

# What's up 2.0: P2P Spontaneous Social Networking

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**Abstract**—This demo presents some features of our software for P2P social networking *What's up 2.0*. The main idea of *What's Up 2.0* is to provide spontaneous social networks in the events such as conferences and expositions. With no infrastructure, *What's up* enables fast setup and deployment of a distributed social network that provides VoIP, instant messaging, Video call, community creation/management, V-card sharing, Image sharing, search and event alert. *What's up 2.0* is designed to be also deployable on ad hoc networks. Moreover it works on different operating systems including windows, Linux, Windows mobile and Symbian.

## I. INTRODUCTION

Social Networking has majorly impacted the communication habits of people on the internet. On the other hand, increasingly people carry their treasured multimedia content in small mobile devices like smart phones and PDAs. Tremendous interesting customized applications can be imagined with spontaneous social networking over mobile devices in the events/locations such as conferences, expositions, galleries, stadiums, bars and restaurants. Enabling people to share their experiences, to communicate and to have access to the comments of others without need to have internet access and with minimum required infrastructure is the main idea behind spontaneous social networking. Considering, auto-organization, scalability and distributed architecture, P2P technology can play the key role in creating such kind of social networks.

*What's up 2.0* is our software that enables such kind of spontaneous social network creation. It is based on a hierarchical DHT based P2P platform and provides advanced features of social networking in a distributed architecture with no need to access to the internet. In this demo we present the use cases of the *What's Up 2.0* in the events such as conferences.

## II. WHAT'S UP 2.0 FEATURES AND PROTOTYPE

*What's Up 2.0* is a P2P application which enables spontaneous setup of a customized social networks. Similar to its predecessor (*What's Up* [5]), *What's Up 2.0* 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 a variety of devices. *What's up 2.0* provides the following services for its users.

- **Authentication:** A completely distributed login/password authentication system.
- **P2P Communications:** VoIP, Video, friend list, presence and Instant Messaging.

- **V-Card Sharing:** Sharing the business card and enabling the possibility to be found based on the area of the interest, profile and company name.
- **Content Sharing:** Text, link and image.
- **P2P Community management:** Creating a community, joining a community, adding news, subscribing for the events, receiving event alerts, receiving community feeds, commenting and polling.
- **Search:** finding people, content, service and community.

*What's Up 2.0* play the role of the client agent in our P2P platform SCOPE [3]. SCOPE is developed to provide a distributed infrastructure with unified API that enables development of miscellaneous P2P services. SCOPE deploys the OpenDHT [4] 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] and [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 virtual sub-overlays for each service class [3].

A major improvement of *What's UP 2.0* over its predecessor is the zero-configuration feature. Each client discovers automatically some SNs and connects to the network without any pre-configuration. Moreover, distributed authentication system, image sharing, video call, buddy list and community based status adjustment are other new features which are added to the *What's UP 2.0*. Figure 1 shows a snapshot of *What's UP 2.0* client agent.

## III. DEMONSTRATION DETAILS AND SCENARIOS

Several use cases can be defined for *What's Up 2.0* including:

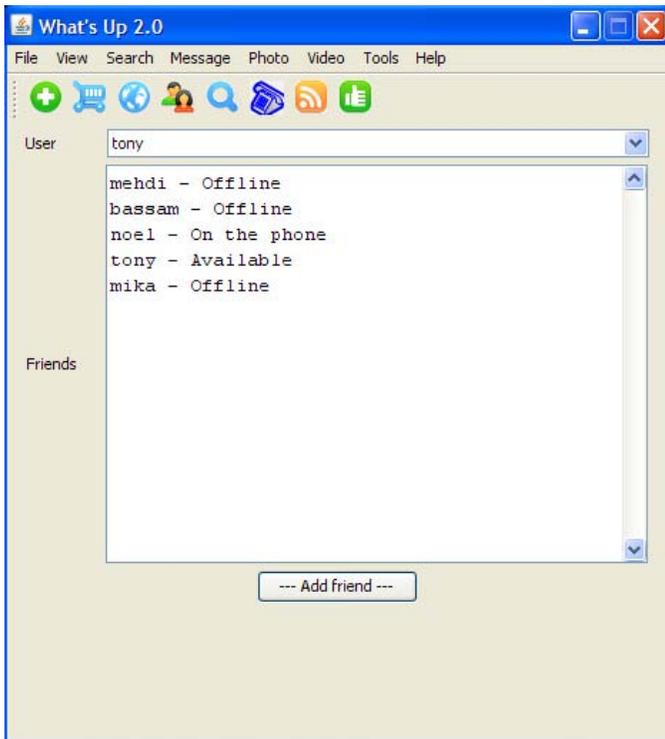


Fig. 1. What's UP 2.0 Client Agent

- 1) Professional Use cases: conference, exposition and Galleries.
- 2) Social Life: Restaurants and Bars.
- 3) Home Use Cases.

In this demo we focus on the professional use cases within a conference. We show how *What's Up 2.0* can be used by the attendees as well as the organizers of such events to setup a spontaneous social network and distribute the news, advertise the events program based on the user interests, alert the changes in the program, create the communities and provide P2P communication. 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 starts, 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 2.0 on the devices of this network, we demonstrate a real experience of such a scenario.

## REFERENCES

- [1] M. Mani, W. Seah, N. Crespi, *Super nodes positioning for P2P IP telephony over wireless ad-hoc networks*, In Proceeding of ACM MUM, December 2007, Oulu Finland.
- [2] M. Mani, W. Seah, N. Crespi, *Efficient P2P service control overlay construction to support IP Telephony services over ad-hoc networks*, In Proceeding of IEEE MASS, October 2007, Pisa, Italy.
- [3] M. Mani, A.M. Nguyen, N. Crespi, *SCOPE: Service Classified Overlay for P2P Environment*, Demo proposal, IEEE MASS 2008, Atlanta GA, USA.
- [4] OpenDHT <http://www.opendht.org/>
- [5] M. Mani, A.M. Nguyen, N. Crespi, *What's up: P2P Spontaneous Social Networking*, Demo proposal, IEEE PerCom 2009, Galveston Tx, USA.