



Signals Matter: Understanding Popularity and Impact of Users on Stack Overflow

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Summary

Stack Overflow significantly impacts how programmers learn, communicate and collaborate. Mutter, et al, provide empirical evidence that as user's proximity to goals defined by badges increase, so does their contribution. This steadily improves the quality of website and community activities as well.

The paper focuses on finding important markers of user attributes.

Reputation: They are the official scores based on upvotes and downvotes, accepted answers or bounties.

Badges: They are rewarded based on reputation if certain set of actions are performed. They can be either class-wise or category wise.

Insights:

Majority of the people agree that Stack-Overflow is a trusted community.

Users with low reputation consider it to be better indicator of popularity than badges.

51% believe that badges are a good measurement of knowledge, whereas 67% believe reputation to be indicator of expertise.

Based on these, two hypothesis were tested:

1. Reputation and Badges are positively correlated with popularity and impact of users.

2. Reputation scores are better indicator of popularity as well as impact compared to Badges.

Hypothesis 1 was mostly supported by the data and models. Not all badges were declared to be good signals, but some (Enlightened) were. High reputation corresponds with higher popularity and impact.

Hypothesis 2 was deemed to be wrong, since badges were seen to be better predictors of popularity compared to reputation

Criticism:

Firstly, as mentioned, it does not take all users, but only a subsection. Even in that, women, for example, are usually facing barriers when using this site. Similarly, it would be possible to see how certain communities will have certain answers, and thus you could deliberate that the hypothesis gained is limited by the people it surveyed and the very nature of the site.

Future Work:

We could do sentiment analysis of posts and how voting effects it. This could probably lead to assigning of sentiment (of comments or replies) to users, and their general outlook.

Knowledge graphs could be used to connect a user to questions they have answered, and thus we would be able to judge whether a person is popular due to specific topic related Badges, or general Reputation