Recruiting and Retaining Newcomers Using Online Bots

INTRODUCTION

Some of the main challenges faced with the citizen crowd is first recruiting them to address a community concern; then retaining the citizens to assist long term [6]. Retaining crowds is important because it can: (1) directly impact the lifespan of a community's collaborative effort [2]; (2) yield faster responses in crowd powered systems (as new recruitment can be evaded). However, maintaining a crowd of citizens actively engaged in a collective effort is difficult. Wikipedia's volunteer workforce e.g., has been steadily decreasing since 2007 [5].

Several platforms have attempted to tackle this problem [1, 2, 3]. Some platforms have adopted marketing schemes to motivate citizens to join a community effort [4]. While this approach can bring an influx of citizens to a collaborative effort, it rarely maintains them long-term. Especially becuase the recruitment is not followed by any mechanism to engage the citizens. Other approaches have focused precisely on creating work flows that encourage the citizen crowd to stay. Such platforms have sometimes sandboxes where newly recruited citizens can make safe contributions, as well as learn from more experienced citizen volunteers about the community's concerns and collective efforts [3]. The sandboxes let newly engaged citizens to slowly become integrated into the community's efforts. However, the approach requires experienced citizen volunteers to invest a great amount of time providing assistance. This can limit and affect their own contributions. Other approaches have engaged new citizen crowds with simple lightweight feedback processes [1]. These approaches showcase how newcomers can be retained while not imposing a large burden on others. Note however that these techniques operate only with the citizen crowd already present on the site. This can limit the type of people who initially decide to take part, and influence the amount and type of people who are continuously active in the collective effort.

To help recruit and retain the citizen crowd for large scale collaborative projects, such as Wikipedia, we present RoboWiki, a platform that leverages online bots to actively recruit new volunteers and then retains them via lightweight socialization processes. We speculate that by recruiting a citizen crowd who might be external to a community effort, but who publicly exhibits interest or passion related to the effort, we will be able to mantain the participation of such citizens longer term than average new participants. We focus in particular on retaining citizen crowds for Wikipedia. We consider we can use Twitter to identify citizens with potential interest in contributing to a given Wikipedia article.

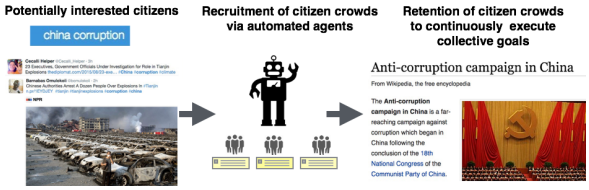

Figure 1. Insert a caption below each figure. Do not alter the Caption style.

Our system works as follows: An editor first presents the Wikipedia article for which she wants new volunteers, as well as the list of keywords that define the article. Secondly, the platform identifies citizens who appear to have an interest in the topic of the article based on simple keyword matching with their latests Tweets. The platform then sends out bots to invite these citizens to edit and improve the Wikipedia article. If the person accepts, the same bot within Wikipedia provides a lightweight socialization process to help retain the new volunteers. We base the socialization process on MoodBar [1]: newcomers are requested for lightweight feedback about their editing experience. Experienced volunteers can see the feedback and provide guidance if needed.

To understand the benefits and limitations of platforms which use automated social agents to recruit and retain crowds of citizen volunteers, we designed and conducted experiments on Twitter. We deployed our platform publicly on Twitter, where our bots invited people to help edit Wikipedia articles. The bots recruited two different groups of individuals: people whose latest tweets showcased a potential interest for the Wikipedia article; and a set of randomly selected Twitter users (control group). XX volunteers responded to RoboWiki calls to edit; and YYY volunteers actually started editing the articles. These volunteers made XXX contributions (XXXX tweets, XX favorites and retweets, edited XXX articles with XXX words). We found that the people with a potential interest in the article had more discussions on Twitter with RoboWiki, edited more articles; and remained longer on Wikipedia than the people without the previous interest (average XX months in comparison to XX days by control group). The people who were recruited by bots edited also a larger number of articles than the people who arrived to Wikipedia on their own. However, they also suffered initially more frustration editing (as expressed by their moodBar responses).

Together our results showcase how the citizen crowd can be recruited and retained via mechanisms that shepherd them into action.

References and Citations

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