Assessing Quality of Open Source Software Based on Community Metrics

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Abstract
The purpose of this study is to analyze data from Open Source Software (OSS) community with an objective of identifying community metrics that can predict quality of OSS projects. We experimented with data from Apache OfBiz and Apache httpd-2 server OSS projects. We applied linear regression technique to the dataset to assess the strength of possible relationships of variables and also examined possible trends amongst variables. From the analysis, we found out that the size of user mailing list has a correlation with number of reported bugs. We concluded that the size of user mailing list community may not be an accurate representation of the entire user community that adopted the project basing on quality. However Backlog Management Index was found to be a better metric for assessing how projects manage issues reported by users.

Keywords: *Open Source Software, Quality, Bug density, Backlog Management Index, Community metrics*