

# Using SNS Systems to Support Knowledge Collaboration

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## Abstract

*SNS (Social Networking Service/Social Networking Site) is known as a tool for promoting social relationships, and has recently attracted a lot of attentions from both academic researchers and industrial practitioners. This paper describes the current status of SNS, and delineates the requirements and action items for applying SNS as a tool to support knowledge collaboration.*

## 1. Introduction

According to a report by the Japanese Ministry of Internal Affairs and Communications, the total number of users who has registered in one of SNS systems has reached about 3,990,000 in 2005[1]. The mixi site, a major SNS site in Japan, has more than 2,000,000 registered users by Dec 2005. In addition to homegrown domestic SNS sites, many SNS providers from abroad also have established operations in Japan. Orkut is one of the most notable examples. It was reported that the Cyworld, a major SNS provider from Korea has started its business in Japan since Dec. 2005.

Driven by the rapid development of SNS systems, research efforts for analyzing the SNS systems and users have also stepped up. For example, Takai and Kawaguchi have conduct experiments with the ACS system that they have developed and evaluated the system's impacts on various human relationships [2][3].

## 2. Problems of general SNS systems

For new members to join, most SNS systems require invitations by friends who have already participated in the system. Consequentially, SNS users tend to think it is safe and comfortable because many of their friends have joined and they are invited by their trusted friends, and are willing to collaborate with other users.

Although SNS systems are good at managing and promoting human interaction and communications, a general SNS system is insufficient to support

knowledge collaboration. As a user of and developer for SNS systems, I found few cases that meaningful output has been produced by collaboration among members in SNS systems.

It is especially hard for SNS users to engage in knowledge collaboration because of the lack of following support in SNS systems:

1. Personal space area cannot be easily used as a repository of individual knowledge.
2. There is no easy way to trace the discussions among members.
3. It is difficult to store an individual's knowledge in a group space.

## 3. Motivating people to contribute

Knowledge collaboration makes progress through providing and receiving knowledge among knowledge workers. Ideally, each knowledge worker should be able to act evenly as both a knowledge provider and a knowledge receiver. However, in reality, only a few knowledge workers are providing knowledge and most users act only as knowledge receivers. This fact points to the need of incorporating into SNS systems mechanisms of motivating more members to become active knowledge providers. For example, if an SNS system has the functionality of evaluating contributions made by its members and of ranking SNS users according to their contributions, SNS system might be able to become a more apt environment for knowledge collaboration among its members.

## 4. Integration with traditional software tools

In the field of software development, software developers have been using many collaboration tools, such as:

1. Bug tracking systems: Bugman, Gnats, Kagemai
2. Full text search engines: Namazu
3. Configuration management tools: CVS, Subversion.

However, my survey of existing SNS systems has found that no systems have tried to learn from those collaboration tools or attempted to integrate with such tools.

## **5. Research agenda**

There is still a long way for utilizing SNS system to support knowledge collaboration. In this section, I try to identify a few action items that need to be addressed.

### **5.1. Resource synchronization between SNS systems and local computers**

Nowadays, many user have a powerful PC with rich resources (large amount of memory, disk storage, gigabit Ethernet and powerful CPU). They often make their documents on their local computers and then upload them into SNS sites. Once they upload the files, the same file exists both in the SNS system and in the local computer. Once they made modification to the files in one place, those files tend to become different. Most current SNS systems do not support synchronization of user files.

### **5.2. Utilizing cell-phones as input devices**

As cell phones become more ubiquitous and move increasingly toward the role of personal digital assistant, many users use such potable devices as a place to write notes and to keep their ideas, and then upload them into SNS sites. An easy transfer of documents between portable devices and SNS systems is needed.

### **5.3. Connecting to other systems**

Some users prefer to use IRC systems like MS-chat, and if they happen to have generated interesting ideas during the chat, they cannot easily make connection into SNS systems and share their newly gained insights with others.

### **5.4. Inter-SNS collaboration**

No SNS systems support inter-site connection with other SNS systems. When different organizations use different SNS systems, inter-organization collaboration then becomes impossible.

## **6. Summary**

In this position paper, I try to summarize the problems to use SNS systems to support effective knowledge collaboration from the perspectives of both a user and a developer.

## **8. References**

- [1] Ministry of Internal Affairs and Communications, "Number of Registered Users of Blogs and SNSs" [http://www.soumu.go.jp/s-news/2005/051019\\_2.html](http://www.soumu.go.jp/s-news/2005/051019_2.html)
- [2] K. Takai and N. Kawaguchi, "ACS: A Social Networking System for Various Human Relations" The 20th Annual Conference of JSAI, 2006
- [3] K. Takai and N. Kawaguchi, "The Specification and Construction of the Academic Community System."