

NEW YORK UNIVERSITY LIBRARIES

NDSR Project: Access and Discovery of Born-Digital Archives

Goal Summary

To assist in the planning and development of the tools, infrastructure, policies and workflows it needs to make born-digital archival collections discoverable and accessible to scholarly research.

To engage in a series of immersive studies that encompass the entire born-digital collections lifecycle. In the course of the Residency, the Resident will develop a deep understanding of current digital archives acquisition and preservation methodologies, analyze current public service models, identify gaps in services models and research potential solutions for discovery and access of born-digital collections.

To research and assess how virtualized environments and emulated computer systems can be integrated into public service workflows. The resident will work closely with staff from the Fales Library and Special Collections to determine how it's students researchers and scholars needs can be better served in the future, both onsite and remotely.

Specific Objectives

To be trained in forensic disk imaging, forensic analysis techniques and archival processing methods for born-digital collections and to review, assess and update existing documentation.

To gather requirements from Fales Library and Special Collections staff and researchers and model potential workflows and access points for scholarly access to born-digital archives.

To research the technology infrastructure at NYU and peer institutions for tools, workflows and policies that could be applied to providing access to born-digital collections.

To research and assess how virtualization and emulation can be integrated within library infrastructure to provide access points to born-digital collections.

To participate in the prototyping a discovery interface for born-digital archives with Digital Library staff.

Timeframe & Deliverables

Overall — 9 months

Months 1 through 2 — Immersion in Digital Archives Technologies

The goal of the first month is to immerse the fellow in the current tools for managing born-digital collections implemented in the Digital Library. The fellow will learn how born-digital collection materials are acquired, accessioned, preserved, arranged and described.

The Resident will forensically image both fixed and removable media from born-digital collection; ingest digital collection content and metadata into institutional repository; assist in the arrangement and description (archival processing) of born-digital collections with archival staff; install, configure and document the use of emulators for accessing born-digital collection materials from obsolete and otherwise inaccessible formats; review, assess and update existing documentation for all acquisition and preservation workflows; assist in the acquisition of born-digital archival collection materials (particularly those not bound to media, i.e. e-mail, social feeds, websites, etc.) with curatorial staff from NYU Libraries.

Deliverables: Updated current documentation for born-digital acquisition and functionality of workflows related to the acquisition, accession and preservation of born-digital archives; Report outlining how computer emulation could be used to access born-digital archives from NYU Libraries' collections.

Months 3 through 6 — Analysis of Scholarly Research and Access Systems

In the second phase the Resident will work extensively with the curatorial staff and researchers. The Resident will also have regular meetings with technologists from both within and outside of NYU, to research existing and emerging technologies that could be used for providing access to born-digital collections.

The Resident will Work with curatorial staff and researchers from the Fales Library and Special Collections to gather requirements for in-person and remote access to the Exit Art Archives and Jeremy Blake Papers; Meet with and interview other archival repositories engaged in providing research access to born-digital archival collections; Work with NYU Libraries' technical services, IT, Data Services, Digital Scholarship Services, Digital Library, and the NYU Virtual Computer Lab, to research technologies being implemented or developed at NYU that could be applied to the access of born-digital archival records.

Deliverables: Draft recommendations for policies and workflows necessary for providing access services for born-digital archival collections; Presentation of findings to NYU Libraries' Special Collections Coordination Committee.

Months 7 through 9 — Prototyping and Testing

In the third phase the fellow will work with IT units in NYU Libraries to design and prototype a discovery system for born-digital archives. Using agile methodologies, the Resident will iteratively review and assess designs with staff and researchers from Fales.

The Resident will Design and prototype discovery models using data from forensic analysis and archival descriptions from the Exit Art and Blake collections; Review and assess designs and mockups iteratively with curatorial staff and researchers.

Deliverables: Finalized system designs, wireframes and mockups of discovery interface for born-digital archival collections; Report that summarizes Residents research and work done during the course of fellowship.

*Resources
Required*

Digital Library Mentor (Donald Mennerich), Fales Library Mentor (Lisa Darms)

Dedicated workspace in DLTS digital archives lab, access to imaging workstation, forensic software and legacy software and hardware systems

Access to staff from NYU Libraries' special collections departments, Digital Library, technical services, Data Services, Digital Scholarship Services and NYU Virtual Computer Lab

Access to peer institutions: Rockefeller Archives Center, Columbia University, Beinecke Rare Book and Manuscript Library, Yale University Library, MoMA, MITH, UNC SILS

Context

The management of born-digital records within an archival context has proven to be a significant challenge to archival repositories. In essence, all aspects of archival practice: acquisition, appraisal, arrangement and description, preservation, discovery and, in particular, access present new and unique problems to the stewardship of born-digital objects. Born-digital records now arrive at repositories in diverse (and often obsolete) physical formats. They are transferred through email and shared through cloud storage services with an ever-increasing frequency and in startlingly growing volumes. The ease with which we now create and share records with computing technologies can be deceiving when considering born-digital records in archival repositories. The ubiquitous problems of sheer scale, hardware and software obsolescence, and little-known file formats all illuminate the challenges posed to existing workflows, policies, tools and infrastructure. While libraries and archives have made great strides in several critical aspects of the management of born-digital archival collections, the tools necessary to provide scholarly access to them have, by and large, remained elusive.

NYU Libraries has committed itself to continuing its tradition of collecting, preserving and providing access to collections of significance in the sciences, arts and humanities. Reflecting the standards of the University, NYU Libraries is a recognized leader in defining the library of the 21st century, including: design responsive to the way today's students work; rich collections in every imaginable format from papyri to born-digital; moving image archiving and preservation; digital preservation; management and accessibility of complex multimedia archives; and global service delivery.

Hosting the resident will be a collaborative effort between the Fales Library and Special Collections and DLTS. The Fales Library and Special Collections, the primary rare book and manuscript repository for the arts and humanities at New York University, houses the Fales Collection of rare books and manuscripts in English and American literature, the Downtown Collection, the Food and Cookery Collection, the Riot Grrrl Collection, and the general Special Collections of the NYU Libraries, encompassing over 355,000 printed volumes, over 10,000 linear feet of archive and manuscript materials, and more than 89,000 media items. In recent years, the Fales Downtown Collection has received international attention, and is widely recognized as the most important special collection for scholars, curators and critics studying New York-based art practices from the 1960s to the present. In recent years, Fales has acquired two important archives as part of its Downtown Collection that comprise significant born-digital components: the Exit Art Archives, documenting a seminal Downtown alternative art space, and the Jeremy Blake papers, comprising the archive of a ground-breaking artist who worked primarily in digital mediums.

NYU's innovative Digital Library program has become a nationally recognized model in adapting new technology for teaching and research, enabling new modes of scholarly inquiry, and preserving collections for future scholars. A sampling of NYU's many digital library projects includes the Afghanistan Digital Library, which is reconstructing the first sixty years of Afghanistan's published cultural heritage, from 1871-1930; the Hemispheric Institute Digital Video Library, which brings together materials that have been available only in small, little-known archives that are inaccessible to scholars and that lack the resources to properly care for and provide access to these cultural video documents; the development of ArchivesSpace, a state of the art archival collections management system; archiving potentially at-risk political web sites; the Arabic Content Online project is making available 10,000 titles from across the Arab world; creating and publishing in the MediaCommons platform, an umbrella of several scholarly publications, primarily in Media Studies; working with researchers in NYU's Center for Urban Science and Progress to build large scale repositories for the manipulation and preservation of numerical data from New York City municipal agencies; working with the "Databrary" project in the Psychology Department to build services for storing, preserving, and sharing large video datasets; researching the possibilities for long-term preservation of scholarship created in contemporary web-based environments such as WordPress, Drupal, and Scalar, in collaboration with the Alliance for Networking Visual Culture; Towards Interoperable Preservation Repositories, an early partnership among NYU, Cornell, and the Florida Center for Library Automation, funded by a National Leadership Grant from the Institute of Museum and Library Services to explore the implications of distributed storage and stewardship among repositories within different institutions, using disparate technologies; the creation of a workflow and digital archive for the Public Broadcasting Service, a collaboration with WNET, WGBH, and the Library of Congress.

In the course of the Residency, the Resident will be exposed to all phases of digital

collections lifecycle management as they relate to born-digital archival collections. The Resident will collaborate with both technical and curatorial staff to research and evaluate how NYU Libraries can better provide access to its born-digital archival collections, both onsite and remote. The Resident will regularly attend meetings and participate in the Library's working group for access to born-digital records. The resident will work closely with staff and researchers from the Fales Library and Special Collections to examine its existing workflows for scholarly access to its collections and explore potential models for the Exit Art Foundation Archives and the Jeremy Blake Papers; collections that together comprise of over a half-million born-digital records. The Resident will meet with technical staff from across the University's IT departments to research and assess the current infrastructure and technologies being supported and developed. In particular, the Resident will focus on how virtualized environments and computer emulation can be integrated into the Libraries' services to support scholarly research. Through this research, the Resident will author a set of recommendations outlining the needed resources to better provide access to born-digital archival collections. In the final stage of the Residency the Resident will work with Digital Library staff to prototype a discovery interface that will combine data gathered both the forensic analysis and archival appraisal of the collection.

The Resident will work in the Elmer Holmes Bobst Library, NYU's flagship library that provides students and faculty members with access to the world's scholarship and serves as a center for the University community's intellectual life. The Resident will have a dedicated workspace in DLTS' recently designed digital archives lab, designed specifically for the acquisition, analysis and processing of born-digital archival collections. The lab space includes an imaging workstation equipped specialized hardware (write blockers, controller cards) and software packages (Forensic Toolkit), dedicated computers for emulation and analysis, and a collection of now-obsolete computers, peripherals and software that should enable access to all collections containing born-digital materials. The NDSR Resident will have access to NYU Libraries' many curators, archivists, preservation and technical staff engaged in the stewardship of digital content across the enterprise. Working in NYU's innovative environment will provide the experience and knowledge necessary for leadership in stewardship of digital collections in libraries and archives.

Required Knowledge and Skills for Resident

The successful resident will have a graduate degree in Library and Information Science with studies in archives management and have experience working on technical projects.

- Demonstrated experience with the arrangement and description of archival collections.
- Demonstrated experience with public service, reference and providing access to special collections.
- Familiarity through work or coursework with XML and digital library and archival metadata standards such as EAD, METS, MODS, Dublin Core and PREMIS.

Preferred Knowledge or Experience

- Experience with web programming, HTML, CSS and Javascript.
- Experience with software development tools and agile methodologies.
- Familiarity with file type identification tools and migration strategies.
- Familiarity with computer emulation and virtual machines.
- Knowledge of computer forensic hardware, software and analysis techniques.
- Knowledge of digital preservation principles, tools and technologies.