THE SOCIAL NETWORK BEHIND TELECOM NETWORKS

A Positioning Paper for the W3C Workshop on the Future of Social Networking

By Luis Ángel Galindo[1], Telefónica Spain
David Moro[2] and David Lozano[3], Telefónica R&D
[1]luisangel.galindosanchez@telefonica.es
[2]dmf@tid.es
[3]dll@tid.es

BACKGROUND

Since September 2007, the WIMS 2.0 initiative, promoted by Telefónica Spain and executed by Teléfonica R&D, has explored the strategies, business models and technical solutions to converge the Web 2.0 and the Telco world, in order to create a new generation of ubiquitous multimedia services for final users.

This position paper briefly presents our view on the role that Telecom operators may play for Social Networking. It identifies our main ideas and proposed strategies, as the basis for further discussion.

CONVERGING THE WEB 2.0 AND THE TELCO WORLDS

The Web has experimented significant changes in the last years. The appearance of the Web 2.0 represents a shift from a static information access system to a more dynamic and open system, in which functionalities and content coming from different places are mixed to create attractive and highly interactive new services that place the user, his/her activities and preferences, at the core of the operation. The Web has become a platform for developing and providing ubiquitous services, achieving a great success among final users.

In contrast, Telecom operators suffer from a lack of new innovative and successful services, as confirmed by the fact that traditional voice communication is still the major service. As acknowledged by different sources, the Telecom market needs to change - adopting the new principles of openness, collaboration, user participation, etc – in order to meet the new Web and enter the new multimedia service ecosystem. This convergence, promoted by the WIMS 2.0 initiative (www.wims20.org), will definitely benefit both worlds.

SOCIAL NETWORKS SERVICES: A STRATEGIC FIELD FOR CONVERGENCE

Among the new Web 2.0 services, Social Networks Services (SNS) are one of the most relevant examples. SNS represent a powerful tool for communication, collaboration, leisure, and work organization without requiring real physical contact. Currently, millions of users make use of Social Network Services and multiple SNS web sites offer applications that manage virtual communities. MySpace, estimated to have more than 184M users, or Facebook, estimated to have around 66M users, are reference examples of SNS web sites that show the great success of SNS in the Web. Additionally, SNS are evolving fast, increasing their features (such as blogging, photo, video sharing…) and becoming platforms for external developers to distribute their applications. This

tendency is converting SNS as one stop-shop for Internet users to fulfil their needs and, consequently, users are spending more time and increasing their activity in them.

On the other hand, individuals in current society are no longer static, being mobility, dynamism, immediacy and advanced connectivity basic paradigms of today's user's communication and the new life style. To this respect, mobile terminal represents one of the preferred and most popular forms of communication in society. Thus, mobile phones must be considered as potential tools for the utilization of Social Network Services, and important sources for UGC (User-Generated Content) and LBS (Location Based Services).

SNS web sites have acknowledged these facts and, consequently, they have begun to mobilize their services in order to enhance Social Network accessibility and ease community members' communication. To this respect, ubiquitous access to SNS is considered essential, demanding any associated communication service and application to be ubiquitously available from any type of network or user device.

In this context, considering the ubiquitous communication and transmission capabilities they inherently provide, it is clear that Telecom operators are in the position to offer really interesting functionalities to enhance SNS web sites, thus, Social Networking represents a key field for the convergence of the Web with the Telco world. Two main complementary options are considered for this convergence field:

- The opening-up of Telecom network capabilities towards Web 2.0 Social Network Services to offer ubiquitous communications and other services to community members, enriching SNS with Telco functionalities that the user normally consumes in his/her mobile, and creating a fusion of the Internet and Telco environments. This is one of the strategic lines followed in the WIMS 2.0 initiative.
- As it is later explained in this paper, the Telecom network can actually be considered as a hidden Social Network. The idea is to directly uncover the Social Network behind the Telecom network and make it available to users through appropriate applications within the mobile terminal or through network-side, enriched phonebooks. Of course, this "uncovered" Telecom Social Network could also be complemented with a SNS web site, owned by the operator, in order to provide an alternative (more convenient and attractive) user interface for this new social service. This strategy is somehow being followed by different operators as Vodafone with the acquisition of ZYB (zyb.com) and its further integration in its network, Orange with Pikeo (www.pikeo.com) or Telefonica with Keteke (www.keteke.com); however, they still need to take further steps to actually uncover the Telecom Social Network and fully integrate it with all the potentialities offered by their networks, as commented in the following.

UNCOVERING AND EMPOWERING THE SOCIAL NETWORK BEHIND TELCO NETWORKS

Following either of the two strategies mentioned above, Telecom operators may play a strategic role in the enhancement and evolution of Social Networking through the appropriate use of already existing capabilities, and always respecting user's privacy:

- Building the initial social graph: Telecom networks can be directly regarded as a Social Network, as considered and analyzed by different studies [1][2]. The phonebook

that all mobile users have in their terminals is the key for discovering and structuring this "hidden" Social Network, i.e. for building the initial social graph. By employing already existing solutions for network-side phonebooks [3][4], seamlessly synchronized with the handsets phonebook, Telecom operators can obtain and analyze the users' contact information in order to automatically concatenate the ties between the nodes of the initial social graph. Additionally, combining this with further information about the customer, operators may feed the users' profile with commonly required information (name, gender, groups, etc). This fact has great implications for Social Networks, as it may help to overcome one of the greatest barriers all Social Networks face in early stages: achieving the required critical mass for building an attractive and useful community, while avoiding tedious initial configurations from users. Furthermore, considering the great penetration of mobile telephony in the World's population (almost 4 billion subscribers), Telecom networks may be seen as the actual link to underlying, society-wide, human structures and interactions.

- Ubiquitous communications: operators may offer ubiquitous communication services to be integrated in SNS in order to allow community members to communicate in a natural and spontaneous way between each other. For this purpose, a wide variety of services can be utilized: voice calls, video calls, messaging (SMS, MMS and IM), multiconferencing, PoC, etc. The seamless incorporation of these services will adequately enhance the heart of Social Networks: user interactions.

- Boosting User-Generated Content: mobile handsets are becoming a very important source of UGC, as acknowledged by many different SNSs. Operators may offer new and more convenient mechanisms for generating content from mobile terminals. Users want to capture and publish content in an easy and, especially, spontaneous way and this can be made possible through the use of real-time Telecom communication services (e.g. directly publishing a video clip via a video call).

- Enriching users' context: mobile handsets are also the source for two relevant pieces of information: user's presence and location. The combination of these two pieces can be used to greatly enhance and dynamically customize the operation of Social Networks and all the applications developed around them.

- User activities tracking: user activities in the Telecom network can be tracked and analyzed in order to provide a higher degree of automation and dynamism for the operation of SNS. For example, the relevance of relationships may be inferred from the frequency of phone calls among community members, new phone contacts may be automatically reflected within the social graph or the spontaneous upload/consumption of multimedia content from mobile handsets may be instantly included within the user's activity feed. The information on the everyday use of Telecom services provides a good insight on user's activities with strong potentialities for the automatic provision of life streaming functionalities.

In summary, Telecom operators may conveniently complement current SNS with different capabilities that promise to enrich and automate the operation of the resulting service, making it easier for final users and, thus, backing the adoption of Social Networks by a wider portion of the population. This is one of the goals of the WIMS 2.0 initiative: to create a fair ecosystem where the different players contribute with those pillars from its expertise.

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