Harnessing Crowds as a Motivational Mechanism

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ABSTRACT

Crowds have successfully been used to build large datasets, complete tasks efficiently, and solve hard problems. But crowds can also be used as powerful mechanism to encourage contributions by users. We present Blog Muse, a system which motivated the contribution of blog entries by allowing large audiences to gather around topics and recommending those to potential bloggers. We conclude with other ways in which researchers could incorporate such mechanisms into their systems.

INTRODUCTION

Crowds are a powerful entity and crowdsourcing is often described as a distributed problem-solving and production model. Much research has focused on harnessing them to build datasets [8], complete tasks [6], or solve hard problems [1, 7]. The influence and power of crowds has also long been recognized outside our field and dates back as early as 1714 when the British Government was seeking a solution for the Longitude Problem and offered a price for the solution [1]. Large scale contests like American Idol crowdsource the production of a superstar or album. We propose that another use for crowds in HCI is harnessing them to motivate individuals to make content contributions.

We designed, implemented, and deployed Blog Muse, a system to increase participation in a blogging environment. Our system recommends topics to individuals to write blog entries about. The topics are contributed by other users of the system and multiple users can vote for single topics. In this way a larger audience can gather around a topic. Our data shows that this makes the topic more attractive to potential authors. We present Blog Muse as a case study in which crowds are used to motivate individual contributions in social software.

We conclude this position paper with other potential ways researchers could design mechanisms to utilize the power of crowds in motivating their users.

BLOG MUSE

Research has shown that there are numerous benefits for

blogging in the enterprise, both for individuals and the organization, e.g. developing reputation or sharing knowledge [4]. However, participation can often be very low, blogs are abandoned, and few users realize these benefits [2]. The blogging system deployed inside IBM suffered from similar problems. Only 3% of employees within the company were blogging and 80% of the blogs created had 5 or fewer posts.

Part of this problem can be explained by lack of readership [4]. Yardi et al. [9] provide further explanation for this lack of readership and commenting through an attention economy model. Inside IBM, bloggers were experiencing a similar disconnect with their audience, with an average of only .16 "stars" (ratings) and .43 comments per blog post. Due to the lack of view statistics in the deployed tool, we had heard bloggers complain that they were unsure if anyone was even reading what they were writing.

Seeking to solve the problem of participation and inspired by what seemed to be a powerful desire of bloggers to connect with their audiences, we created Blog Muse. Blog Muse is a novel topic suggestion system that connects blog readers with blog writers through sharing topics of interest. If a user would like to read about a topic but can't find any blog posts on it, they can submit it to our system. Others can see which topics were previously submitted and indicate that they too would be interested in reading about that topic through a voting mechanism. Voting allows us to gather larger audiences around individual topics. Our system then routes the topic requests to users who are likely to write about them. If a user then decides to write about a requested topic, we notify all those who requested/voted for the topic.

The design of the Blog Muse system was informed by a survey with 83 users, ranging from those who had never blogged to prolific bloggers, on potential motivations for writing blog entries [3]. In this survey, we heard from users that they would be more likely to blog about topics requested by others than those previously written about. In particular, from less active/inexperienced bloggers, we heard that a large audience for a topic they blog about was attractive: *"if the interest number was high I would write on the subject of large scale interest. Instead of me building a following, the following is prebuilt."*

Blog Muse was deployed as an add-on to the IBM internal blogging site and we conducted a controlled experiment of the system between May 9th, 2009 and June 11th, 2009.

During the trial, a total of 1004 users downloaded and installed the tool. A total of 225 topics were requested by users. Figure 1 shows the interface of the tool, which also allowed users to explore topics based on popularity.

We studied the effect of this "built-in" audience on potential bloggers, and found that topics requested by others were significantly more accepted than those previously written about (56% acceptance versus 37.5%). We also investigated the voting mechanism, which encourages building audiences of more than a single person around a topic, and found that topics with votes were 6 times more likely to be written about than topics without votes. Finally, we found that blog entries created through our system received four times as many ratings, twice as many comments, and more views than other entries created during the same time period [2]. We suspected such positive feedback from their audience would also have a positive long-term effect on participating bloggers.
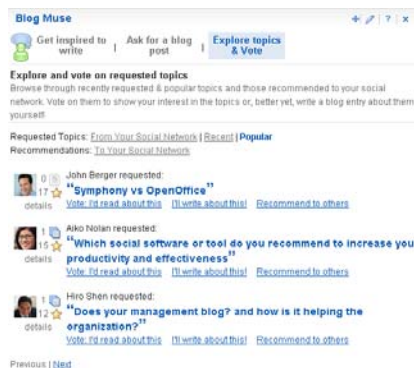
Figure 1. The Blog Muse interface, showing potential blog authors topics with the largest potential audiences.

CONCLUSION

Surveys completed beforehand for Blog Muse showed that knowing there was a large potential audience for a given blog topic was attractive to bloggers. Deploying the system showed that the impact of gathering an audience around topics through voting positively influenced whether writers chose to write a blog post on a topic. We believe the concept of using large potential audiences to motivate users is broadly applicable to other HCI researchers.

The Blog Muse idea can be generalized beyond blogging to other forms of social media such as bookmarks, videos, photos, etc. In such a system, a straightforward application of this concept would be to allow users to tell others what they would like to be able to see or read about alongside the content that the sites' other users are currently contributing. Many sites today highlight popular content or trending topics from their contributors, which can grow into world-wide memes – and the same could be done for audience requests. For example, it is not hard to imagine a rush amongst YouTube users to be the first to upload a video in response to a spike in users looking for a replay of a controversial awards show moment.

Rather than implementing an entirely new content type (audience requests), owners of such systems could simply make explicit when the "needs of the crowds" aren't being met. For example, are many users searching for the same phrase but not finding any related content? Could this be surfaced in some way to those users most likely to upload such content? In Wikipedia, where the contributions by users are often made on articles that already exist, users could be recommended articles to edit which have the most overall views, or those that are short but have many views.

AUTHOR BIOGRAPHIES

Casey Dugan has been with IBM Research since 2006. There, she creates social software systems of all kinds, from an internal version of Facebook (Beehive) and social bookmarking game (The Dogear Game) to a "microcalendar" being presented at CHI this year (Timely). Before IBM, she was working on some degrees at MIT.

Werner Geyer manages the Social Enterprise Innovations group at the Center for Social Software in IBM Research in Cambridge, MA. He has been with IBM Research since 2000 and has worked on a number of social software and collaboration projects including Activity Explorer, SocialBlue (aka beehive), and BlogMuse. In his most recent work, he is thinking about the future of time management and calendaring.

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