Investigating Platform Development for Mobile and Social Media Data Preservation
Amelia Acker – IMLS, LB21 Early Career

Project description

In this Early Career Development project, Dr. Amelia Acker (School of Information, University of Texas at Austin) requests $308,921 from the Laura Bush 21st Century Librarian program for a three-year empirical investigation into emerging preservation tools and new data stewardship practices in order to answer the following research questions:

- How do platform developers and designers working in non-library contexts design and construct systems for the creation, transmission and preservation of mobile and social media data?
- How does the provision of networked information services, including preservation technologies for mobile and social media data differ from established preservation infrastructures and professional practices in libraries, archives, and museums?
- Which emerging preservation tools and new data stewardship practices are potentially transferrable to libraries, archives, and museums?

Social and mobile media platforms are systems that bind together documents and digital traces (data), users (creators), and producers (content and platform providers). As new and unique forms of digital cultural heritage, these data are created and move across a diverse ecosystem of platforms ranging from enterprise platforms (e.g. Outlook, Google Apps), to consumer offerings (e.g., Android or Facebook), to platforms that provide the infrastructural underpinning of the internet and mobile networks (e.g., Amazon Web Services, Verizon).

Currently, data created by users in social and mobile platforms represents the fastest form of data creation and collection in the U.S. And yet, these data traces that are created when people connect to the internet and communicate are varied, born networked, and vulnerable to loss. Moreover, they are heterogeneous in content and context, ranging from activity streams like Facebook posts, Tweets, Snaps, to mobile data uploads such as mobile video, text messages, or even telephony metadata about GPS location (Duggan 2015, Pew 2016). There are currently several high-profile efforts by the digital preservation community that collect and provide research access social media data in US. Libraries, research institutions and community archives such as the Library of Congress Twitter Archive,[1] the GWU Social Feed Manager,[2] or DocNow's app and tool suite[3] each offer user-centered collections that extract data from platforms. As in traditional archives, each of these models begin with the creator or author and are user-centered in terms of ownership, data-extraction and secondary use cases.[4] Critics of user-centered preservation approaches have pointed out that they fail to reflect the reality of preservation infrastructures and platform development up-stream—where platforms, user theories, and data products are designed and built *in situ*. Through this research, the PI will examine platform development as it occurs in different organizations, observing engineers' and designers' approaches to digital preservation of mobile and social media data.

This research project will collect empirical data about the current state of preservation infrastructure at industrial, corporate, and military facilities engaged in platform development and service provision. Designed as a comparative project across a number of different field sites, the PI will observe and interpret the activities of engineers and designers at five field sites including a cybersecurity training center at a military base, an internet entertainment media giant, a technology startup developing photographic memory document indexing and retrieval products, an arts NGO building web archiving tools, and a company building a social media platform for collaboration across datasets. Each field site is marked by information service provision where experimental preservation technologies are being researched, designed, tested, and implemented in platforms. The PI has established contacts at each site, which is vital for securing access and effectively studying guarded organizations. The PI has already conducted research on digital preservation strategies for social media and mobile platforms (Acker 2016; Acker & Kriesberg, 2017), personal digital archiving with social media (Acker

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[1] https://www.loc.gov/item/prn-10-081/
[2] http://library.gwu.edu/scholarly-technology-group/social-feed-manager
[3] http://www.docnow.io/
[4] https://scholarspace.library.gwu.edu/files/h128nd689

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& Brubaker, 2014), personal identity, device ownership and mobile apps (Acker 2015; Acker & Beaton, 2017). Building on her existing research agenda and using digital and trace ethnography methods, Acker will investigate a diverse set of sociotechnical research and development cultures where long-term data stewardship and digital preservation strategies are being re-envisioned in exciting ways with the potential to greatly benefit American archives, libraries, and museums.

Project Design and Methods: Each of the field sites have agreed to partner in this research, providing the PI with access to personnel (engineers, system administrators, and product teams); development meetings; and in some cases, access to technical documentation, tools and products, including workflow data. Acker will employ a multidimensional approach to inquiry and methods, from ethnographic observation, interviews, case study, and trace data analysis. A graduate researcher will be recruited to assist in the cleaning, coding, and synthesis of the data. Three experts have agreed to serve as advisors: Jed Brubaker (CU Boulder), Ed Summers (UMD), and Jessica Meyerson (Software Preservation Network); each of which have expertise in areas of software preservation, digital identity and stewardship, ethnographic methods, digital curation, and web archives.

Potential Impact: As LIS continues to grapple with preserving and providing access to mobile and social media data, studies of non-library preservation settings can expand current approaches and identify future solutions. Understanding preservation in different platforms types can inform and potentially transform the current capacities and shared-service approaches of public sector libraries, archives, and museums, which are just now starting to collect and preserve mobile and social media and have an immediate pedagogical impact on training information professionals. This project on preservation models and platform development cultures in the U.S. will aid archives, libraries, and museums (LAMs) as they further develop best practices for digital preservation, particularly when it comes to mobile and social media data infrastructure, a key priority of focus the IMLS's National Digital Platform.

Performance goals and outcomes: In years 1 and 2, the PI will secure IRB approval; recruit a doctoral research assistant for the project; develop interview protocols and data collection instruments; recruit interview participants from field sites; embed for ethnographic observation; meet annually with advisory board and present preliminary findings at professional conferences. During years 2 and 3, the PI and GSR will code data collected from years 1-2; synthesize findings for publication. Outputs of the project will include the publication of results in scholarly journal articles and peer-reviewed conference proceedings (e.g. SAA, iConference, ASIST, ALISE, DLF); an open educational report (OER) intended for use by practitioners and educators in library programs and iSchools; and a final report to IMLS.

Estimated Budget: University of Texas overhead rates of 56.5% suggests an overall budget of $308,921 for the project, which includes summer salary support for the project director for 3 years, a doctoral Graduate Student Researcher for 2 full years, travel to field sites, research supplies, and stipends for the advisory board.

Project Director: Amelia Acker, PhD, is an Assistant Professor at the UT iSchool where she teaches digital preservation, metadata, literacy and memory technologies. Acker's doctoral research on the history of text messages won several awards, including ASIST's ProQuest Doctoral Dissertation Award. In 2017, Acker received early access to the Obama White House social media data archive for her research on social media metadata. For more information about her research and teaching, visit: http://www.ameliaacker.com/.

Works cited

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