Social Visualization as an Ethnographic Tool

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Abstract
By representing digital interaction, social visualizations operate simultaneously as a tool for data exploration and as an artifact of social behavior. In ethnographic research, artifacts are used to contextualize qualitative data and support interviews. This position paper explores the ways in which social visualizations may be useful to ethnographies of digital interaction by looking at early experiments and posing numerous questions.

Keywords
social visualization, ethnography

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Ethnographic Process
Fundamentally, ethnography is concerned with writing culture. Through participant-observation, establishing rapport with informants, mapping relationships and interviewing people in context, anthropologists use ethnography to document culture through "thick description" [3]. The value of ethnography is not in capturing cultural "truth" but in interpreting the signs embedded within a culture. Anthropologists work to make meaning through interpretation, looking to
understand how native informants view their practices and artifacts. Using developed theories, anthropologists situate their interpretation of ethnographic materials in a generally understood framework [3].

As social scientists begin to analyze digital cultures, they bring with them the theoretical and methodological frameworks devised to study everyday interactions. Many of these theoretical contributions provide an invaluable lens through which to understand mediated behavior. Yet, there are also fundamental differences between physical and digital interactions that disrupt the theoretical model. Persistence, searchability, embodiment, spatiality, and socio-cultural proximity are all affected by digital architectures [1]. As research in these areas matures, scholars are finding new ways to situate digital data within traditional theoretical frameworks. The result is a better understanding of digital behavior that also contributes to and expands general theoretical knowledge.

Shifts in architecture also affect the methodological practices. Virtual ethnographers must reconsider what it means to be “native” or to engage in participant-observation in mediated environments. Ethical issues such as citation are challenged by the persistent nature of communication.

One challenge, discussed in depth by Hine [5], is that digital spaces like the Internet can be understood as both a cultural artifact and culture itself. In anthropology, these two are traditionally considered separable. Artifacts like clothing, technology and chachkas are analyzed to better understand the practices of people in a particular culture, but they are not the culture itself. Even archaeologists who interpret culture through cultural remains, such as ancient ruins or urban trash, see these artifacts as bi-products of culture. By collapsing the distinction between culture and cultural artifacts, digital architectures support contemporary archaeologists’ belief that material and symbolic cultures cannot be separated. Yet, to study digital cultures, researchers must deconstruct the resultant material.

One way to untangle the artifact/culture collusion is to provide an alternative representation of the culture itself such as a social visualization of digital interactions. Introducing a secondary artifact containing cultural bi-products allows native subjects to view their behaviors through a new lens. Cultural sense making occurs as subjects make meaning of the new representation. In essence, social visualizations have the potential to provide a new lens through which subjects can view past behaviors and explain what is actually occurring in the data being represented.

Already, research is underway where social visualizations of communication are revealed to the individual or communities represented to support ethnography [2,6,7]. These experiments allowed the researchers to recognize the potential that visualization has for supporting ethnography.

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1 While some anthropologists are studying digital technologies, most of this research comes from scholars of information, cultural studies, media and communication. Anthropologists often argue that the methodology being used by these interdisciplinary scholars is not truly ethnography. While this debate is outside the scope of this paper, it is important to note that I’m referencing the work done across disciplines.
Experiments in Progress
In [6], we developed two different visualizations of email. When these were presented to the subjects being represented, we were intrigued by the ways in which the subjects were able to engage in memory work. What they told us revealed more about their own email interactions than the visualization itself. Viégas, et. al. [7] replicated this experiment with an additional visualization of email, generating the same types of memory-based response.

Later, when I was doing an ethnographic study of Friendster, I found that it was difficult to access the underlying motivations behind people’s practices. Because there is no one physical site in which to observe Friendster usage, I primarily had access to the artifacts produced. To understand behaviors and mental models, I needed to interview subjects removed from the context in which they participated. Based on what we learned in [6], Jeff Heer and I developed Vizster as an alternate representation of Friendster data [4]. By presenting this to subjects in my ongoing ethnography, we were able to stimulate storytelling and dive deeper into the experiences people had with Friendster. Although subjects often had a difficult time explaining their thought process in an interview, the visualization prompted memories of particular events, relationships and decision making in Friendster. While the data was known, the alternate representation induced new insights. This experiment helped us realize the potential social visualization has for digital ethnography.

When Wattenberg [8] released his Baby Names Visualization on his wife’s website, he expected it would attract the attention of those interested in baby names and hopefully increase his wife’s book sales. Yet, this compelling visualization quickly attracted the attention of a much wider audience who happily shared their finding with their friends. Bloggers, in particular, helped spread awareness of the visualization. At the same time, they documented their interactions on the site, revealing both their comments on the tool and their fascination with particular data points. Their feedback was candid because they were sharing their thoughts with friends and readers, not with Wattenberg in a laboratory. Yet, by traipsing through the blogs, Wattenberg had access to fascinating feedback, not normally accessible to researchers.

These different visualization experiments introduce the potential ways in which visualization and ethnographic research may be coupled and mutually supportive. Yet, work in this area is still in its infancy – there is little understanding of how such systems support ethnography let alone how to design social visualizations to do so. Likewise, methods are just emerging to provide qualitative evaluations of social visualizations.

Bridging Visualization and Ethnography
While I believe combining social visualizations and ethnography has great potential, the unknowns far outnumber what is known. Because this is a position paper for a workshop and because I think that this is the ideal workshop to explore this line of research, I am going to conclude with a series of questions that I feel must be addressed before this research can progress. I look forward to the opportunity to discuss these issues with others working on social visualizations.

How can we understand the cognitive connection between social visualization and the data being
represented? How does the visualization alter people’s mental model of data that they think they already understand? Are they aware of this process?

In what ways do visualizations of social interaction support recall of those events? Are the memories altered or biased by the representation? What design decisions must be made to enable clear recall?

Because social visualizations are not currently integrated into the system from which the data is emerging, they become a second system. In what ways does this complicate the participant’s interaction with the underlying system? How do participants change their behaviors based on what they see in the visualization and what they may want to see? How does this affect the research process?

Are there certain insights that can be better understood by watching someone interact with the primary system versus interacting with the secondary visual representation of past behaviors?

Social visualizations represent social behaviors that take place outside of a laboratory. What are the challenges for presenting visualizations in different sets and settings? Laboratory vs. art gallery vs. social location of community represented vs. computer where most interactions occur?

How can interactions with social visualizations be captured outside of a laboratory? What can be learned through captured interactions as compared to observing their participation?

Social visualizations are best equipped to support play and exploration (see Heer’s workshop submission). As such, are they better equipped to represent informal interactions versus formal or task-driven ones?

What are good evaluative metrics for understanding how social visualization supports ethnography?

Bibliography