Chapter 10
A Social Bookmarking–Based People Search Service:
Building Communities of Practice with Collective Intelligence

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ABSTRACT

The emergence of Web 2.0 has brought along the trend of community. It is also the trend that contributes to socialization of the Internet. The essence of Web 2.0 is creation and sharing which give rise to social networking communities such as Blog, Wikipedia and Facebook. Through Wikipedia, Blogs, Facebook and other kinds of social networking websites, interactive relationship and bridge of knowledge sharing have been built up successfully. This paper attempts to propose an effective way to locate people with shared interests. By using Internet resources bookmarked by the users, the similarity of interests between them can be analyzed. Based on this relationship, people could build communities. Also, through community activities, the innovation and exchange of collective intelligence are accomplished.

INTRODUCTION

The emergence of Web 2.0 not only accelerates the development of diverse communities but also promotes socialization of the Internet. Lots of social software is created along with Web 2.0.

The socialization of the Internet has become powerful and trendy. It inspires social networking websites such as Blog, Facebook, etc. The mechanism of socialized internet improves close interpersonal relationship and provides nonverbal communication media such as multimedia audio-visual objects, images, pictures, and other diverse media. By communicating and sharing with others

through the resourceful media, the interpersonal interaction becomes closer.

Furthermore, through the services of Social Software such as Blog, Wiki, Facebook, Del.icio.us, Flickr, etc., Social Networking between users is established. This social networking helps users locate people with shared interests and form CoP(Communities of Practice). Through these social platforms, collective intelligence is realized. Afterwards, people can bring different CoPs together to form CoIs (Communities of interest) which can provide unique opportunities to bring social creativity alive by transcending individual perspectives (Fischer, 2001). Accordingly, some researchers assert that Social Network mainly emphasizes building various CoP so that users can share and exchange information with each other based on their similar interests (Rachel, 2008).

Indeed, products of knowledge sharing and creating by users are mostly on a certain social platform. For example, Flicker allows users to share pictures or images and Del.icio.us allows users to share bookmarks. These products are the aggregate of collective intelligence. However, real collective intelligence should not be limited to the sharing and creating products. The most significant resources are producers of these products. As Diederich & Iofciu (2006) pointed out, "using tag-based profile can give more recommendations than standard object-based user profiles." It means that producers play an important part in forming collective intelligence. If users can find those who share the same interests with them and interact with each other, innovation of knowledge and new world would be inspired by collective intelligence. Therefore, this paper mainly focuses on finding out people of shared interests by analyzing collaborative tags. By doing so, new knowledge communities are established. On the other hand, the use of similarity algorithm and Tag Cloud inspires the power of Web 2.0 collective intelligence, leads to communities of collective intelligence, and promotes innovative thinking and creativity.

WEB SEARCH SERVICE IN PEOPLE SEARCH AND RESOURCE SEARCH

The various social networking websites can be roughly categorized into two types (Guo & Zhao, 2008). One is human-centered which refers to the websites such as MySpace, FaceBook, etc. These websites emphasize online connection between people. The so-called "connection" here refers to the interaction such as "Electronic Mail", "Chat", "Blog", etc. These kinds of interaction will leave some records. By analyzing these records, researchers will have the information that shows the interrelationship between people. Early in 1993, Schwartz et al. had made use of the interactive records of interpersonal electronic mails along with Heuristic Graph Algorithms to explore people with shared interests or other relevant resources(Schwartz & Wood. 1993). Furthermore, Adamic & Adar (2005) pointed that interpersonal relationships can be analyzed by investigating the interactive process of electronic mail. Besides, Ali-Hasan and Adamic (2007) also indicated that the interests and specialties shared among people could be identified by analyzing the interactive records between bloggers and readers.

The other type is object-centered. The representative websites are Del.icio.us, YouTube, Flickr, etc. These websites put emphasis on sharing object. Several articles have been devoted to the studies of object-centered websites. For example, Heymann et al (2008) conducted research on Del.icio.us to discuss whether social bookmarking improves web search (Heymann et al., 2008, Yanbe et al., 2007). Kato et al. (2008) also conducted research on Del.icio.us to discuss whether social tagging improves web image (Kato et al., 2008, Bustos et al., 2005). However, the studies mentioned above do not focus on the interaction between people. Thus, we attempt to analyze objects shared by people in the object-centered websites and find out the interrelationship between people. We take Del.

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