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RESEARCH ARTICLE



AN EXPLORATORY STUDY OF DUPLICATE BUG REPORTS IN OSS PROJECTS

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Abstract- Open Source Software (OSS) uses open bug repository during development and maintenance, so that both developer and user can reports bugs that they have found. These systems are generally called as bug tracking system or bug repositories. Bug tracking system is open bug repository that is maintained by open source software organizations to track their bugs. In OSS bug reports from all over the world are gathered which is submitted by geographically distributed team through the use of the internet. Team member of OSS typically works in distributed environment, so the system of tracking bugs in open bug repository is totally distributed and uncontrolled. In OSS different reporters may submit same bug report again and again for the same problem. The same report which is submitted by several reporters is referred to as duplicate bug report. Excessive duplicate bug put extra overhead on software organizations. Utility of software is hindered by these duplicate bugs. In this study bug repository of open source projects was explored to find out the factors that have impact on duplicate bug reports. To find out the factors that have impact on duplicate bug reports bug repository of six open source software project was explored. Factors analyzed for study were numbers of submitters, bug repository size, project size, life span of project and number of developers. Project studied were Thunderbird, Mandriva Linux, and Firefox for Android, Eclipse BIRT and Kompare. It is evident from the result that some factors have impact on duplicate bug reports and some factors do not seem to impact duplicate reports. The factors that impact the duplicate bug report in bug tracking system are number of submitters and size of bug repository. On the other hand project size, project life span and number of developer does not seem to be the factors that impact duplicate bug reports.

Keywords- *Open Source Software, Bug Tracking System, Bug Report, Duplicate Bug Report, software Maintenance*

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