A Prediction Model of the Project Life-Span in Open Source Software Ecosystem

Liao, Zhifang

Zhao, Benhong

Liu, Shengzong

Jin, Haozhi

He, Dayu

Yang, Liu

Zhang, Yan

Wu, Jinsong

© 2018, Springer Science+Business Media, LLC, part of Springer Nature.In nature ecosystems, animal life-spans are determined by genes and some other biological characteristics. Similarly, the software project life-spans are related to some internal or external characteristics. Analyzing the relations between these characteristics and the project life-span, may help developers, investors, and contributors to control the development cycle of the software project. The paper provides an insight on the project life-span for a free open source software ecosystem. The statistical analysis of some project characteristics in GitHub is presented, and we find that the choices of programming languages, the number of files, the label format of the project, and the relevant membership expressions can impact the life-span of a project. Based on these discovered characteristics, we also propose a prediction model to estimate the project life-span in open source software ecosystems. These results may h