THE UNIVERSITY OF TENNESSEE KNOXVILLE
SCHOOL OF INFORMATION SCIENCES

Version
November 9, 2016

Digital Collections: Libraries, Archives and Repositories

The title for this pathway may appear ambiguous. That is, what distinguishes digital libraries from digital archives or digital repositories? Well, it depends on whom you ask. Arms (2001) defines a digital library as, "a managed collection of information, with associated services, where the information is stored in digital formats and accessible over a network (p. 5)." As Arms noted in 2001, "there is little consensus about repositories for digital libraries and the field of digital archiving is new" (p. 245). The field of digital archiving emerged in the 1990s, alongside digital libraries, drawing from concepts, principles and practices in information, library, archival and computer science (Galloway, 2009). Considering the range of definitional aspects of digital libraries, archives and repositories, as well as the unique needs, missions, and objectives of institutions hosting them, such an exercise in distinguishing between these is both elusive and, for the purposes this pathway, unwarranted.

With the initial emergence of digital libraries, the focus was on providing access services for current use. Since these collections represent a substantial organizational investment to develop, implement and deploy, it follows that institutions be concerned with access and use not just in today's information environment, but also continued access and use into the indefinite, sustainable future. Digital collections, whether dubbed libraries, archives or repositories, demand a range of functions to enable various services across a variety of content types, both in regard to context (subject) and containers (formats). This content may be born digital or reborn digital through digitization. Creating, deploying and maintaining digital collections, for access today and into the future, requires skills and knowledge in the areas of digitization and ingest, organization, access and retrieval, dissemination, storage, preservation, and life-cycle management.

References: Arms, W.Y. (2000). *Digital libraries*. Cambridge, MA: MIT Press; Galloway, P. (2009). Digital archiving. In *Encyclopedia of Library and Information Sciences*, 3rd edition (pp. 1518-27).

Related Terms: Digital Libraries; Digital Archives; Digital Repositories; Institutional Repositories; Data Repositories; Digital Asset Management; Digital Archive Informatics; Digital Stewardship; Digital Preservation

See Also (Pathways): Data Curation/Management

Professional Work in Digital Collections: Position Titles and Descriptions

These are but a few examples of the many roles those working in digital collections may hold, whether for a digital library, digital archive or repository. For more position titles and job requirements, consult job posting services, including the ALA JobList (http://joblist.ala.org/) and I Need a Library Job (http://inalj.com/).

- **Digital Services Librarians** are involved with an organization's digital collections and projects. They may identify materials for digitization; design and implement metadata for digital collections;

investigate, evaluate, recommend and document best practices; develop and implement policies; and design and implement workflows and procedures for digital collections management. Further, they may be responsible for investigating, testing and implementing methods, standards, and software applications. They may also be required to provide training and advocate and engage community members on the digital library's services.

- **Digital Repository Managers** are involved in the creation and management of digital access and preservation programs for an organization's digital collections. Digital repository managers typically: define requirements and specifications, including supported file formats and metadata standards, for digital materials the library creates or acquires; establish and maintain policies, workflows, and procedures that support long-term preservation, access, use and re-use to digital materials; and coordinate repository workflows including ingest, archival storage, data management, administration and access. The digital repository manager will also coordinate workflows with external services that support their digital preservation program, and act as a technical liaison on preservation issues to vendors providing digital preservation services. They may also be required to provide training and supervision to repository staff. Additionally, repository managers may serve in liaison roles, advocating and training community members on digital repository deposit and access services.

- **Digital Collections Archivists** typically build and maintain accessible collections comprised of born and re-born digital archival materials. S/he may be in charge of selecting, configuring, installing and/or managing the repository's technical infrastructure, including such common platforms and services as ArchivesSpace, DSpace, Islandora, CONTENTdm, Archivematica and Archive-It. Other duties may be the design and implementation of digitization, preservation and metadata services, requiring an understanding of principles, good practices and standards, such as in creation of Encoded Archival Description (EAD) finding aids. They may be in charge of training and supervising digital archives staff. They may also be required to advocate and engage community members on the digital archive's services, such as through promotion through various social media and other channels. Typically a digital collections archivist works in close collaboration with the institution's archivist, records manager, electronic records manager or other related positions.

- **Metadata Librarians** primarily are concerned with adding value to existing digital objects, by the way of descriptive details about said objects, including but not limited to things like: creator, date created, file size, copyright information, controlled vocabulary, keywords, etc. They also support initiatives related to digitization, special collections access, and other metadata-dependent efforts to describe, manage, expose, and share collections with users. Metadata librarians need to work closely and communicate effectively with other officials in the information organization to ensure the uniform application of standards for resource description.

- **Programmers/Analysts** develop and maintain the technical infrastructure of an information organization's digital collection services and research and development activities. While qualifications vary by position and organization, typical requirements include a minimum of two years of programming experience and proficiency with select programming and mark-up languages, including Java, Javascript, Perl, and XML, and open source or proprietary applications such as Archivematica, Islandora, CONTENTdm, Greenstone, DSpace, Omeka, and ePrints.

Preparing to Enter the Profession of Academic Librarianship:

Professional Development:	*Suggested Associations:*	Library & Information Technology Association (LITA), a division of the American Library Association: http://www.ala.org/lita/ Association for Library Collections & Technical Services (ALCTS),a division of the American Library Association: http://www.ala.org/alcts/ IEEE Computer Society (IEEE-CS): http://www.computer.org/portal/web/guest/home Association for Computing Machinery (ACM): http://www.acm.org/ Society of American Archivists (SAA): http://www2.archivists.org/
	Suggested Conferences:	Joint Conference on Digital Libraries Library & Information Technology Association (LITA) Forum Open Repositories International Digital Curation Conference iPres: International Conference on Digital Preservation
	Suggested SIS Chapters:	American Library Association/Tennessee Library Association (ALA/TLA) Society of American Archivists (SAA) Association of Information Science and Technology (ASIST)
	Suggested Journals	*D-Lib Magazine* *International Journal of Digital Curation* *International Journal of Digital Libraries* *Communications of the ACM* *The American Archivist* *Journal of the American Society for Information Science and Technology* *First Monday*

	Other Suggested Resources	*ALA DigiPres listserv (discussion of digital preservation issues). http://lists.ala.org/sympa/info/digipres* *Arms, W.Y. (2005). Digital libraries (online edition). Cambridge MA: MIT Press. http://www.cs.cornell.edu/wya/diglib/* *Cornell University Library. (2000-2003). Moving Theory Into Practice: Digital Imaging Tutorial. http://www.library.cornell.edu/preservation/tutorial/* *MIT Libraries. (2012 to present). Digital Preservation Management Tutorial. http://www.dpworkshop.org/* *Digital Curation and Preservation Bibliography published by Charles Bailey [http://www.digital-scholarship.org/]*
Required Courses for Master of Science in Information Sciences		510 Information Environment 520 Information Representation and Organization 530 Information Access and Retrieval
Recommended Courses (in SIS):	*Essential:*	562 Digital Curation 565 Digital Libraries 580 Information Technologies 584 Database Management Systems 599 Practicum
	Strongly Recommended:	505 ePortfolio 560 Development and Management of Collections 581 Information Network Applications 597 Information Architecture 598 Web Design
	Recommended (in general):	504 Research Methods for Information Professionals 521 Cataloging and Classification 535 Advanced Information Retrieval 542 Social Informatics 559 Grant Development for Information Professionals
	Recommended based on organizational setting:	547 Health Sciences Information Centers 548 Federal Libraries and Information Centers 552 Academic Libraries 564 Archives and Records Management

	Recommended based on type of content:	531 Sources and Services for the Social Sciences 532 Sources and Services for Science and Engineering 533 Sources and Services for the Humanities 534 Government Information Sources 545 Scientific and Technical Communications
Recommended Courses (Outside SIS):	*Varies*	While there are no specific recommendations provided here, students are encouraged to consider classes in other departments or colleges that allow further exploration of topics related to digital content management, such as copyright and other legal and regulatory issues concerning digitization, dissemination, and preservation.
Real-World Experience:	*Practicum Settings:*	Digital libraries, repositories and archives are hosted in a variety of organizations, including academic and special libraries, archives, museums, data centers, and federal agencies. Likewise, practica take place in a variety of settings, including recent placements with the See the SIS Practicum Webpage for more information (http://www.sis.utk.edu/practicum). Additionally, a variety of internships are available for students to gain first-hand experience in digital collection work. Students are encouraged to explore opportunities, which may be advertised by a variety of organizations, such as the Library of Congress, the Smithsonian Libraries and the National Archives and Records Administration.
	Positions of SIS alumni working in the area:	Head of digital services at a large public research university in the Southeast. Associate director of digital library services at a large public research university in the Great Lakes region. Digital repository administer and digital library production manager at a large public research university in the Southeast region. Metadata specialist at a science and technology firm in the Plains region. Digital projects assistant at an academic science and engineering special library in the Southeast.

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Initially drafted November 10, 2013
Revised November 1, 2016