Methodological Challenges for Studying Cross-Platform Conversations

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Abstract

During the last decade, the multimedia landscape has evolved in several ways, calling for a reconsideration of methodologies for studying mobile communication. Understanding mobile communication no longer entails focusing on either voice or text in isolation; rather we need to study how all aspects of mobile communication together make up a continuous conversation of intertwined messaging. People use a multitude of channels and platforms in their multi-media conversation. However, there are both ethical and technical challenges of studying evolving cross-platform conversation. In this talk, we address a few ethical and technological challenges involved in trying to capture a wider picture of the evolving cross-platform conversation.

Keywords

mobile communication; cross-platform; continuous conversation; methodology; data collection.

Introduction

Information and communication technologies, and particularly mobile technologies are becoming increasingly important in people's lives today. In Sweden, where we are performing our research, 97% of the population owns a mobile phone, most of whom use it for private purposes (96%) (Falck, 2012). Today's Internet connected mobile devices are 'technologies of sociability' (Thurlow, 2003), incorporating ever more of the functions that computers have today, and the inherent mobility allows us to be 'always on' (Baron, 2008) and in 'perpetual contact' with each other (Katz & Aakhus, 2002). Mobile technology is changing the conditions of communication and interaction and provides new, mobile arenas for information access and socialization, which affects language use as well as usage patterns.

Mobile communication has been studied from many different perspectives in the last decade. In general, these studies have mostly relied on large-scale statistical studies (e.g. Ling et al., 2011), self-reports or logs of communication patterns (Raento et al., 2009). These methods have been criticized for ignoring the content of the actual communication (Boase & Ling 2011). One of the possible reasons that so few studies have used natural conversations is that it has been technically and ethically difficult to collect data. Researchers in sociology or linguistics have often lacked the technological expertise required to make such data collections. This has forced many researchers to make a choice between studying either text or talk, or to analyze communication logs.

Currently, few studies have been made of the integrated aspects of mobile communication. There are a handful of studies of mobile phone calls, based on naturally occurring conversations (Laurier, 2001; Weilenmann, 2003; Arminen, 2005; Arminen & Weilenmann, 2008; Hutchby & Barnett, 2005), and a few studies of the sequential organization of text messaging (Laursen, 2006; 2012; Spagnolli & Gamberini, 2007; Hutchby & Tanna, 2008).

A decade ago, it was natural to study one or the other channel possible in mobile communication. For instance, there have been studies focusing on spoken mobile phone communication (e.g. Arminen &

Weilenmann, 2009,), and on text-based mobile phone communication (Hård af Segerstad 2002; 2005a; 2005b). However, these two aspects of mobile communication in isolation far from covers what is going on in the continuous conversations in which many of us engage daily, often across platforms, involving text, talk and multimedia.

To get a more complex picture of mobile communication, we need to study how all aspects of mobile conversation together make up a continuous conversation of intertwined messaging. The media landscape has changed profoundly the last few years, forcing Internet researchers to adapt. People use a multitude of channels and platforms for communication these days, including everything from basic mobile phone affordances of voice calls and text messages, to interaction through Facebook and Instagram, Skype and Face Time. This is a form of cross-platform conversation (Weilenmann et al. 2013), where threads in an ongoing conversation might be started in one channel to be picked up and continued in another, commented on in yet another, using voice, text, photos and videos, links, 'likes' etc.

These days, it seems rather more relevant to look into the units of analysis in this evolving multimedia conversation, how a continuous conversation is interconnected and maintained, what items make up this stream of communication and how users manage and make meaning of the multitude of communication opportunities.

Choosing Perspective – From Big Data to Micro Studies

Studying multi-platform mobile communication involves choosing the perspective or scope of investigation. One of our perspectives is to collect data of users continuous, everyday conversation across multiple platforms. The data categories comprise audio (voice calls), text (text messages, status updates and comments), visual material (photos, videos), links and "likes", etc. The material can be stored and visualized in a corpus. Here we have the potential to, with relatively low effort once the system is up and running, to collect a large corpus. However, it might be difficult to keep the sequencing and linking the material to specific users in such a corpus, thereby losing some of the context.

Another perspective is to study users more in-depth, for example by ethnographic observations and interviews. This would allow us to get a more comprehensive picture of the use of these services in the context that they occur. These studies would shed light on the data collected in the corpus, contextualizing that material.

However, there are both ethical and technical challenges of studying evolving cross-platform conversation. These issues will be discussed below.

Technological and Ethical Challenges

The challenges involved in collecting data of cross-platform conversations are both technological and ethical. Sometimes technology allows us to capture "too much" information, and we also need to handle information that is collected as a bi-product of the material we are aiming to gather.

To illustrate this, we can briefly mention a pilot study that we undertook during 2012. In this small study, we gathered audio recordings of mobile phone voice calls and logs of text messages by installing software on mobile phones that the research subjects in the project used. This software allows for audio recording of both sides of voice calls as well as logging text messages. During the pilot study we used and evaluated two different applications for data collection on smartphones (Killer Mobile Software LLC and Mobistealth). The software we used, did not only collect the audio and text data from our subjects' conversation that we intended. It also gathered unwanted information such as the phones GPS position, web browsing history, contacts, photos and videos etc. Even though this fact was openly discussed with the subjects in the pilot study as an ethical and methodological problem, it posed a delicate ethical dilemma and made clear that ethical practices are lagging behind what is possible to do in technological terms. All gathered material was accessible to us as it was

automatically uploaded to our password-protected accounts on servers of the system providers. Apart from being uploaded in this rather dubious way, as the material was potentially vulnerable both to the scrutiny of others and for the data to vanish, the software was also unreliable by not working smoothly at all times, e.g. by sometimes recording only one side of the conversation, and missing some logs of text messages. The quality of recordings was also unreliable.

Conclusions – allowing for new perspectives on cross-platform conversations

Moving onwards and forwards, and learning from difficulties and flaws in previous studies, we have to meet the ethical and technological challenges in trying to capture a wider picture of the evolving cross-platform conversation. In order to gather the data we require for the study, and only the data we require, and to keep control of both ethical issues and the data itself, we have to develop a tailor-made application for data collection. Furthermore, we also have to adapt existing corpus methods to make the multimodal material searchable and possible to visualize in both chronological and (a)synchronous fashion. We are currently in the process of developing an application, which will collect data from cross-platform communication, capturing the data we want while at the same time adhering to ethical principles for Internet research.

References

Arminen, I., (2005/2006). Social functions of location in mobile telephony. *Personal and Ubiquitous Computing* 10 (5), 319–323.

Arminen, I. & Weilenmann, (2008). Mobile presence and intimacy: Reshaping social actions in mobile contextual configuration. In *Journal of Pragmatics*, Special issue on Communicating Space and Place, Elsevier.

Arminen, I & Leinonen, M. (2006). Mobile phone call openings—tailoring answers to personalized summons. *Discourse Studies* 8 (3), 339–368.

Baron, N. S. (2008). *Always On: Language in an Online and Mobile World*. New York: Oxford University Press.

Boase, J. & Ling, R. (2011). Measuring Mobile Phone Use: Self-Report Versus Log Data. *Paper presented at the annual meeting of the International Communication Association*, TBA, Boston, MA, May 25, 2011.

Falck, C. (2012). *Rapport. Svenskarnas användning av telefoni & internet 2011. Individundersökning 2011.* Projektnummer 1522079. TNS SIFO.

Hutchby, I. & Barnett, S. (2005). Aspects of the sequential organization of mobile phone conversation. *Discourse Studies* 8 (2), 147-171.

Hutchby, I. & Tanna, Vanita. (2008). Aspects of sequential organization in text message exchange. *Discourse & Communication*, vol. 2: 143.

Hård af Segerstad, Y. (2002). *Use and Adaptation of Written Language to the Conditions of Computer-Mediated Communication*. Doctoral dissertation. Dept. of Linguistics. University of Gothenburg.

Hård af Segerstad, Y. (2005a). Language in SMS – a Socio-Linguistic View. In Harper, R., Palen, L. & Taylor, A. (Eds.), *The Inside Text. Social, Cultural and Design Perspectives on SMS*. Kluwer Academic Publishers BV, Dordrecht.

Hård af Segerstad, Y. (2005b). Language Use in Swedish Mobile Text Messages. In Ling, R. och Pedersen, P. (Eds.). *Front Stage-Back Stage: Mobile Communication and the Renegotiation of the Social Sphere.* Kluwer Academic Publishers BV, Dordrecht.

Katz, J.E. & Aakhus, M. (Eds.). (2002). *Perpetual Contact: Mobile Communication, Private Talk, Public Performance*. Cambridge University Press, Cambridge.

Laursen, D. (2006). *Det mobile samtalerum - unges kommunikation- og samværsformer via mobilteltelefon*, Ph.D. thesis, University of Southern Denmark.

Laursen, D. (2012). Sequential organisation of text messages and mobile phone calls in interconnected communication sequences. *Discourse & Communication*, Vol. 6, No. 1, 2012, p. 83-99.

Laurier, E., (2001). Why People Say Where They Are During Mobile Phone calls. *Environment and Planning D: Society & Space* 485-504.

Ling, R., Bertel, T. F. & Sundsøy, P.R. (2011). The socio-demographics of texting: An analysis of traffic data *New Media & Society*, November 11, 2011.

Raento, M., Oulasvirta, A., & Eagle, N. (2009). Smartphones: An emerging tool for social scientists. *Sociological Methods and Research*, 37 (2), 426-454.

Spagnolli, A. & Gamberini, L. (2007). Interacting via SMS: Practices of social closeness and reciprocation. *British Journal of Social Psychology*, 46, 343–364

Thurlow, C. (2003). Generation Txt? The sociolinguistics of young people's text-messaging. *Discourse Analysis Online*, 1 (1).

Weilenmann, A. (2003). ”I can’t talk now, I’m in a fitting room”: Availability and Location in Mobile Phone Conversations, *Environment and Planning A, special issue on Mobile Technologies and Space*, (Ed) E. Laurier, vol. 35 (9), 1589 – 1605, Pion Ltd.

Weilenmann, A. & Larsson, (2002). “Local use and sharing of mobile phones”, in *Wireless World: Social and Interactional Aspects of the Mobile Age*. Eds. B Brown, N Green, R Harper (Springer Verlag: London) pp 92-107.

Weilenmann, A., Hillman, T. & Jungselius, B. (2013). Instagram at the museum: Communicating the museum experience through social photo sharing. Proceedings of the *SIGCHI conference on Human factors in computing systems*, Paris: ACM Press.