What’s up: P2P Spontaneous Social Networking

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Abstract—This demo presents some features of our platform What’s up for P2P social networking. The main idea of What’s Up is to provide spontaneous social networks in the events such as conferences and expositions. With no infrastructure requirement, What’s up enables fast setup and deployment of a distributed social network that provides VoIP, instant messaging, community creation/management, V-card sharing, search and event alert. What’s up is designed to be also deployable on ad hoc networks. Moreover it works on different operating systems including windows, Linux, Windows mobile and Symbian.

Keywords- P2P; Social Networks; Ad hoc; Spontaneous Systems.

I. INTRODUCTION
Social networking facilitates communication between peers, experience/content sharing, polling, community creation and profile-based advertisement. Social networking can be considered as one of the main Web2.0 achievements in the Internet; applications such as Facebook [3], Flickr [4] and LinkedIn [5] are successful examples of social networks with hundred millions of users.

Social networks can also be helpful in the occasions such as conferences and expositions where people need to meet, receive the updated news, exchange their opinions, comment on something, poll and receive the alert for the desired events. Setup of social networks for such events should be fast, spontaneous, with minimum configuration and infrastructure, scalable and customized. Another challenge in the events such as conferences and expositions is that access to the internet is very instable because of collided access; hence the internet access should not be a necessity for enabling social networking in these events.

What’s Up enables such kind of spontaneous social network creation. It follows a P2P design and then with no required infrastructure, minimum of configuration and easy management makes social networking possible for the events such as conferences and expositions.

II. WHAT’S UP FEATURES AND PROTOTYPE
What’s Up is a P2P application which enables spontaneous setup of a customized social networks. It provides the following services for its users.

P2P Communications: VoIP and Instant Messaging.

V-Card Sharing: Sharing the business card and enabling possibility to be found based on the area of the interest, profile and company name.

P2P Community management:
Creating a community, joining a community, sharing content/experiences/services, adding news, subscribing for the events, receiving event alerts, receiving community feeds, commenting and polling.

Search: people, content, service and community.

What’s up client agent is written in Java and can be run on multiple operating systems including Windows, Linux, Windows Mobile and Symbian. This enables usage of this application on various device types.

What’s Up is based on our P2P platform SCOPE [6].
SCOPE is developed to provide a distributed infrastructure with unified API that enables development of miscellaneous P2P services. SCOPE deploys the OpenDHT [7] to provide a distributed lookup system based on DHT over the peers’ devices. In SCOPE, OpenDHT is modified based on the researches presented in [1,2] to adapt OpenDHT to Ad hoc networks. Hence SCOPE is able to work efficiently on ad hoc networks as well as conventional network configurations.

SCOPE follows a hierarchical P2P system architecture. It means that to construct and organize an overlay, certain devices are selected to serve as the Super Nodes (SN). SNs are the devices with enough computing/storage capacity that process the requests of the clients and route their requests to the proper peer/item. Due to the computing requirements and operating system limit, in our platform, only laptops equipped to the Windows or Linux operating system can serve as super nodes. However as mentioned before there is no limit on the operating system of the Client nodes. Moreover, instead of having a flat overlay for all the services, SCOPE organizes service classified sub-overlays for each service class. Figure 1 depicts the overall architecture of the SCOPE. The What’s Up client agent is shown in Figure 2.

III. DEMONSTRATION DETAILS AND SCENARIOS

Several use cases can be defined for What’s Up including:

1. Professional Use cases: conference/exposition and hospital usecases.
2. Social Media Use cases: Amateur journalism.
3. Home Use Cases.

In this demo we focus on the professional use cases for conferences and expositions. We show how What’s Up can be used by the attendees as well as the organizer of such events to setup a spontaneous social network and distribute the news, advertise the events program based on the user interests, create the communities and provide P2P communication.

As a specified scenario, we show the use case of the What’s Up in a conference. In this scenario, beside of the applications such as P2P communications and V-Card sharing we show some customized applications. The organizers create different community for each session. The session chairman is able to contact the speakers if required. For instance, he/she can ask the speakers to send him/her a short CV; and the speakers can share their short CV with him/her easily. Moreover, a user can register for a desired talk, so some minutes before the talk he/she will receive an alert. The daily news of the conference can be transferred to the users. The users are able to comment on the presented paper’s and poll for selection of the best paper. In this demo by setting up a small ad hoc networks and installing What’s up on the devices of this network, we demonstrate a real experience of such a scenario.

REFERENCES

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