Open Social Networking for Online Collaboration

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ABSTRACT

Features of online social networks are being introduced in various applications and environments, including tools supporting virtual teams and online collaboration in general. In fact, social networking has a large potential for easing collaboration, also across organizational boundaries. However, effective e-collaboration through social networks requires the development of open and interoperable systems, allowing people belonging to different organizations to create ties, reflecting real connections existing in daily activities. Attention has to be paid to identity management, for allowing users to develop their reputation consistently, and to privacy and confidentiality, for creating a more trustful environment and protecting freedom of expression. In this article, the authors propose a novel peer-to-peer system, named Blogracy, leveraging the large BitTorrent network. Its main distinguishing features are: (i) protection of users' identity and privacy; (ii) absence of central control over published content; (iii) interoperability with other systems; and (iv) low costs and scalability of the infrastructure.

Keywords: File Sharing, Micro-Blogging, Peer-To-Peer, Privacy, Social Networks, Virtual Teams

INTRODUCTION

Online Social Networks (OSNs) had an outstanding impact in our society because of their capillary adoption and sheer number of users involved. OSNs not only changed the private sphere of socialization, but also played an important role in evolving the way institutions and organizations interact with their customers. Moreover, many traditional software applications are evolving towards an open model, often based on services, where the social relationships among involved parties are made explicit, taken into account and leveraged. This trend regards existing information systems and also, for some aspects, platforms for Enterprise Resource Planning (ERP). In fact, as inter-organizational collaboration is becoming a central point in the new digital society, focus needs to move from prefigured organograms to the real emerging relationships, in either a local or global network, in which people are actually engaged while performing their activities.

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One of the first traditional business applications that is being integrated with “social” ideas is Customer Relationship Management (CRM). The trend towards “Social CRM”, although quite popular, has not always been satisfactory. A study from IBM (IBM Institute for Business Value, 2011) shows that there is quite a large gap between the expectations of brand managers and social media users. In fact, only 23% of users are keen to engage with brands on social media, and only 5% of users declare active participation. Most users, instead, limit their communications and shares with parents and relatives. Among the potentially interested people, many expect tangible benefits, including discounts, services, additional information and reviews about products. The study is in accordance with the difficulties that brands face to engage with users and to launch viral campaigns. Nevertheless, businesses continue to be greatly interested in using social media for rapid distribution of offers and content, reaching new people through trusted introducers, but also for improving customer care and research.

Another area that companies are trying to improve using ideas from OSNs is that of Knowledge Management (KM) systems, where the relationships among the entities involved can be classified using categories from social networks. In fact, the long-term goal of KM is to let the insights and experiences that already exist implicitly within an organization emerge and become easily accessible for wider internal adoption. Such knowledge can be either possessed by individuals or embedded into common practices. To provide effective access to valuable internal knowledge and expertise, it is essential to recognize and value the particular knowledge possessed by different persons, and then to have means to contact the relevant persons in a timely manner. In many regards, such a scenario requires the addition of some typical features of social networking applications into tools for daily activities.

But also other aspects of traditional ERP systems are integrating features of OSNs. In fact, the centralized and inward approach of early information systems is being challenged also in the core area of production management. An increasingly dynamic production environment, arranged in the form of complex Virtual Organizations and Virtual Enterprises, testifies the drift towards networks of integrated enterprises. In this context, the tasks of supply chain management, project and activity management, data services and access control management require the participation of actors of different organizations and possibly different places and cultures (Madlberger, 2009).

However, while the difficulties faced to manage their business knowledge in an effective way are leading enterprises and organizations to integrate OSNs into their information systems, also those new systems face similar problems, including limited and localized participation. Social networking tools are no silver bullet and they must be modelled according to the peculiarities of each environment where they are deployed.

In the next section, this article reviews the problems and theories of participation in social networks and other online collaboration systems. In the third section, it provides a survey of relevant standards, formats and protocols for building open OSNs, adapting to decentralized and dynamic virtual environments. In the fourth section, it presents a system, that we named Blookracy, which exploits popular peer-to-peer technologies and open standards for realizing a completely distributed platform for social networking, suitable for fluid Virtual Teams and other online communities. Finally, related works and concluding remarks are highlighted.

PARTICIPATION IN VIRTUAL ACTIVITIES

The study of structure of OSNs, expressed in patterns of links among nodes, can exploit models of classical sociology and anthropology, with particular attention to contextual and relational approaches. But these results, obtained in decades of studies of human networks, may
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