Data & Knowledge Engineering 96–97 (2015) 43–56

Contents lists available at ScienceDirect

Data & Knowledge Engineering

journal homepage: www.elsevier.com/locate/datak

Editorial

A user-centered approach for integrating social data into groups of interest

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ARTICLE INFO

Available online 11 April 2015

Keywords:
Social network sites
Groups of interest
Information sharing
Information organization
Collaboration
Information retrieval

ABSTRACT

Social network sites with large-scale public networks like Facebook, Twitter or LinkedIn have become a very important part of our daily life. Users are increasingly connected to these services for publishing and sharing information and contents with others. Social network sites have therefore become a powerful source of contents of interest, part of which may fall into the scope of interests of a given group. So far, no efficient solution has been proposed for a group of interest to tap into social data, especially when they are protected by and scattered across different social network sites. We have therefore proposed a user-centered approach for integrating social data into groups of interests. This approach makes it possible to aggregate social data of the group's members and extract from these data the information relevant to the group's topic of interests. Moreover, it follows a user-centered design allowing each member to personalize his/her sharing settings and interests within their respective groups. We describe in this paper the conceptual and technical components of the proposed approach. To illustrate further the approach, a web-based prototype is also presented. A preliminary test using this prototype was carried out and showed encouraging results.

1. Introduction

During the past years, social web sites with large-scale websites like Facebook, Twitter, LinkedIn have become a very important part of our daily life. Hundreds of millions of users are highly connected to these websites for networking, communicating, publishing, and sharing with each other. An enormous amount of data, generally called social data including users' conversation, personal updates, and shared information (e.g. news, web contents) [26] is increasingly generated by users. That makes social network sites powerful sources of information, news, and content of interest.

Meanwhile, people are often part of different groups of people sharing common interests. They join a group to take advantage of its collective knowledge which is built on every individual contribution. The more the members contribute to the group, the more they can learn for themselves. For the group to progress, each member is supposed to push relevant information into the group.

However, people get used to post any content of interest directly on their social profiles, thus letting it available on their designated social networks. On the one hand, by doing this they can maintain their presence on the corresponding social networks and promote the interactions with their social contacts, and, on the other hand, sharing with a group requires extra efforts to select information relevant to its scope of interests. Since the social networks and the groups of a user are not identical, even though some groups can be formed within a social web site, most information shared by users on different social networks are probably missed by their groups. The question is: how can we make it available for the group?

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http://dx.doi.org/10.1016/j.datak.2015.04.004
0169-023X/

We propose an answer in this paper, based on a user-centered approach for integrating social data into groups of interest. This approach allows users to aggregate their social data from different social networks like Facebook, Twitter, and LinkedIn and to share some parts of the aggregated data with their respective groups of interest. Users are also able to personalize their sharing settings and interests within their respective groups according to their own preferences.

The paper is organized as follows. In the next section, we elaborate further our motivations for integrating social data into groups of interest. Then, we introduce two data models supporting social data aggregation and information sharing within groups of interest respectively. The technical aspects are then detailed in Section 4. Next, we present our first prototype and a preliminary test using it. We discuss some related work and what distinguish our approach in Section 6. Before giving our conclusions, we outline our future work.

2. Motivation

In this section, we first present the definition of social network sites and the definition of groups of interest. Then, we show the underlying motivation for integrating social data into groups of interest.

2.1. Social network sites

Social network sites, also called social networking sites, are open web-based services whose main functionality is to connect people. Basically, they allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system [7]. Social network sites have gradually experienced and rolled out new features to comply with users' upcoming demands such as sending instant or private messages, posting statuses, sharing links, creating events, and so forth.

There are a large number of social network sites available for users to choose. Among others, Facebook, Twitter, LinkedIn and Google + are the most successful examples in terms of number of active users, traffic volume, and number of generated contents [4]. Their coverage and focus are not identical. While Facebook and Google + are two general-purpose networks, Twitter is devoted to micro-blogging activities, and LinkedIn is oriented to the professional community. As such, it is common that a single user is simultaneously connected to many of these social network sites to take advantage of different free services offered by each social network.

Recently, these originally profile-centric platforms have increasingly played pivotal roles in supporting content production and diffusion. Firms, organizations, and media companies intensively use them as an efficient target of advertising and marketing to engage in a timely and direct way with a very broad audience. Likewise, users are turning to the same websites as their primary source of information, news, and content of interest. A large part of users' social activities therefore consists of reporting news and sharing information or links [21].

2.2. Groups of interest

Unlike social network sites which are individual-centric services, communities of interest are group-centered, which means that they are held and driven by a common interest. It may be a hobby, something that the community members are passionate about, a common goal, a common project, or merely the preference for a similar lifestyle, geographical location, or profession [38]. Taking part in the community enable its members to exchange information, to obtain answers to personal questions or problems, to improve their understanding of a subject, to share common passions or to play [19]. Due to the multifaceted lifestyle of modern living, any individual is often a part of many different communities [38].

Communities of interest are neither restricted to a particular geographical area nor a given number of members. They can be created and maintained on-line and/or off-line. Their forms also vary from small, closed groups such as those within a larger organization, to very large, open communities on the Web such as the Wikipedia, Youtube and Flickr communities. A given community may furthermore contain many nested communities.

In this work, we are more concerned by small-sized communities of interest that we will refer to, in the remainder of this paper, as groups of interest. The underlying reason will be provided in the next subsection.

2.3. Integrating social data into groups of interest

Both social network sites and groups of interests have played important roles in various areas. In regard to the information discovering and filtering process, they represent advantages and disadvantages as well. Social network sites provide a powerful multi-domain source where recent information is constantly added. However, its numerous and heterogeneous natures often overwhelm users' limited cognitive processing capacity. Moreover, due to the imposed privacy rules, users are limited to their personal circles of social connections which mean that interesting information from outside the circles will be not shown to them.

Groups of interests impose a group setting which makes sure that the members share only contents related to one or several particular topics at a single place. This makes it much easier to discover interesting information and useful contents. Nevertheless, the group commitment degree is different among members. Often, it is only a small number of members who actively generate contents, while the majority of members are passively consuming. A group may be therefore short of good contents if its active members are no longer active. This is more and more common, as people get used to systematically push interesting information on social network sites while forgetting to also share it with their interested groups.