The Need for Information Gurus in Online Learning Communities

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Abstract

This study argues the need for So.cl to identify and promote information gurus within their online learning communities to aid informal learning and foster communication between communities.

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Introduction

Informal learning communities are comprised of individuals passionate about certain topics of inquiry. This passion causes people from various backgrounds, geographical regions, and areas of expertise to gather and exchange ideas and encourage each other to grow and learn. Within these communities relationships form, experts mentor non-experts, and members interact with outside communities. Microsoft's So.cl system provides a platform for such communities to develop and share information. However, the system emphasizes personal search and inquiry, and does not fully tap into this passionate communal dynamic. After an examination of relevant literature as well as the dataset provided by Fuse Labs, combined with our own explorations of So.cl, we propose several additions to So.cl that increase the findability and accessibility of what we have coined "information gurus". These are experienced members who already exist within So.cl, who are contributing valuable and informative content and can liaise between other members or communities. In this paper we present the results of our research and analyses in support of our suggestions for So.cl.

Passionate Affinity Spaces & Communities of Practice

Passionate affinity spaces arise when individuals share particular interests and come together around them (Gee & Hayes, 2011). These individuals first find each other as a result of their shared interest, but continue to interact and build relationships because of a common learning goal. While they are first brought together through the topic, their participation in a learning community develops into a sense of responsibility towards that community, and in turn shapes the way they contribute to it (Riel & Polin, 2004). This sense of responsibility or accountability is what continues to drive the community to engage in learning and in sharing that information with one another. With "a strong emphasis on the notion of a community as a shared activity and goals" driving the community to learn, explore, and explain their interest to one another, the identities of the members begin to be defined by their very role in the community (Riel & Polin, 2004). Since individuals are already passionate about their shared interest, they have more of a stake in how the community develops, as "the things we say, the things we choose to read or view, the things we link to, the people we send messages to - all of these constitute input to the learning network, causing it to reform" (Downes, 2010). While individuals may search for information and learn based on their own self interest, involvement in a community encourages them to pursue the topic further while providing outlets for expression and guidance to new information. Indeed, it is through their participation in the community– through sharing information and interacting with others, that real learning actually occurs, rather than simply through the ingestion of knowledge (Riel & Polin 2004).

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These affinity spaces and communities pop up online, allowing self-motivated and self-driven individuals to engage in learning. As Riel & Polin (2004) describe there are quite naturally some members who have more expertise than others, but how can newcomers identify them? As So.cl continues to grow as a social space supporting online learning, what will enable new users to delve into their communities of interest and find other communities discussing related topics they might find interesting?

Information Brokers or "Gurus"

Through interactions within communities, strong and weak ties develop (Haythornthwaite, 2002). Strong ties lead to more communication within a community, but the information being shared may be redundant, as similar information is shared and re-shared. Weak ties with people interacting with other communities provide access to new information. From these interactions, information brokers arise (Haythornthwaite, 2002; Wenger, 2000). These brokers move between the community boundaries to forge connections with "groups engaged in tangentially related practices" (Riel & Polin, 2004), which keeps the information fresh and prevents enclosed communities from recycling the same information and practices.

If users can find these brokers, or "information gurus", they can more easily find the connections between topics of interest and pursue relevant information that may have gone undiscovered. Since the information gurus naturally arise within communities, So.cl can use metrics to identify these users and promote them within the platform, allowing inexperienced users to move between communities and find more relevant information. Possible ways of indicating an information guru include tracking comments and riffs on posts to measure the impact the potential guru has within a learning community. Other possible metrics are discussed further in the "Gleanings from the Dataset" section.

Expertise and Mentorships in Communities

While acting as a liaison between communities, information gurus have a secondary benefit of acting as a mentor within communities. If So.cl develops a way to acknowledge experts and make them easily findable, users can locate more quality and relevant information within the community. The benefit of affinity spaces and communities of practice is that they function through an apprenticeship model, in contrast to a formal teacher-student structure: "social learning involves acquiring the practices and behavioural norms of established practitioners within a community of practice, a skill which has historically been acquired through an apprenticeship or a mentor-mentee relationship" (Grewal & Harris, 2009). All members of a community contribute to the group – either actively or passively –and in so doing, create the community's knowledge base. However, new members often require guidance, which usually comes from experienced members, as in communities of practice that rely "on tacit understandings that are shared among members and passed along through mentoring and apprentice experiences" (Riel & Polin, 2004).

Gleanings from the Dataset

The dataset of So.cl interactions contains information about the topics someone posts about, the people who follow them, and the interests those people follow, among other things. We can choose a common interest, such as art, and look at who is following that interest, who is creating posts tagged with that interest, and whether the people following the interest are also following the individual posters.

A visual network analysis of the so.cl dataset was conducted as part of this project. The dataset was quite large and needed to be limited in some way in order to derive meaning from it using a visual analysis. Though the dataset included records for a full calendar year, only records between June and November of 2012 were included, as these were created after Microsoft lifted the invitation-only restriction on membership. As one of the objectives was to examine how users interacted around a particular topic, it was necessary to choose a topic to focus on. The topic "art" was chosen, as it is one of the first suggested interests when users first join so.cl and it contained enough records to generate some insight.

The analysis required the dataset to be significantly restructured in order to select the desired records and generate calculated fields necessary for the metrics to be examined. Both MS Access and Excel were used for this manipulation. NodeXL was used to create the visualizations used in the analysis.

The following visualizations depict the relationship between users who create posts tagged "art", and the users who follow them. All of these users also follow "art" as an interest. The first visualization pictured here shows this subset with node colour representing indegree, which in this case represents followers, and node size representing the total post count associated with that topic.

Fig. 1: Users following people posting about art. Colour represents indegree or total followers and node size represents total posts by each user. Both were calculated logarithmically and had outliers ignored.
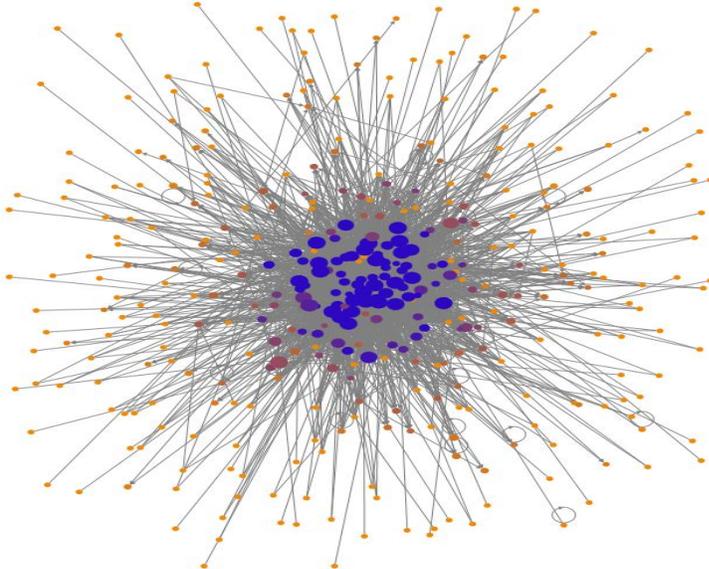

This graph shows that most of the smallest dots are very orange, indicating that those who do not post much do not attract many followers, while most of the biggest dots are very blue, confirming that those users who generate the most posts also get followed the most. This indicates a very strong correlation between indegree and post count, which suggests that users are generally successful at finding the users who are posting the most about the topic they're interested in. But are these the most valuable posts? One way to measure whether the posts were actually of any interest to anyone was to calculate the average number of comments per post each user receives. This would at least indicate that the post is driving some sort of engagement. The second graph uses this calculation as the size of the node, with indegree still represented by colour.

Fig. 2: Users following people posting about art. Colour represents indegree or total followers and node size represents average number of comments per post for each user. Both were calculated logarithmically and had outliers ignored.
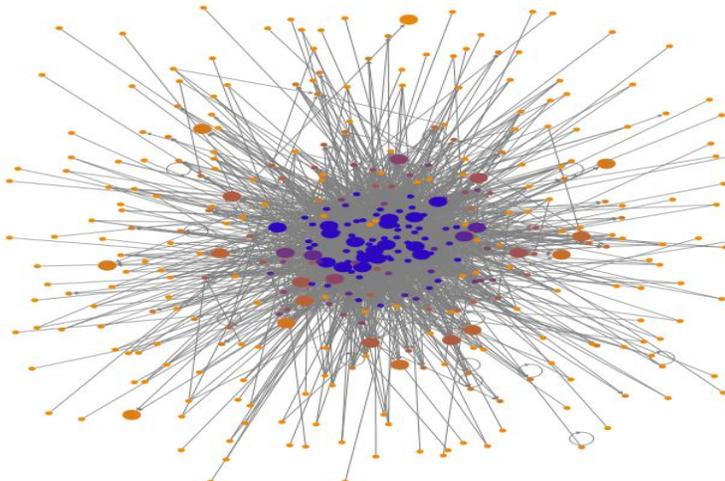
Whereas the previous graph showed an almost perfect correlation between colour and size, this graph shows several large nodes that are quite orange, meaning that there are several users who generate a high number of comments per post but did not have very many followers. If comments per post can be relied on as a measure of quality, then this means there are people who are contributing quality information to the learning community but people interested in that topic are not finding them. This is a problem that the designers of so.cl should address if they want to foster online learning, as currently users only seem to be finding others who are posting quantity rather than quality.

In all likelihood, however, comments per post is not a very reliable measure of quality. There is currently no clear way of ascertaining who is actually adding value to the conversation about art, or who could potentially be designated a "guru". A guru metric could be developed by performing further calculations to combine comments per post with other measures currently collected by the system, such as the number of distinct users who comment on a guru's post, or the number of the guru's followers who also follow the interest topic they're posting. This metric would be made much richer, however, with the addition of a simple way of "upvoting" posts, like a "This taught me something" button. More than a simple "like" button, this would be a way of indicating that the post actually contained some valuable or informative content that contributed to learning.

Even though much of this information is currently available to researchers, it is not available to the users. The incorporation of meaningful suggestions for people to follow based on the interests they are following or posting about could potentially facilitate the development of learning communities by connecting people to the "gurus" of those communities.

Conclusion

Information gurus can act as both mentors within communities and brokers between communities. While experts and information gurus already exist within So.cl, they are not adequately showcased. By allowing users to vote on the quality of posts and combining this into a metric that includes comments per post and number of followers, So.cl can identify those users who can most effectively link communities and provide expertise and mentorship within communities. This metric could recognize who is contributing valuable information to an interest community and reward information gurus while helping others find them. While the analysis done with this dataset shows that users can more effectively link to one another through gurus, further study could be conducted into the possibility for automatically created tags or suggested tags and retroactive linking between riffs and posts, which could add a richer connection between users and gurus. This could potentially enable gurus to further activate their roles as information brokers between online learning communities.

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