

An Analysis of Work Rhythms in Open Source

Who develops open source? Is it professionals, working on open source projects during the week, on company time, or is it volunteers, working on the weekend? Or both? This thesis answers this question by looking at the work rhythms of software developers in open source projects, studies trends in work patterns over time, and how they relate to projects and involved developers.

Work Description / Expected Results

- Review of prior research and literature
- Definition of "social time" i.e. on by-committer base the relative time
 - Workday, local time, workweek, respective calendars
 - Definition of this time using Ohloh data (reuse prior work, if possible)
- Definition of "development activity"
 - Serves as proxy for "work performed" in given time-frame
 - Minimally, two possible measure: commit frequency, commit sizes/lines-of-code
- Definition of "simple" model of development activity, i.e. ignoring trends/year
 - Basic empirical ("measured") normalized data (model)
 - Simple stochastic model of empirical data
- Definition of these models by time (month? year?) to determine change trends
 - Answers question: Was the work rhythm 10 years ago different from today?
 - Uses time series analysis, uses statistical measures
- Answer to question: Are there types of developers, types of projects, types of something?
 - For example, professionals work during the week, volunteers during the weekend
 - For example, do work patterns vary by type of project? What types of projects?
- Optional: special analysis of specific situations
 - For example, event in time and their impact, e.g. holidays, 9/11, etc.
 - Classification of commits, mapping to social time

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