

Towards Data Portability between Online Social Networks, a Conceptual Model of the Portable User Profile

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ABSTRACT

The last decade has seen an increasing number of Online Social Network (OSN) users. As they grew more and more popular over the years, OSNs become also more and more profitable. Indeed, users share a considerable amount of personal information on these sites, both intentionally and unintentionally. And thanks to this enormous user base, social networks are able to generate recommendations; attract numerous advertisers; and sell the data to companies. This situation has sparked a lot of interest in the research community. Researchers have studied, among other topics, the issues of trust and privacy. Indeed, users grow more uncomfortable with the idea that they do not have full control over their own data. This paper addresses the notion of portable profile. The authors will discuss the advantages and drawbacks of a portable profile, from the perspective of the user and of the online social network. Secondly, the authors will propose a conceptual model for the data in this unified profile.

KEYWORDS

Conceptual Model, Features, Modeling, Online Social Network, Ontology, Recommendation, Social Network Site, User Profile

INTRODUCTION

An area of the Web 2.0 gaining increasing success globally is the Online Social Network (OSN), or Social Networking Site (SNS). OSN refers to, according to Ellison et al. (2007)

Web-based services that 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. The nature and nomenclature of these connections may vary from site to site.

The last decade has seen an increasing number of OSN users. These systems allow their users to interact with one another. Users set up an account, state relationships with other users, and are then able to communicate with each other, and share content. The most popular social networks, such as Facebook, Twitter, or LinkedIn count hundreds of millions of members, that is, of users who have registered and thereby can use the features of these OSNs.

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The first social network site was introduced in 1997. Called SixDegrees.com, it allowed its members to create a profile, list their Friends and, later to view others' friends lists (Ellison et al., 2007). As they grew more and more popular over the years, OSNs become also more and more profitable. Users share a considerable amount of personal information on these sites, both intentionally and unintentionally. And thanks to this enormous user base, OSNs are able to generate recommendations; attract numerous advertisers; and sell data to interested third parties.

This situation has led to the users' growing reluctance to share information. Users are uncomfortable with the idea that they do not have full control over their own data. In response, most current OSNs offer the possibility to their members to manage their privacy settings; allowing them to control who sees what about them and of the content that they shared.

The increasing popularity of the OSN, and the questionable use of the data by the OSN have led to considerable interest in the research community. Many authors, for instance, have addressed the privacy and trust issues (Dwyer et al., 2007; Strater & Lipford, 2008; Madejski et al., 2011).

A way to increase the user trust in the social networks could be the introduction of a portable profile. It would be portable, in the sense that if a user registers on OSN A, she would be able to carry over the content of her profile to OSN B, and choose which of that data and content would appear on OSN B. The portable profile would offer more transparency to users, as they would know what data in some sense defines them on an OSN. This topic about the introduction of an integrated profile has also been mentioned in the literature (Heckmann et al., 2005; Berkovsky et al., 2008; Abel et al., 2011; Kapsammer et al., 2012).

This paper has two objectives and corresponding contributions. Firstly, we aim at listing the advantages and drawbacks of a portable profile, from the perspective of the user and from the perspective of the OSN. We will identify these benefits and limitations via an example. Secondly, we find the content for the portable user profile by looking at the content of user profiles on various existing OSNs, and from there propose a preliminary conceptual model of the portable user profile.

The rest of this paper is organized as follows. Related work is introduced in Section 2. In Section 3, we discuss the motivations for a *Portable User Profile (PUP)*. The proposed conceptual model for PUP is presented in Section 4. Finally, we discuss the results and conclude the paper in Sections 5 and 6 respectively.

LITERATURE REVIEW

Online Social Networks

Various aspects of OSNs have been studied. For example, there are studies focusing on the properties of the graph induced by connections between users. Some of the analyzed OSNs include: Flickr, YouTube, LiveJournal and Orkut (Mislove et al., 2007); MySpace and Orkut (Ahn et al., 2007); Sina blogs and Xiaonei SNS, two large Chinese online social networks (Fu et al., 2008); Flickr and Yahoo! 360 (Kumar et al., 2010); and Twitter (Kwak et al., 2010). For an example of findings, consider Mislove et al. (2008), who found that various OSNs, despite their different purposes, share a number of similar structural features, namely: highly skewed degree distribution, a small diameter, and significant local.

The reasons why people want to use an OSN have also been examined in the literature. Various authors have studied the reasons motivating teenagers (Livingstone, 2008), college students (Park et al., 2009) or young adults (Subrahmanyam et al., 2008) to use an OSN. These reasons range from satisfying a "friend" and connection needs to having an additional source of information (Raacke & Bonds-Raacke, 2008; Subrahmanyam et al., 2008).

The privacy issue was examined by several authors. They include the study of privacy on Facebook (Strater & Lipford, 2008; Madejski et al., 2011); as well as the comparison of trust and privacy issues on Facebook and MySpace (Dwyer et al., 2007).

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