

Measuring Programmer Creativity Through Sociometric Badges

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In this project we analyze knowledge flows and knowledge worker productivity in two high-tech companies in a Nordic European country. In particular, we measure face-to-face interaction among three teams of software developers through sociometric badges. Two of the teams were co-located in one location, one was split with another location in an Eastern European country. All teams used the highly interactive agile Scrum development methodology, in which team members work together in small collaborating groups in two to four week iterations, having daily project meetings. This process is very well suited for measurement with sociometric badges. In particular, we are able to compare interaction patterns with team outcomes on a detailed level.

We correlate social network metrics such as betweenness centrality, degree centrality, and contribution index with individual daily ratings collected through an online survey from the developers. In particular, we asked how creative, productive, communicative, and stressed the developers felt on each particular day. Early results indicate strong correlation between creativity and productivity, which means that developers feel creative and productive at the same time. Feel of stress and need for communication seems to be negatively correlated with contribution index. This means the more programmers face other people directly, the lower the need for communication and the feeling of stress seems to be. To put it in other words: the more developers are being looked at by others without reciprocating, the more stressed they feel.