An Evaluation of Peaks and Troughs in OSS Projects

Bakhtiar Khan Kasi[1], Mumraiz Kasi[1], Muhammad Akram Khan[1], Kamran Sami[2], Zahid Rauf[1]
[1]Faculty of Information and Communication Technology, BUITEMS, Quetta, Pakistan
[2]Faculty of Engineering and Architecture, BUITEMS, Quetta, Pakistan
Corresponding Email: bakhtiar.kasi@ buitms.edu.pk

Abstract—Open-source software projects are initiated and maintained by a community of motivated developers who collectively create software. To survive and succeed, software projects need to attract and retain contributors. We believe all successful projects acquire a rhythm during its lifecycle by attaining one or more "peaks". A peak is period of high activity with several contributors contributing towards the project. In this study we investigate if peaks and troughs exist in open-source projects. We analyzed six OSS projects from the MSR 2014 challenge dataset and found that popularity of projects varies over time. We evaluate project's success by the number of contributors' that stays in the project overtime. We found a significant correlation between projects success and its popularity. Our study has implications from new and existing OSS projects; an early indication of project's popularity can help determine the success or failure of a project in the long run.

Keywords—Open-Source Projects, Contributors, Project Popularity