Chapter 3

Transitioning to Digital Services

The simple fact of the matter is that libraries are increasingly digital. Academic libraries in particular have shifted most of their acquisitions toward digital access as opposed to accumulating physical collections. While the reliance of faculty and students upon digital as opposed to physical resources varies significantly by academic discipline, many academic users now reach journal articles, and even books, through digital means. This fact makes responding to some crises a bit more palatable, as long as the core digital systems that provide this access remain available or can be re-instantiated rapidly.

However, a library provides many services beyond the digital—not only the obvious access to physical materials, but also access to expertise as well as to study and classroom space. Inevitably, there are employees who see libraries through an entirely traditional lens and who experience great difficulty in adjusting their outlook to accommodate a crisis-based shift in operations that temporarily situates the library away from physical operations. There will also be employees whose jobs consist entirely of supporting physical resources of one kind or another and who feel understandably afraid for their employment prospects during the crisis. They may also reasonably feel afraid of the prospect of being required to return to the library if danger still exists there. These concerns must be taken into account when planning out from and through a crisis.

The two most serious crises that I have been involved with in my career both interrupted physical access to the library and its services. This created situations where the library had to pivot further toward digital resources in order to provide the best service still possible to patrons. In both cases the library websites were used effectively to communicate with patrons about changes to services. Both institutions used an alert system built by the library IT department. At K-State a modal (a dialog box that must be clicked through before the web page will respond) was added to the website by library information technology services to pass early, critical information (namely, the closure of the main library building) along to users. This was a messaging solution that had to be enacted with care, however. Pop-up dialog boxes are one of the most obnoxious features of the modern web, and users who were already upset at the temporary loss of the library did not need to have their patience tried further. In the case of the modal in question, library IT designed it to use the Web Storage browser API to remember whether a particular user had already seen the modal. If they had, it was then programmatically deactivated to preserve a positive user experience.

Both libraries also already had active chat services that helped answer questions. Reference librarians at both institutions moved their normal reference and instructional activities nimbly to alternative operations. At K-State, this involved some remote engagement, as well as some use of other spaces on campus. At Washington University Libraries, this meant a nearly complete transition from in-person to using software such as Zoom or Teams. These situations also proved to be an opportunity for reference and instruction librarians to branch into the more asynchronous modes of instruction that digital technologies readily empower.

Special collections departments will require technology support during a crisis, although this support may be as variable as the crises themselves. At K-State, after the fire, library departments were soon re-situated all over the campus as generous departments provided space and resources for Hale Library employees to do their work. Special Collections quickly set up an alternate branch for itself and established hours for researchers. However, other than some equipment in the library that needed to be tested and triaged by IT, its technology needs were mostly met in the same way as other departments: through the acquisition of new

computers to use for work. At Washington University Libraries, while the spaces themselves were undisturbed, normal visits by students and researchers were interrupted, requiring Special Collections librarians to shift to remote methodologies . . . something they did with admirable skill. These methodologies included using document cameras to conduct remote classes and viewings, which for IT meant equipment consultations. Given the stress on the technology budget due to pandemic-related expenses and unrelated major projects at the time, Special Collections purchased much of the equipment it needed from its own funds.

This circumstance highlights the way Washington University Libraries now manages technology purchases. All technology purchases must go through a process of consultation with and approval from library IT (most of these are paid out of the technology fund) after approval has been granted by the department's own reporting chain. This is an effective model for a variety of reasons. It helps ensure interoperability of various software and hardware purchases, it ensures that IT is aware that the technology (which they will generally be asked to support at some point) is being acquired, it helps departments potentially avoid wasting any of their own money on equipment or software that the libraries (or university) might already possess but of which the departments were unaware, and it makes the job of handling the budget somewhat more manageable.

Under circumstances with disruptions for those trying to access a library's physical collections, a corresponding escalation in interlibrary loan demand is unavoidable. At K-State, while the collection was being cleaned, the interlibrary loan team saw a significant increase in requests. At Washington University the head of access services estimates that ILL borrowing has been elevated by 25 to 30 percent during the pandemic. Library IT departments should be prepared to deal with connectivity problems as interlibrary loan teams move workstations or do some of their work remotely. It may be necessary to acquire new scanning equipment or secure access to scanning equipment from another entity for the short term. Libraries must also be prepared for the consequent inflation of interlibrary loan costs during the crisis.

Crisis situations sometimes come bundled with unexpected opportunities. During the COVID-19 pandemic, HathiTrust activated its Emergency Temporary Access Service (ETAS). This gave libraries the ability to compensate for the inaccessibility of their physical collection through the use of HathiTrust digital holdings. Through the program, participating libraries were granted access to digital copies of those holdings they had previously reported to HathiTrust as overlapping with their holdings. The program was an outstanding service generously offered by HathiTrust, although communicating its existence to users was a challenge. Many libraries, including Washington University, used some temporary mechanism to add these holdings to their catalog. At Washington University the appropriate data was downloaded from HathiTrust and a client-side application was created to identify catalog holdings in search results that matched overlapping items from HathiTrust. This application was injected into the catalog via a process I refer to as *sideways web development*. This method allows developers to integrate wholly separate applications in the view, or user-facing, layer of web code, so that disparate services can be integrated without making major changes to code bases and without going to the trouble of creating single use case modules for those applications that will accept modules. In the case of our catalog, when matches were found, a link to the match in HathiTrust was programmatically added to the catalog results. This made it easy for users to find their way to the HathiTrust items without needing to know anything about the ETAS program. The ability of the library to perform sophisticated custom development on the fly thus became an important element to providing users with the best experience possible under difficult conditions. As per Washington University's agreement with HathiTrust, the service and the corresponding link engine were deactivated when curbside access to the library collections was initiated.

The utility of this kind of custom development capacity is not limited to externally facing services. At K-State an enormous number of print materials had to be removed from Hale Library so that they could be triaged and cleaned if they were salvageable. In the immediate aftermath, library employees were using custom-made spreadsheets to record information about the status of each item so they could track its condition and disposition. The energy of their response was admirable, but what was needed was a more consistent and universal mechanism for tracking the volumes in question. Library IT rapidly built them a custom, database-driven application with a clean, simple user interface that was fully searchable. During the build process, there was significant interaction between library IT and the employees conducting the tracking work, as well as data cleanup by those same employees to help improve the consistency of the records in question before the application went live. Some of the work done on this data is the subject of a chapter of my book *Library Web Development: Beyond Tips and Tricks*. (For those interested in sideways web development, there is also a chapter devoted to that approach.)[1] This application helped the employees at K-State Libraries more effectively track the libraries' valuable physical holdings as they moved along the multiple, sometimes parallel, routes of the cleaning and reshelving pipelines.

The recovery phase of a crisis is another place where custom development work can be helpful. When

the initial phase of the Hale Library reopening began, administration wanted to highlight the new study and collaboration rooms present on the first floor. This was an opportunity for the same technology that was used in the library's pre-fire responsive map (Stacks Guide 2.0) to be used to create a dynamic first-floor map of the new spaces. The map resized seamlessly with the screen displaying it, allowing it to work on mobile devices as well as desktops. Just like the pre-fire map, it dynamically displayed information about the floor in a way that could be integrated with other applications. It served up information about each individual reservable room and provided linkouts to the reservation form. By use of a grid-based pinning jQuery library I had invented, location indicators and clickable zones were pinned to an invisible collection of columns and rows on the map so that those locations remained accurate even when the map was resized. The map visuals were crafted by the library's graphic designer, and the map served to accentuate the benefits of the first-floor portion of the redesign while projecting a technologically nimble posture for the libraries. It was a useful tool until other floors of the library were opened up after my departure from K-State, with the feature being subsequently replaced by a PDF map of all of the library floors.[2]

Sometimes the shift to digital will result in partnerships that reimagine traditional services. At Washington University Libraries, COVID-19 removed the ability of patrons to use the research computing lab at Olin Library. As demand grew, the Data Services department, which managed the lab, reached out to Library Technology Services (LTS) to see if there was some way that users could be given remote access to use the computers in the lab. LTS worked with Data Services to use the LabStats application and a special Active Directory group that LTS maintained in order to provide access to users who were moderated by Data Services. This made the computers and the unique software packages installed on them accessible to university users despite a lack of physical access in a model that some other library departments have subsequently taken a interest in.

Notes

1. Jason Bengtson, *Library Web Development: Beyond Tips and Tricks* (Chicago: ALA Editions, 2019).
2. Bengtson, *Library Web Development*.