Ethical Challenges of Working with Social Media Data around Crisis Events

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STATEMENT OF INTEREST

I began to study social media use around crisis events nearly ten years ago as a PhD student under Professor Leysia Palen at the University of Colorado Boulder. Professor Palen was just starting her work in crisis informatics [2,3] at the time and the study of social media and the digital communities they support was nascent. To conduct this research, we adapted old methods and invented new ones to navigate and understand the types of socio-technical interactions we found in social media data. We also encountered many ethical challenges as we struggled to make good decisions around how to protect the privacy of the people we were studying (even though, the data was technically public).

Below are some of the ethical concerns and challenges I have encountered while working with social media and the digital communities they support:

- *Assuming social media data is representative of the general public* – Not everyone uses social media and in a crisis event where access to the Internet or electrical power may be limited these numbers may be even smaller. We have encountered many (e.g., other researchers, emergency responders, broadcast media) that falsely assume that social media data directly represent the activities and behaviors of the general public. As researchers we much understand the limits of the data we work with and help others to contextualize our results within those limitations.
- *Building systems that use social media data* – My students and I have developed several applications that help emergency responders collect and analyze social media data around crisis events. What is our role in ensuring that systems we create for collecting, storing, and analyzing social media data maintain ethical standards? Could our systems be used to violate the privacy of social media users or to make false assumptions upon which emergency responders act?
- *Handling deleted data* - We recently collected data from public Facebook pages created around a large wildfire. Shortly after the immediate wildfire danger passed, the administrators of several pages deleted the page. Since we collected data from the pages before they were removed, a challenge for us now is to decide how we can use the data we collected. Can we still report on this data? Do we limit what we can say about the data? The act of deleting the account is interesting behavior and we would like to at least report that X number of accounts were deleted. Researchers have encountered similar issues when working with Twitter messages that are later deleted [1].
- *Changing definitions of human subject research* – Perspectives on whether collecting and analyzing public social media data constitutes human subject research have changed over time. To be safe, we have often sought human subjects research approval even when it was not required because we felt an ethical obligation to protect the rights of those who we study. However, we have noticed over time that internal review boards have become more restrictive about what kinds of social media research require approval. As a busy researcher, it can be challenging to stay abreast of these changes.
- *Sharing of Personal Data* – During a crisis, people often share personal information about themselves or others in an effort to facilitate relief efforts. We have often seen people share names, phone numbers, and even locations of people in a vulnerable state over social media. Though this information is publically available, what obligations do we have as researchers to protect the privacy of those we study? If we discover information that could help or harm someone are we obligated to act?

In this workshop, I hope to discuss some of these ethical challenges and learn more about how others are approaching similar types of concerns. Rarely are there clear answers, and we have much to learn from each other as digital research continues to rapidly evolve. I look forward to engaging in larger conversations about the ethics and obligations that we have as researchers when studying digital communities and I hope to learn more about how I can make more ethical decisions in my own research.

BIOGRAPHICAL SKETCH

Amanda Lee Hughes is an Assistant Professor of Computer Science at Utah State University. Her research interests span human-computer interaction, computer-supported cooperative work, social computing, software engineering, and disaster studies. She grounds her work in the empirical analysis of social relationships and work practices, after which she designs, prototypes, tests, and implements digital solutions that support this analysis. Her current work investigates the use of information communication

technology during crises and mass emergencies with particular attention to how social media affect emergency response organizations. Amanda completed a Bachelor's degree in Computer Science from Brigham Young University and a Master's and PhD degree in Computer Science from the University of Colorado Boulder.

REFERENCES

1. Jim Maddock, Kate Starbird, and Robert M. Mason. 2015. Using Historical Twitter Data for Research: Ethical Challenges of Tweet Deletions. In *CSCW '15 Workshop on Ethics at the 2015 Conference on Computer Supported Cooperative Work (CSCW 2015)*. Retrieved from https://cscwethics2015.files.wordpress.com/2015/02/maddock.pdf

2. Leysia Palen and Sophia B. Liu. 2007. Citizen Communications in Crisis: Anticipating a Future of ICT-supported Public Participation. In *Proceedings of the 2007 Conference on Human Factors in Computing Systems (CHI 2007)*, 727–736.

3. Leysia Palen, Sarah Vieweg, Sophia B. Liu, and Amanda L. Hughes. 2009. Crisis in a Networked World. *Social Science Computing Review* 27, 4: 467–480.