Chapter 55
A Study of Friendship Networks and Blogosphere

Nitin Agarwal
Arizona State University, USA

Huan Liu
Arizona State University, USA

Jianping Zhang
MITRE Corporation, USA

ABSTRACT

In Golbeck and Hendler (2006), authors consider those social friendship networking sites where users explicitly provide trust ratings to other members. However, for large social friendship networks it is infeasible to assign trust ratings to each and every member so they propose an inferring mechanism which would assign binary trust ratings (trustworthy/non-trustworthy) to those who have not been assigned one. They demonstrate the use of these trust values in e-mail filtering application domain and report encouraging results. Authors also assume three crucial properties of trust for their approach to work: transitivity, asymmetry, and personalization. These trust scores are often transitive, meaning, if Alice trusts Bob and Bob trusts Charles then Alice can trust Charles. Asymmetry says that for two people involved in a relationship, trust is not necessarily identical in both directions. This is contrary to what was proposed in Yu and Singh (2003). They assume symmetric trust values in the social friendship network. Social networks allow us to share experiences, thoughts, opinions, and ideas. Members of these networks, in return experience a sense of community, a feeling of belonging, a bonding that members matter to one another and their needs will be met through being together. Individuals expand their social networks, convene groups of like-minded individuals and nurture discussions. In recent years, computers and the World Wide Web technologies have pushed social networks to a whole new level. It has made possible for individuals to connect with each other beyond geographical barriers in a "flat" world. The widespread awareness and pervasive usability of the social networks can be partially attributed to Web 2.0. Representative interaction Web services of social networks are social

friendship networks, the blogosphere, social and collaborative annotation (aka "folksonomies"), and media sharing. In this work, we briefly introduce each of these with focus on social friendship networks and the blogosphere. We analyze and compare their varied characteristics, research issues, state-of-the-art approaches, and challenges these social networking services have posed in community formation, evolution and dynamics, emerging reputable experts and influential members of the community, information diffusion in social networks, community clustering into meaningful groups, collaboration recommendation, mining "collective wisdom" or "open source intelligence" from the exorbitantly available user-generated contents. We present a comparative study and put forth subtle yet essential differences of research in friendship networks and Blogosphere, and shed light on their potential research directions and on cross-pollination of the two fertile domains of ever expanding social networks on the Web.

INTRODUCTION

For many years psychologists, anthropologists and behavioral scientists have studied the societal capabilities of humans. They present several studies and results that substantiate the fact that humans like engaging themselves in complex social relationships and admire being a part of social groups. People form communities and groups for the same reasons to quench the thirst for social interaction. Often these groups have like minded members or people with similar interests who discuss various issues including politics, economics, technology, life style, entertainment and what not. These discussions could be between two members of the group or involve several members.

These social interactions also led researchers to hypothesize "Small World Phenomenon" (also known as "Small World Effect") which states that everyone in this world can be contacted via a short chain of social acquaintances. A renowned experiment conducted by psychologist Stanley Milgram in 1967 to find the length of this short chain resulted in the discovery of very interesting observations. This finding gave rise to the famous concept, "six degrees of separation"[1] . Milgram asked his subjects to send mails through US Post and keep passing them until they reached the destination. A more recent experiment conducted in 2001 by Duncan Watts, a professor at Columbia University also concluded with similar results although on a worldwide scale including 157 countries using e-mails and internet as the medium for message passing. This "connectedness" aspect of social interactions between people have fascinated several researchers and results have been applied to fields as varied as genealogy studies.

Several sociologists have pointed out subtle differences between society and community, community being a more cohesive entity that promotes a sense of security and freedom among its members. With continued communication, members develop emotional bonds, intellectual pathways, enhanced linguistic abilities, critical thinking and a knack for problem solving. Researchers in the field of psycho-analysis have studied how these interactions within a community proceed and how a group evolves over time. This line of research deals more with the group dynamics and social behavior of communities as a whole with respect to each individual. Several anthropologists are also interested in groups that are bound by cultural ties and try to study their differences from traditional groups in aspects like, communication styles, evolution patterns, participation and involvement, etc.

For the past 15 years Computers and Internet have revolutionized the way people

Related Content

Frameworks for Talking about Virtual Collaborative Writing

Beth L. Hewett, Dirk Remley, Pavel Zemlianskyand Anne DiPardo (2010). *Virtual Collaborative Writing in the Workplace: Computer-Mediated Communication Technologies and Processes (pp. 28-52).*

www.irma-international.org/chapter/frameworks-talking-virtual-collaborative-writing/44330

Special Needs Classroom Assessment Using a Sign Language Communicator (CASC) Based on Artificial Intelligence (AI) Techniques

Samar Moutiand Samer Rihawi (2023). *International Journal of e-Collaboration (pp. 1-15).*

www.irma-international.org/article/special-needs-classroom-assessment-using-a-sign-language-communicator-casc-based-on-artificial-intelligence-ai-techniques/313960

A Semantic e-Collaboration Approach to Enable Awareness in Globally Distributed Organizations

Eldar Sultanow, Edzard Weberand Sean Cox (2011). *International Journal of e-Collaboration (pp. 1-16).*

www.irma-international.org/article/semantic-collaboration-approach-enable-awareness/49661

An empirical study of the factors of teleworking and the moderating effect of work colleague support

(2022). *International Journal of e-Collaboration (pp. 0-0).*

www.irma-international.org/article//290531

Millennial Leadership: The Oppositional Relationship between Leadership Type and the Quality of Database System's Development in Virtual Environments

C. Matt Graham, Harold Danieland Brian Doore (2015). *International Journal of e-Collaboration (pp. 29-48).*

www.irma-international.org/article/millennial-leadership/128390