An Analysis of Sociability of Deaf Users in Orkut Communities

Glívia A. Barbosa
Computer Science Department,
Federal University of Minas Gerais
Av. Antonio Carlos, 6627
Belo Horizonte, MG, Brazil 31275-010
gliviaangelica@dcc.ufmg.br

Raquel O. Prates
Computer Science Department,
Federal University of Minas Gerais
Av. Antonio Carlos, 6627
Belo Horizonte, MG, Brazil 31275-010
rprates@dcc.ufmg.br

ABSTRACT
In this paper, we describe an ongoing research project to analyze and characterize how deaf users interact through Orkut Communities. The first step of the research has shown they are more connected than other communities, but their interaction through the communities is not much different from the use of others. Currently we are using the Semiotic Inspection Method to assess the sociability of members of deaf communities in Orkut.

Categories and Subject Descriptors
H. [Information Systems] :H.5 INFORMATION INTERFACES AND PRESENTATION; H.1.2 User/Machine Systems

General Terms
Measurement, Human Factors.

Keywords
Social networks, online communities, sociability, accessibility, deaf.

1. INTRODUCTION
Social networks have become an interaction environment for people from different regions, cultures or physical or psychological conditions all over the world, and it has not been different in Brazil. Such a broad use of social networks raises the issue of the role they can take in social inclusion. However, their interfaces often are not prepared to support the interaction of users with special needs [11].

In this work we focus specifically on how deaf people in Brazil use social network systems. Although most social networks do not involve audio elements in their interfaces, it is important to notice that the first language for deaf people is sign language and communication takes place, most of the time, in face-to-face situations. Thus, having to interact through written form of oral languages may be a challenge for deaf users [8][6]. Furthermore, in the deaf culture interaction with other deaf people is extremely important and communities tend to be tighter.

In Brazil, there are works that have emphasized the importance that social networks have for deaf people [7][9]. Thus, the goal in this work is to analyze and characterize the contribution of online communities for deaf users in Brazil. For this analysis we have chosen to look at how deaf users use Orkut communities to interact. The choice of Orkut was due to the fact that it is currently the most popular social network system among Brazilians [2].

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.
WebSci '11, June 14-17, 2011, Koblenz, Germany.
Copyright held by the authors.

2. RESULTS AND ONGOING RESEARCH
As a first step we have performed a quantitative, as well as a qualitative analysis of the relationship among users of Orkut communities aimed at deaf users [1]. The quantitative analysis has shown that members of Orkut communities aimed at deaf people are more connected to each other, than members of other communities that have different focuses (e.g. people with same last names or homosexuals). In order to better understand the implications of this higher connection on the community, a qualitative analysis of these communities was performed. However, this analysis indicated that their relationship through Orkut communities was low, and not much different from the other communities.

This analysis showed that the features available for interaction through Orkut communities are limited to forums, event calendars and poles. The forums only allow users to communicate through text and all messages are always aimed at the whole community (it is not possible to send a private message through the community). The only way for a community member to communicate with another member privately and using other media (e.g. images and video) would be including this other member as a friend and communicating through scraps. This raised the issue whether the connectedness identified in the deaf communities were a trace that came from deaf culture or if it was because as people met in the communities they included them as friends to be able to communicate more efficiently with them [1].

In order to better understand the role of the virtual community for the deaf users, we are currently complementing the results obtained by analyzing the communities' sociability. Preece [10] has defined sociability in online communities in terms of purpose, people and policies. She has argued that although the software determines possible interactions, sociability can only be assessed based on how it is used by the community. Thus, in order to have a deeper understanding of the deaf users sociability supported by Orkut we are applying the Semiotic Inspection Method (SIM) [5], to their community pages, as well as deaf users' scrap pages.

The SIM is grounded on the Semiotic Engineering Theory [3]. In a nutshell, Semiotic Engineering is a communication centered theory of Human-Computer Interaction (HCI) that perceives the interface of an interactive system as a unidirectional communication from designer to users. Designers convey to users

who the system is intended for, what problems it can solve and how to interact with it to solve these problems. Users understand the designers' message through their interaction with the system. In this theoretical framework, the Semiotic Inspection Method (SIM) has been proposed to allow for the inspection of this message being sent from designers to users [4][5].

The method defines steps that allows the evaluator (who must have knowledge of the Semiotic Engineering Theory) to identify the designer-to-users message being conveyed by the system and appreciate the quality of this communication, identifying its strengths, as well as its potential breakdowns. The choice of this method was due to its ability to provide a theoretical based analysis of the observed user-interface-user interaction as meant by the designers, as well as the actual interaction that took place among users of a community. To do so, SIM has been applied in two different levels. First, an analysis of the designer-to-user communication has been done using the method. However, in online communities, analyzing just what the system offers to the community is not enough to analyze quality of interaction in the community (e.g., sociability), an analysis of how the community members uses the system is also necessary [10]. Thus, a second application of SIM has been done to existing communities to identify how its users (i.e., deaf) are socializing through the community and through *scraps*.

Furthermore, it is important to highlight that we also intend to apply a questionnaire and interview Brazilians who are deaf and use Orkut communities to complete this analyze.

3. CONCLUSIONS

The focus of the research being presented is an analysis and characterization of how deaf Brazilian users interact through online communities. The goal is to analyze different aspects of their use: connectedness, use of community features, sociability and user experience. With these different dimensions we will have a deeper understanding of how network systems support the deaf community, its (potential) role in social inclusion, as well as the specific needs of this community that should be addressed by such systems. This understanding is of importance in order to be able to better support the deaf community and provide them with more accessible systems.

4. ACKNOWLEDGMENTS

This work is partially supported by the the INCT-Web (INWeb) (MCT/CNPq/ grant 57.3871/2008-6), and by the authors' individual grants and scholarships from FAPEMIG, and CAPES.

5. REFERENCES

[1] Barbosa, G., Santana, I., Gonçalves, G., Prates, R., Benevenuto, F., Almeida, V. 2011. Characterizing Interactions among Members of Deaf Communities in Orkut. 18 pages. Technical Report.

[2] comSCORE.: Orkut Continues to Lead Brazil's Social Networking Market, Facebook Audience Grows Fivefold. São Paulo, 2010. http://www.comscore.com/Press_Events/Press_Releases/2010/10/Orkut_Continues_to_Lead_Brazil_s_Social_Networking_Market_Facebook_Audience_Grows_Fivefold

[3] de Souza, C. S.: The semiotic engineering of human-computer interaction. MIT Press, MA, (2005)

[4] de Souza, C. S., Leitão, C. F., Prates, R. O., da Silva, E. J.: The semiotic inspection method. In: Proceedings of the VII Brazilian Symposium on Human Factors in Computing Systems (IHC 2006). Porto Alegre, SBC, pp. 148-157 (2006)

[5] de Souza, C.S., Leitão, C.F., Prates, R.O., Bim, S.A., da Silva, E.J. 2010. Can inspection methods generate valid new knowledge in HCI? The case of semiotic inspection. In: International Journal of Human-Computer Studies, 68(1-2), 22-40. 19 pages. (2010)

[6] Fajardo, I., Abascal, J., Cañas, J. J. 2008. Bridging the digital divide for deaf signer users. In Proceedings of the 15th European Conference on Cognitive Ergonomics. ECCE '08, vol. 369. ACM, New York, NY, 1-6. 6 pages. (2008)

[7] Garcêz, R. L. O. 2006. Entre o silencio e a visibilidade: o Orkut como espaço de luta por reconhecimento do movimento social dos Surdos. In: Congresso Anual da Associação Brasileira de Pesquisadores de Comunicação e Política, 1, 1-15. 15 pages. 2006.

[8] Lane, H., Hoffmeister, R., Bahan, B. 1996. A journey into the Deaf-World. San Diego, California: Dawn Sign Press (1996).

[9] Martins, S., Filgueiras, L. 2010. Avaliando modelos de interação para comunicação de deficientes auditivos. In: Simpósio de Fatores Humanos em Sistemas Computacionais - IHC 2010. Belo Horizonte, 193-196. 4 pages. (2010)

[10] Preece, J. 2000. Online Communities: Designing Usability, Supporting Sociability. UK: John Wiley & Sons (2000)

[11] Zajicek, M. 2007. Web 2.0: hype or happiness?. In Proceedings of the 2007 international cross-disciplinary conference on Web accessibility (W4A) (W4A '07). ACM, New York, NY, USA, 35-39. 5 pages. (2007).