Assignment 2: Paper on Digital Libraries
Nicole Bergen
University of Alberta 2018

Introduction: What is and What is Not a Digital Library?

A digital library is an organized collection of items that are available online and in which service and community play a role. What can be considered service for a digital library can range from the collection development and maintenance to assistance with the collection and finding items within it. The definitions of community and the target audience can be quite broad given the range of possible purposes for a digital library; this allows examples of digital libraries to range from the more traditional, e.g. a collection on the Library of Congress website, to a website like Goodreads, or even, if your definition is flexible enough, Netflix. In the case of a digital library such as Goodreads, the community aspect of the website might substitute for traditional library service. A digital library is accessible online to its target audience. The people included in that target audience determine more specific access requirements and limitations, and "online" is specified because digital libraries on other mediums, such as CD-ROMs didn't last long. Other factors such as security and preservation are important to digital libraries but are not necessarily defining characteristics.

Elaborating on the Definition of Digital Libraries: How Are They Similar or Different Than Physical Libraries?

Organization.

The overall architecture and organization of digital libraries is quite different from that of physical libraries. While there is still a collection which needs both to be managed by someone, e.g. librarians, and a way for users to access the collection, e.g. through a user interface, the methods of searching and especially browsing are quite different online. Digital library items also have the advantage of being able to be placed in multiple categories rather than in a single location on a physical shelf (Pomerantz & Marchionini, 2007). While both digital and physical objects can be moved around a library, digital objects can have a fixed URL, allowing people to find that object again regardless of the other changes that have been made to the library. One related feature that differentiates digital and physical libraries, is that in a digital library, metadata for a digital object can be treated like an object itself, whereas for a physical library, it's often treated as a stand-in for an object; which view is held depends on the purpose of the library and the needs of its users (Bearman, 2007; Candela, et al, 2007). Tagging is a social method of organization that has been added to more traditional methods and which, it is often hoped, can encourage community involvement within a library (Bearman, 2007). Librarians also need to adapt to users employing multiple methods to find the information they want, from Google searches to social recommendations and numerous other methods that don't involve going through a librarian-style gatekeeper (Sennyey, Ross, & Mills, 2009).

Collections.

Both physical and digital libraries are collections of items relevant to their communities. Earlier conceptions may have had a more limited view of what a digital library could be, with some seeing it as basically an online database, but more recent digital libraries are formatted, hopefully, based on what their users need (Borgman, 1999). While both digital and physical libraries contain items in different formats, the nature of those formats are quite different, and therefore storage and preservation requirements differ as well. Early definitions also maintain that digital libraries couldn't be separate from physical parent libraries (Borgman, 1999), but newer ventures, such Goodreads, bely that. Most content in digital libraries is born digital, but attempts at conversion of material to digital formats are considerable (Bearman, 2007). Finally, customization can allow users to create their own collections within collections

Access.

Two of the most universal features of a digital library are that it's available online and that the objects in the library are digital objects. Other access requirements can vary, with some using open-source software and presenting objects that are in the public domain, while for-profit corporations can use paywalls and institutions can require logins, some of which must be paid for or require an association with the institutions running the library. A question that straddles the categories of content and access is who owns digital objects. Often a library doesn't own digital content, but rather licenses it, a fact not always known to users (Bearman, 2007). In a physical library, some places might be easier to get to than others, but in a digital library, every item should be equally accessible, and displays or special collections can be created much more easily (Pomerantz & Marchionini, 2007).

Service.

Service requirements differ widely by type of library, but it is usually agreed that some type of service is required, although some may view physical libraries as "full-service" and therefore digital databases and libraries as "self-serve". However, the Digital Library Federation's early definition includes "specialized staff" to perform typical librarian jobs such as selection (Borgman, 1999, p.236). Certainly, online activity can be seen as more solitary and can be done from remote locations rather than having to travel to a particular physical setting. This, and the accompanying wider target audience, might make providing quality service more challenging, although as telecommunications companies, such as Telus (telus.ca) have shown, online service through chat, email, or by phone, is possible and can be quite effective. Forums have also been quite effective for troubleshooting other online problems but I haven't seen these associated with many digital libraries. The parent organization of a digital library, if it has one, often determines not only content, but the type of service and to whom, because researchers and professionals have different needs than laypeople. In the online world, more imagination might be needed than some service professionals are accustomed to, to provide effective service.

Community.

The target audience for digital libraries can be much broader than that for physical libraries, both in that it isn't necessarily restricted to a physical location, though in the case of a library system's online collection, it can be, but also in that it can appeal either to people with more divergent and international interests or with similar interests but who are located all over the world, people who may not otherwise be able to find their way to the information they need. A community of users can be quite different online and in fact the borders between the community that creates the library and those who use it can overlap, with some digital libraries being an extension of a physical library or similar institution, but others being independent or part of other institutions (Borgman, 1999). Social interaction online has probably changed how people view digital communities. Communities that are spread across a wide area, either geographically or intellectually, can be a challenge for digital libraries as librarians try to tailor their sites to those user needs, which can be similarly broad. Language and ontologies in a multicultural online world provide related challenges (Bearman, 2007). Customization, of the interface and beyond, is a common goal when presenting digital libraries to the public, but it hasn't always been achieved (Bearman, 2007). Pomerantz & Marchionini (2007) predicted that community and collaboration would become more important in digital libraries, but those aspects of the digital libraries that I have experience with to date have been disappointing. In my experience, digital libraries that remain associated with physical organizations still seem to value the physical space over the digital space. The independent organizations that could be considered the new digital libraries, such as Goodreads, have achieved much greater success when it comes to creating communities and allowing for customization.

Skills.

While not a defining trait, it should be noted that digital and physical libraries require some of the same skills, such as organizational skills, but additional technological skills are required for the production and maintenance of digital libraries. Further skills required include those of security and preservation, both of which are quite different online than in a physical library (Bearman, 2007). Borgman (1999,

p.236), cites the Digital Library Federation (DLF) definition which includes the notions of preserving "the integrity of and [ensuring] the persistence over time of collections".

What is the History of Digital Libraries?

Early digital libraries were usually extensions of physical libraries, most often in the form of formal databases (Borgman, 1999). A significant amount of the focus is still on developing new and better technologies to preserve materials, but now those materials can be in a wider variety of formats, organized in different ways, and more focused on new ways to engage communities online (Borgman, 1999; Bearman, 2007) While, in the early 1990s, some may have hoped for the web to become a large digital library, the focus now is on serving more specific communities, whether they're location-, idea- or task-based (Bearman, 2007). By the early 2000s, a variety of fields, from information and computer scientists to publishers, were studying the possibilities for digital libraries, providing a range of perspectives on online collections and their organization and preservation (Bearman, 2007). A variety of national and international organizations have also provided reports on and recommendations for digital libraries, beginning at about this same time (Bearman, 2007). By 2004, search engines had changed the information finding game significantly but digital libraries are still largely tied to educational or memory organizations; within these organizations, digital libraries are usually further tied to specific disciplines (Bearman, 2007). As Borgman (1999) pointed out when digital libraries were still beginning, users and librarians may also define libraries and their services differently, with users often considering them to be collections and librarians often considering them institutions or services. Opinions may have changed somewhat since then but it's unlikely that users and librarians now have identical definitions of digital libraries.

What Do You Think About Digital Libraries?: Measures of Success

I think the measures of success for digital libraries should be re-evaluated. Bearman (2007) and other researchers he cites, claim that Web 2.0 developments could make a digital collection of a very specific category of items obsolete. And perhaps, if such libraries are measured against the success of Google and Wikipedia, then they will fail, but if they're measured by how useful they are to their equally specific users, then they might be considered successful. The difficulty for digital libraries who serve populations outside of their physical location, is trying to connect with users that would be interested in their collections in the midst of the deluge of information available online.

Conclusion: Why Do We Need Digital Libraries?

Technically, people can live without digital libraries in the same way they can live without books. Life is better with books; probably it's better with online libraries. Nearly everyone seems to work, research, and play online now and people often consider online communities as an integral part of their work, study, or social lives (Bearman, 2007). The modern world may be interconnected but not everyone is able to get to the physical library that might be of use or interest to them, so digital libraries can expand a person's options and provide more equitable access to information (Sennyey, Ross, & Mills, 2009). Whereas Google may provide excellent connections to general and abundant information, digital libraries can provide specific and local information that may be more suited to a user's needs. Even though a library may be online, users interact with it in real life and have real world needs, so libraries should constantly evaluate not only their content, but also their provision of service and their community connections (Bearman, 2007).

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