
Research Topics for Optimizing Social Networking Services for Mobile Use

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Abstract

In this paper we examine different ways to provide access to social networking services (SNS) on mobile phones. We present a concept to integrate the services seamlessly to the existing mobile user interface, which allows a quick glance to check how my friends are doing and an effortless way to send content to my SNSs. As we see that integration is the future of providing SNS access on mobile, we introduce a set of research topics that need to be addressed when providing seamless access to SNSs on mobiles.

Keywords

Mobile Social Networking Service, Research Agenda, User Interface design.

Introduction

Social networking services (SNS) have attracted millions of users to spend their time on the Internet, socializing with old and new friends [1]. As the phenomenon is vast and intriguing, it has attracted researchers from multiple disciplines to better understand the motivations, incentives, behaviors, economics, persuasive patterns, and user experiences of online communities.

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Many online communities want to keep their members active by inviting frequent content and status updates. The more active the community, the more important it is for the members to be able to follow the community activities anytime, anywhere. Therefore, these kinds of community activities expand from PC to handheld mobile devices [2].

There are many alternative ways of providing the SNS on mobile devices. Mobile access to SNS may officiate as an extension to PC, not specifically optimized for mobile use. In this case, the person can use a mobile Web browser to access the same community site as on PC [3]. If the SNS wants to promote participation anywhere, anytime, it might produce an RSS feed or create a mobile-friendly version of their site that makes it easier (and less expensive) to use the site via a mobile Web browser. The next level of mobile optimization is to provide a separate application to run on the mobile device that fetches and uploads the data from and to the SNS. This can be full client application or a small widget. This kind of client application is also able to utilize the mobile device resources such as the means for giving notifications and uploading user's current location, which makes it possible to extend the SNS with mobile specific information. If a SNS sees mobile users as their primary customers, it will examine SNS creation starting from the mobile user needs and build the whole community concept around mobility.

Today, developing a separate mobile application, widget, or RSS feed is the best approach to serve community members on mobile devices. In this paper, we will discuss the challenges of this approach and

discuss the means to integrate SNS better to the native user interface (UI) of a handheld device.

SNS on Mobiles – Current Approach

After the explosion in the internet-based SNS like MySpace, Facebook, etc., the obvious next step to seek and exploit social networking on the go. Reacting promptly to new events in the online community typically improves one's image in the eyes of other community members; therefore the prospect of being online perpetually is motivating.

One can use internet-enabled mobile phones to relay stories, pictures and videos instantaneously when they occur, giving a boost to users on sharing feelings and emotions among their social circle. Social networking can also be used as a tool to kill time on the go, while waiting for a train or while travelling to work. [4]

Picture this –A young working woman, who is socially active and has a big network of friends and family on different SNSs. She regularly communicates with them and is an active virtual participant on several SNSs. She usually accesses the SNSs from home and at work several times through her computer or laptop-PC. She is very comfortable with their User Interfaces as she is used to accessing them on her computer. No sooner is she away from her PC, than she is eager to get online to get updated on the developments since her absence. Being connected to friends is so important to her, that she feels restless on being offline for a long time.

Now she has begun using a mobile device, which allows her to surf Internet on the small screen. She feels happy about the fact that she can access her SNSs through her mobile device anytime and anywhere. But

soon she realizes that the user interface (UI) on her mobile is different from that on her computer and she has problems viewing certain contents from SNSs. Also, having accounts on various SNSs, she has to open different web-browsers to access them. She finds it tedious, time consuming and moreover, entering text through mobile was not fast or convenient. The main problems that she faces while accessing her SNSs from mobile are the limited screen assets, higher cost of mobile communication, and the higher level of intimacy. Hence her experience of using SNS on mobile was not as appealing as she had expected it to be. She would like this experience to be as easy as on her computer screen and have one touch access to view her networks. Therefore, she would like smarter working from her device.

SNS on Mobiles – New Approach

The increasing computing capability, power-effectiveness, and pervasiveness of personal mobile devices provide design opportunities not only for productivity domains but also for socio-emotional applications and services. While the benefit of mobility is self-evident in supporting long distance online communications, there has recently been an increasing interest in the area of dedicated mobile social networking applications and software - an approach rotating around the use of personal mobile devices in connection with the ongoing social context [5]. One possible way of conceptualizing the idea of accessing social networking applications or websites on mobiles is along the dimensions of social involvement and openness, as in willingness to be noticed and informed virtually. The former dimension characterizes the degree of user's involvement with the device and subsequently with other users identified with the help

of mediated communication. The latter dimension is about whether the inherent motivations of use are concerned with serendipitous or targeted encounters.

New Approach

In order to improve user experience of accessing social SNSs, we examine how to integrate SNS more seamlessly in the mobile user interface. This approach dissolves the barrier between the applications and SNS on the smart mobile device and gives a direct access to the information you would be expecting to see. Also, users constantly have complex on-line and off-line interactions with others via mobile phones. Through their constant interactions, the distinction between on-line and off-line has become ambiguous (Bakardjieva, 2005; Silverstone, 2006). SNS provides the new time-space for self-expression, connectivity and self-creation amongst all the users [6].

Users have already started using SNS to Communicate, create, connect, interact or just passively consume – all through the mobile phone in their hand. We propose an easy access these functions by putting forward some UI design frameworks and concepts that enhance the usage of SNS on handheld mobile phones.

The key idea is to dismiss the separate applications for each SNS and instead, design a UI where several SNSs behave like a cloud that spreads into all relevant places of the mobile device. This enhances the usability, experience of viewing and interacting with SNSs. Hence users are given priority and the data is extracted from the SNSs and displayed on the mobile screen in a way that would make more sense to the user. Some examples of the integrated approach follows:

Communicate and connect

'Contacts' or Phonebook application is the central place for actively managing and retrieving contact data on mobile phones. This application acts as the site of initiating various types of communications. Furthermore, an increasing number of people started to use contact information in SNS such as Facebook [7].

Keeping all this in mind we are developing a concept, which would rotate around the contacts. Here we attempt to demonstrate that 'contacts' can be one of the options to filter the content that is displayed from the SNS to make it more relevant to the user and designing a person centric UI for handheld mobile devices.

We designed two options to view updates one for my updates and another dedicating view for my friends update, (Figure 1), this kind of view gives you one touch access to view updates from friends.

The logic here is to extract the updates from your contacts SNS and list them in a single view that would display all the updates irrespective of whatever activity or whichever SNSs it comes from. Also arranging it in UI, that keeps contact as a focus and organise it by time and adapt to the usage pattern (figure 2). This UI is designed specially for the user ease and to reduce different steps of involvement that user might have to perform before engaging into information that they are interested in.

Create and Interact

These days, smart mobile phones come with good quality of cameras and users tend to take lots of pictures and videos whenever they want. Our



Figure 1 . A conceptual UI design for the new approach of displaying SNS on smart touch mobiles screen

integrated SNS concept supports this nature of the mobile and active SNS user as well. The UI gives users effortless access to their media library. Selecting the images and dragging them to 'my updates' will give you fast access of uploading photos on SNSs (Flickr, Facebook etc.), for friends to see and comment. (Figure 3)

The GPS satellite technology built in on smart phone makes it possible for phones to know where they now.

They can then tell if other phones or one's contacts are in the same area. Bluetooth short-range radio technology is also standard on most mobiles so phones can pick up the presence of other Bluetooth-enabled phones within proximities of about 20 meters. Effectively, by linking these two developments, a phone can tell if someone is close-by and access lots of information about them – the perfect ingredients for real social interaction. With these technologies you can never feel alone in a crowd that is unknown as you have your mobile device loaded with technologies and information from SNS. One can search out contacts or their friends or information of participants using SNS and these tools. You can more easily start communicating with them and be part of the crowd.



Figure 2 . A conceptual UI design – showing the filtering technique in UI, here photo tab is clicked to filter all the photos from my contact in a single view.

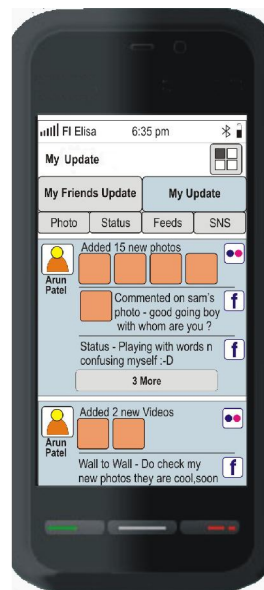


Figure 3 . A conceptual UI design – showing 'my updates' a easy way of updating your own data on SNSs.

Research topics for mobile SNS

Although mobile access to SNS is not a new research area, most of the research work has focused on developing and studying SNS specific mobile applications. On a small screen device, however, a separate application for each SNS is not the best option, since not all of my friends are on one SNS. We propose a system where SNSs could be integrated to the mobile UI, not remain like separate applications. Both SNS developers and end users would benefit from the integration, but there are some challenges to solve before we get there:

1. What technologies would best serve easy integration?
2. How to ensure security in the integrated solution?
3. How to avoid spam and cluttered UI in the integrated solution?
4. How to allow the user control the cost of data traffic in the integrated solution?

Mobility also provides unique opportunities for new kinds of social activities. Location information is the most obvious new aspect that mobile use brings to SNS. Many of the uniquely mobile concepts rely on automatic sharing of information, such as my current location or status, which raises privacy concerns. The uniquely mobile social networking functions bring up the following research questions:

5. How is mobile SNS use different from stationary?
6. What are the uniquely mobile features for SNS?
7. How to solve the privacy questions related to automatic sharing?

Conclusion

Mobile access to SNS requires a different thinking model from the current PC centric model to the mobile centric model. In mobile use, quick glance of information is important, as well as simple and quick to upload information. Full functionality of an SNS must also be possible, but many times, it is more important to have a single piece of information or functionality knit to the relevant part of the mobile UI. For example, after taking a photo, the function for sending it to my favourite photo sharing service should be possible right on the photo view. When checking contact information of my friend, I should be able to see her online status right there. Integration brings up important security and technical questions that SMT research agenda should cover.

When designing truly for mobile use, SNSs should utilize the uniquely mobile aspects of communication. Friends' locations, proximity notifications, and sharing contextual information are some examples of uniquely mobile functionality for an SNS. These new types of functionality raise a set of research topics, discussed in the previous chapter.

We hope the above mobility specific aspects will be prominent on the Social Mediated Technologies research agenda. We welcome researchers to focus in the exiting topic of mobile communication in social networks.

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