From Livemaps to CoffeeReader: enabling participation and wisdom of crowds in the corporate environment

Vladimir Soroka
IBM Haifa Research lab
Haifa University Campus, Mount Carmel, Haifa, 31905, Israel
vladi@il.ibm.com
+972-4-8296311

Ido Guy
IBM Haifa Research lab
Haifa University Campus, Mount Carmel, Haifa, 31905, Israel
ido@il.ibm.com
+972-4-8296345

ABSTRACT
This position paper describes the research that has been performed by IBM Haifa Research Lab's Collaboration Technologies department in the area of Web 2.0 in the corporate environment. Some of the projects are performed in tight collaboration with our sister labs around the world. We outline our previous research in the field of enabling collaboration in the corporate environment both in pre-Web 2.0 and in the Web 2.0 era and sketch future directions of the group.

Author Keywords
Social networks, Web 2.0, collaboration, RSS, feeds, instant messaging

ACM Classification Keywords
H.5.3 Group and Organization Interfaces – Computer-supported cooperative work

INTRODUCTION
Back in 1998 the Web became dominant in the life of both information workers and the world at large. It'd been open for public for several years already and started to gain momentum. Back then we were part of Information Retrieval group and our group's major project in the area of enterprise search engines was a big success. The corporate Intranet received its unified Web based interface and a good search engine was a vital component to enable Web's usefulness in the enterprise. The group became famous not only for its contribution to the company's products, but also for its academic research [1,2].

This was exactly the point where we began to think about the future. It was clear that the Web is here to stay, but doing only search seemed like a good but limiting idea. The idea of enabling collaboration between enterprise users came very naturally. IBM is a big enterprise and even pre-Web tools enabled a good deal of data sharing and messaging. These features have always been popular. This is why we span off a collaboration oriented activity that grew into a group and then into a department, becoming more and more relevant as Web 2.0 and then its application to the enterprise world emerged.

In this position paper we briefly describe our major projects in the area of collaboration in the enterprise environment. We dedicate several paragraphs to each of the tools describing its functionality and research problems with references to the related papers. We then sketch our future directions. We conclude by describing the themes that specifically interest us in this workshop.

OUR LEGACY

Livemaps – Mapping the Web
Our first collaboration project was Livemaps [3]. It started with a Web mapping tool called Mapuccino [4]. It created maps of Web sites with different views and layouts. Livemaps added collaboration to this concept. Using instant messaging and presence server and Java applets we collected information about users currently browsing different Web pages and shown their information on the Web site map. It enabled users to see who else is interested in various subjects on the site and easily jump to pages with many participants. Livemaps was not exactly Web 2.0 yet – but it had first ideas of enabling user participation and making Web a social space.

ReachOut – Wisdom of Crowds?
Our next project addressed another problem. Newsgroups [5] have been very dominant from the beginning of the Web, arguably being one of its killer apps. However, they had several drawbacks. They were overloaded, non synchronous and often not suitable for immediate help. ReachOut, a peer support collaboration tool tried to address those issues.

ReachOut essentially was a newsgroup-like tool based on persistent chat technology [10]. It enabled people to subscribe to a small and controlled taxonomy of interest and then ask questions and open discussions under different topics. The tool was semi-synchronous –people concurrently online would see each other and collaborate using instant messaging. Users who joined later could see the discussion and contribute to it even iof nobody else was online.

We deployed ReachOut in several communities and performed research around its usefulness [8,10], behavior

of its users [9, 11, 13] and the process of its diffusion in the enterprise [12]. Why again not being a pure Web 2.0 tool in the technological sense, ReachOut had definitely enabled participation and wisdom of crowds in the enterprise. Many problems were resolved only when a number of participants contributed from their knowledge, experience and understanding, proving the concept of Web 2.0 "wisdom of crowds" before the term was officially coined.

SONAR – the raise of Web 2.0 in the enterprise
Social Networking Architecture (SONAR) was born to solve a very mundane problem. Users in the enterprise are very busy and it is very difficult to make them maintain their profile pages up to date. What we initially attempted to do is to collect information about people automatically and populate their profile pages without their intervention.

With the raise of Web 2.0 tools in the enterprise, it became evident that populating people profiles is only a small part of the problem. IBM pioneered the enterprise Web 2.0 movement and quickly thousands of blogs, Wikis, social bookmarks and other Web 2.0 artifacts emerged. Each of these artifacts bore not only content but a great deal of social information – who commented to whom, who has similar bookmarks, who co-authors Wiki pages etc. SONAR attempts to utilize all this information. It creates a social networking backend that is able to compile information from multiple sources and give a comprehensive picture of enterprise social network [6].

More and more data providers utilize SONAR APIs to become part of this big network and become visible to other social applications. More and more applications use data coming from SONAR to introduce social network enabled features – like showing what your friends have been reading in blogs, what people similar to you are currently rating, direct your questions to your social network first and more. We continue research on various usages of SONAR and features of its network [7].

CoffeeReader – Swimming in the Information Ocean
In recent years, people are exposed to a growing volume of online information that can hardly be processed, let alone absorbed, by any person alone. Many Web 2.0 applications handle this problem by providing means for filtering the information and by sharing among the crowd, usually by the use of tags, rankings, comments and recommendations.

Feed readers have emerged as one of the salient applications that characterize Web 2.0. Lately, some of the available feed readers are adding social features, analogously to other Web 2.0 applications, such as tagging and recommendations. Most of them lack collaborative features, such as the ability to share feeds in a group or divide the reading task among the group members. This is what lead us to develop CoffeeReader, a web-based feed reader, which is deployed in a closed small community within a large organization and combines social and collaborative features. CoffeeReader allows users to share their list of feeds and the items they read, as well as to tag items, and recommend them to others. It also enables sharing feed meta-data, such as the reading percentage per feed and the number of items recommended by a user per feed.

Like SONAR, CoffeeReader is a pure Web 2.0 application. It shows how using Web 2.0 wisely in the enterprise can dramatically change user experience and information usefulness. We believe that CoffeeReader-like applications can mae information workers more efficient and really find many needles in hay stocks of enterprise information.

FUTURE RESEARCH
We continue working on collaboration infrastructures and applications in the corporate environment. We are developing SONAR infrastructure, we are looking for its new applications in the Web 2.0 space in our company. We are interested in exploring how social analytics can measure ROI of collaboration and Web 2.0. We explore several directions for new enterprise Web 2.0 applications with a strong bias towards making everything that is a complex and often cumbersome process into a fun, collaborative and efficient tool. We closely cooperate with our partners inside and outside of IBM to fully leverage open collaboration environment to solve problems that before Web 2.0 and user participation seemed to be beyond computerized solution. We think that Web 2.0 is just a beginning of the new era where collaboration will become a central nerve system of problem solving and will take humanity to the next level.

CONCLUSION
We are strongly interested in the major workshop themes especially in the following subjects:

- How enterprise environment is different from the open world as far as Web 2.0 apps are concerned?

- Can social analytics be a useful tool in the enterprise?

- What are the good incentives for enterprise workers to participate in the corporate Web 2.0 application?

- How do we measure the ROI of Web 2.0 in the enterprise?

We are looking forward to participating in the workshop.

REFERENCES
1. Amitay, E., Carmel, D., Darlow, A., Herscovici, M., Lempel, R., Soffer, A., Kraft, R., Zien, J. Juru at trec 2003 - topic distillation using query-sensitive tuning and

cohesiveness filtering, In Proceedings of the 12th Text Retrieval Conference, 2003.

2. Carmel, D., Amitay, E., Herscovici, M., Maarek, Y., Petruschka Y. and A. Soffer, "Juru at TREC 10 - Experiments with Index Pruning", in Proceedings of NIST TREC 10, Nov 2001.

3. Cohen, D., Jacovi, M., Maarek, Y.S., Soroka, V.: Livemaps for collection awareness. Int. J. Hum.-Comput. Stud. 56(1): 7-23 (2002)

4. Herscovici, M., Jacovi, M., Maarek, Y.S., Pelleg, D., Shtalhaim, M., Ur, S. "The Shark-Search Algorithm: An Application: Tailored Web Site Mapping". In the Proceedings of the Seventh International World Wide Web Conference, Brisbane, April 1998.

5. Google Groups. http://groups.google.com/

6. Guy, I., Jacovi, M., Shahar, E., Meshulam, N., Soroka, V., Farrell, S.: Harvesting with SONAR: the value of aggregating social network information. CHI 2008: 1017-1026

7. Guy, I., Jacovi, M., Meshulam, N., Ronen, I. and Shahar, E. Public vs. Private – Comparing Public Social Network Information with Email. To be published in Proceedings of CSCW 2008.

8. Jacovi, M., Soroka, V. and Ur, S. Why do we ReachOut? Functions of a semi-persistent peer-support tool,. In Proceedings of the ACM International Conference on Supporting Group Work (GROUP '03) (Sanibel Island, Florida, USA, November 9-12, 2003). ACM Press, New York, NY, USA, 2003, 161-169.

9. Rafaeli, S., Ravid, G.,and Soroka, V.: De-Lurking in Virtual Communities: A Social Communication Network Approach to Measuring the Effects of Social and Cultural Capital. HICSS 2004

10. Ribak, A., Jacovi, M. & Soroka, V. "Ask before you search": Peer support and community building with ReachOut. In Proceedings of the 2002 ACM conference on Computer supported cooperative work (CSCW '02) New Orleans, Louisiana, USA, November 16-20, 2002). ACM Press, New York, NY, USA, 2002, 126-135.

11. Soroka, V., Jacovi, M. & Ur, S. We can see you: a study of the community's invisible people through ReachOut. In Proceedings of the First International Conference on Communities and Technologies (C&T '03) (Amsterdam, The Netherlands, September 19-21, 2003). Kluwer Academic Publishers, Dordrecht, The Netherlands, 2003.

12. Soroka, V., Jacovi, M.: The diffusion of reachOut: analysis and framework for the successful diffusion of collaboration technologies. CSCW 2004: 314-323

13. Soroka, V., Rafaeli, S. Invisible participants: how cultural capital relates to lurking behavior. WWW 2006: 163-172.

The columns on the last page should be of approximately equal length.