Objectives of Sabbatical

Investigate developments in providing library services to users of mobile devices like smartphones and tablet computers.
Usage of mobile devices has increased dramatically in recent years, with a 2012 Pew Research Institute survey finding that 66% of Americans age 18-29 own a smartphone. Many people now use mobile devices as basic tools for conducting their lives.

Familiarize myself with Resource Description and Access, the new standard for cataloging library resources that succeeds the previous standard, the Anglo-American Cataloging Rules 2nd Edition.
Catalog records describe the nature and the intellectual content of individual information resources, such as books, videos, and electronic items, and are used by library information systems to allow researchers to search for materials in a collection, using a variety of criteria.

Sabbatical Activities

Conferences and Workshops

June 13 – Webinar: Introducing RDA
This online workshop gave an overview of RDA, and described the key differences between RDA and AACR2. I learned how RDA was developed to address an evolving information landscape with an increasing variety of formats, and with many works being available in multiple formats. The new rules also move away from old practices that minimized the length of records for card-based catalogs. Webinar produced by the American Library Association.

June 27 - July 2 – American Library Association Annual Conference
Chicago, Illinois
The ALA Annual Conference is a major professional conference, with more than 20,000 attendees and 6,000 exhibitors. It has programming that addresses all types of libraries and all specialties within librarianship.

Sessions I attended included:

ALA, Ebooks, and Digital Content: What’s Next?
An update on the activities of the ALA’s Digital Content Working Group, and a discussion of the issues and challenges regarding the availability of ebooks in libraries.

We Went Mobile, Now What?
Librarians from several libraries discussed their efforts at providing services to mobile
device users. One of the speakers, in response to a question from the audience about the usage of native mobile library applications (as opposed to mobile websites), stated that few non-game apps are used over the long-term. I have not yet been able to track down whichever study that came from.

Top Technology Trends and LITA Awards Presentation
A panel discussion of trends and advances in library technology, sponsored by the Library and Information Technology Association.

LITA President’s Program
Author Cory Doctorow was the featured speaker.

LITA Mobile Computing Interest Group
This was a committee meeting at which interested observers were allowed to attend. Due to scheduling and transportation constraints, I was only able to observe the last part of the meeting.

Auditorium Speaker Series
Chef, media personality, and author Giada De Laurentiis discussed her books and other aspects of her career. In response to a question from the audience about encouraging young people to cook, she suggested allowing them to take shortcuts such as canned sauces when they’re starting out, so they are not discouraged early on. I thought it was a point applicable to academic librarianship, because we focus on teaching students how to do their own research rather than doing research for them, and I think it’s important to be careful how we do that, so as not to discourage students from coming to us for assistance.

I was able to meet with numerous vendors of library products and services. I also purchased books on RDA and library applications for Application Programing Interfaces (APIs) for my personal study.

July 8 – Webinar: ALA Annual Conference Tech Wrap-up
Following up the ALA Annual Conference, this online panel discussion reviewed library technology and trends that were addressed at the conference. Produced by the American Library Association.

August 19 – Tech It Out Day
Leeward Community College
I attended sessions on topics including the Learnist educational site and video technology. I find it a valuable opportunity to familiarize myself with tools that I was unaware of or wanted to learn more about.

September 12 – Webinar: Improving Your Library’s Mobile Services
This online workshop addressed making library services and resources available to patrons using mobile devices. Techniques and design considerations for mobile web design were discussed. Produced by the American Library Association.
October 6 – Mactoberfest  
Honolulu  
I attended this event to increase my knowledge and awareness of the Macintosh platform.  
Sponsored by the Hawai‘i Macintosh and Apple Users’ Society.

October  – Hawai‘i International Film Festival  
Honolulu  
I attended several events at the HIFF, including a presentation by Bing Chen of Google, who works with programs that develop and support contributors to YouTube, who spoke about creating engagement with audiences through social media. I also attended a screening of Google and the World Brain, a documentary that examines the issues and controversies surrounding Google’s efforts at scanning massive numbers of books from library collections.

October 21-23 – Hawai‘i Emergency Preparedness & Homeland Security Workshop  
Honolulu  
I attended this workshop on an invitation extended to the Hawai‘i Library Association. Emergency response planners are now recognizing the importance of involving businesses and community organizations in the disaster planning process, because they are in touch with the needs of their communities, and can support the community in the recovery process. A number of community organizations were invited to attend this workshop. I prepared a report on my attendance for HLA, and a copy is attached to this report.

October 27-30 – Internet Librarian 2013  
Monterey, California  
Internet Librarian, produced by Information Today, Inc., is a wide-ranging, annual technology conference for information professionals who use and develop online or web-based strategies to serve their clients and institutions. This was the first time I attended this conference.

I attended two half-day pre-conference workshops: “Information Architecture” addressed how a conceptual understanding of the nature of information can be used to develop search and navigation systems that support and shape user behavior. “UX Boot Camp” addressed User Experience design, which uses an understanding of user behavior to guide the design of systems, interfaces, services, and spaces.

While I focused on the sessions with mobile-related topics, such as mobile web design and mobile library apps, I also attended a variety of other sessions that addressed online searching techniques, discovery systems (which try to provide single-search access to a wide range of resources), community engagement, and career development and evolution.

November 8-9 – Hawai‘i Library Association Annual Conference  
Kapolei  
The focus of the 2013 conference was information literacy instruction, but there were programs on other topics as well. In addition to attending sessions on library instruction and teaching techniques, I also attended sessions on the assessment of circulation activity statistics, community engagement, and maker spaces. I also met with vendors of library products and services.
I gave a presentation called “Create a Web Page Slide Show with Dynamic Content, for Free” on creating a web-based library display, and co-presented “The Myths and Realities of Primo and SFX in Academic Libraries” on our experiences implementing the Primo discovery system and SFX link resolver system in our libraries.

**November 14 – Webinar: Tablets and Mobile Applications**
This online presentation addressed the library use of tablet computers and mobile applications. Produced by the American Library Association

**November 15 – Special Libraries Association, Hawai‘i-Pacific Chapter, Annual Meeting**
The annual business meeting of the HPC-SLA featured a presentation by the archivist at the Joint POW/MIA Accounting Command.

In addition to the above conferences, workshops, and presentations, I registered for the two-day Handheld Librarian online conference in June 2013. I’ve participated in this conference in the past, and found it valuable. However, the conference occurred while I was traveling to the mainland for a short vacation prior to going to Chicago for the ALA conference. When I tried to later view the recordings of the sessions, I was unable to access the archive, and I have so far been unsuccessful in gaining access to the content.

**Cataloging Class**
I had considered retaking the basic cataloging course at the library school, as it had been 21 years since I took it the first time. However, after consulting with the program chair and the instructor, I decided not to take the course.

**Study Topics**
Using print and online resources, I engaged in self-directed study of several topics:

**HTML5**
HTML5 is the new standard for authoring web pages. It introduces new capabilities for identifying and handling content on a web page, incorporating multimedia content into web pages, storing content on a device, and accessing device information such as the device’s location. HTML5 gives web pages capabilities that were previously only available to application software installed on the device. One problem, however, is that I believe that there are older browsers still in wide use that aren’t HTML5 compatible, and a conscientious web developer will at the very least have to code to provide error messages for non-compliant browsers, if not actually consider the implications of the unavailability of some functions to some users.

**Technology that brings added content or functionality to web pages.**
There are tools and techniques for enhancing and expanding web page content, such as JavaScript, APIs, inline frames, and server-based functionality. Types of content include social media feeds and content from other websites. These techniques can also be used to simplify website management by allowing content to be displayed on different web pages without having to separately update the content.
**Tools for creating native mobile applications from mobile website code.**
Many smartphone apps are in fact created from mobile websites using tools like PhoneGap, which make it possible to create downloadable, installable applications without needing advanced computer programming skills.

**The State of Library Mobile Technology**

It seems to me that we are in a state of transition and uncertainty in the provision of services to mobile device users. Libraries and vendors are still figuring out how to best serve these patrons. Techniques and design philosophies are evolving. Both users and developers have habits, assumptions, opinions, and expectations that are based in part on how things have been in the past. I think there is a certain amount of trend chasing in mobile design. I find myself feeling somewhat skeptical of some of the things I have heard and read that are being promulgated as the best practices in mobile service development.

**Background and Definitions**

Excluding direct communication modes like phone calls, text messages, and e-mail, there are primarily two methods for providing services to users of mobile devices. One is the native mobile application, which is a computer program that is downloaded and installed on the device; it is often referred to as a “mobile app” or a “native app”. The other method is the mobile-optimized website, in which web pages are designed to be easy to view, navigate, and interact with on a device with a small screen and limited input capabilities; this is often referred to as a “web app”, although I avoid using that term because I feel it causes confusion.

Native apps are able to utilize the mobile device’s hardware capabilities, such as the camera, microphone, storage memory, compass, inclinometer, and GPS. They are written for specific mobile operating systems, so to reach a wide audience, an app developer needs to create and distribute an Apple iOS version and an Android version of the app at the very least, and probably one for Windows phones as well. Apps with advanced capabilities require programming expertise that most libraries don’t have easy access to. It costs money to make apps available through the “app stores” that device users download apps from, and for iOS apps, there is only one venue for distributing apps, which Apple strictly controls and can deny or delay acceptance to. Updates require distribution of new versions of the app, and users can decline or neglect to install it.

Prior to the development of smartphones, the mobile web consisted of a small number of websites that were designed for viewing on cell phones. They were authored using a special markup language designed for cell phone browsers, which were designed to accommodate the technological limitations of the cell phones. With the development of smartphones came a new kind of mobile web browser that was able to allow users to view regular web pages, albeit with cumbersome zooming and panning. This was such an important new capability that the browser developers deliberately made the browsers ignore a code that a web author could put into a web page to make it display using an alternate mobile layout. But you can design a website specifically for mobile devices, using regular web markup languages and a few design considerations, with relatively little special coding required. A mobile website is accessible
across all operating system platforms, and updates and corrections can be made continuously and take effect immediately.

Most of the services that libraries could want to provide to mobile users can be provided through a mobile website – hours, contact, and service information, and access to mobile-optimized research databases. With HTML5, you can even tap into a phone’s geolocation capabilities to provide directions to the library. There are some services, however, that only a native app can deliver. The library app from the Emma S. Clark Memorial Library in Setauket, NY allows users to apply for a library card through the app by taking a photograph of their ID and a utility bill to prove residency; the app also serves as a library card so you don’t have to bring the actual card with you.

Surveys and observations suggest that among smartphone users, there seems to be (or seems to have been) a bias toward using native apps over mobile websites. Perhaps this is because people buy smartphones knowing that you download phone apps for it, and this is what they’re accustomed to doing. Perhaps they form unfavorable opinions of viewing websites on phones because they had to zoom and pan around to view non-mobile websites, or perhaps they tried to view a website but became frustrated because they were forcibly redirected to a mobile website that didn’t give them access to the full range of content available on the regular site. Native apps do often have more polished interfaces than mobile websites, and often work faster and more simply. But these kinds of preferences are hard to gauge without a study that specifically addresses that behavior. Pew Internet and American Life surveys show not only increasing smartphone ownership, but increasing usage among owners for online access, and it’s likely that perceptions and preferences will shift over time.

**Responsive Web Design**

Responsive Web Design is an approach to web page design in which the size of the device’s screen is used to automatically select which of several layout designs are used for the page. As commonly implemented, the page is designed within a grid structure. Elements that are displayed side-by-side on a large screen may be displayed one-over-the-other on a small screen. Elements may be omitted from the page, and different versions of some elements may be substituted. A page that is wide and short on a desktop monitor may appear narrow and long on a smartphone, with smaller images and graphics, and different navigation links. The principle behind the RWD design approach is that instead of creating a separate mobile website, you create a single set of web pages that are viewable on all devices.

Responsive Web Design was heavily promoted at the conferences I participated in, especially at Internet Librarian. I can appreciate some of the advantages of the approach, and had in fact attempted something similar years ago, and today use some of the techniques that make RWD sites work. However, I’m unconvinced about some of the assumptions about user behavior that I’ve been hearing, and I’m less than impressed by some of the real-world implementations that I’ve seen.

One position that I have difficulty accepting is that it’s a bad thing to create a special mobile website that contains information that an on-the-go user is likely to want to access quickly. To support this position, surveys are cited that show that many people are using mobile browsers
quite extensively, sometimes even as a substitute for desktop browsing. But I don’t think you can conclude that there aren’t still many people who do want fast access to basic information. One thing that makes library websites different from e-commerce sites or media outlet sites, is that unlike sites where visitors are seeking mainly content or products and not so much information about the organization, library users do seek information about the library, such as hours, contact info, and descriptions of services. Another thing that makes library websites different is that, unlike businesses that have control over the presentation of their products, libraries almost always have to link out to database and e-resource providers, and many of those services do not yet have mobile-optimized interfaces.

Inherent in the argument against having a mobile website with information selected for the perceived needs of a particular kind of user is the assumption that other kinds of information available on the regular site are not available to the mobile user. It is frustrating when that happens, but this most often happens at sites that detect you as a mobile user when you try to access the regular website, and automatically redirect you to a special mobile website that doesn’t let you get to the regular website. I think it’s acceptable to give the user the option to leave the mobile site and view the regular site; indeed I find it preferable to be allowed to access the desktop view I’m familiar with than to be forced to view a re-arranged version of the page.

One of the challenges of RWD is that it does constrain your design options. In addition to considering things like organization, navigability, and aesthetics, you also have to think through how the elements will rearrange themselves from one layout to the next. One way to approach this is to start with the mobile layout and then try to figure out how to take advantage of additional screen space as you move up to larger screens. That way, design compromises tend to end up in the more forgiving environment of the desktop view. Failure to work through that extra layer of design thought can cause disappointing results.

Even proponents of RWD question whether a narrow, but very long web page on a smartphone is really a good idea. I encountered the opposite problem when I tried to add the Primo discovery system (which we’ve branded as OneSearch) to the library’s mobile website. Whoever designed the small-screen layout for the search screen made it compact by eliminating most of the explanatory text and only providing the basic default search. Had I used the vendor-supplied interface, the text that did appear on the screen would have described options that weren’t available on that screen. I ended up using search box code to create my own search screen, with the same limited functionality, but at least with accurate text.

Another surprising mis-step involved Elsevier’s ScienceDirect database. It was recently announced that the ScienceDirect native app was going to be retired, to be replaced by a new mobile web display of their articles. I was dismayed to find that it was only the article display that was mobile-optimized, not the search screen or the results list.

Unlike Primo and ScienceDirect is EBSCOhost’s mobile web interface. It is a mobile-specific interface, not a RWD site that morphs clumsily as the screen size changes, and it works marvelously in the context for which it was designed.
Conclusions

A few years ago, if you wanted to get into providing mobile services, it felt like you almost needed to have an app, just for the sake of being able to say you had an app. For many mobile device owners, the downloading of native mobile apps was the method that they were aware of for adding functionality to their device.

I believe that with improvements in technology (more functionality, better browsers, faster devices, faster networks) and a growing body of well-designed mobile-optimized websites, we will see increased awareness and usage of the mobile web. I do still worry that poorly executed mobile web interfaces, and the continued operation of redirecting websites that impede content to mobile devices, may hurt users’ perceptions of the value of the mobile web. But on the whole, I think it is viable to focus development efforts on a mobile web presence, if it fulfills your needs.

As for how a mobile website should be designed, I think you still have to start with nature of the information and the services you want to provide, and the audience you are trying to reach. Responsive Web Design may be suitable for some applications, but it’s not without drawbacks, and it’s not the best solution for everything. But even though a full RWD design approach isn’t always appropriate, I do think the technique of making web pages appear differently on small and large screens is a useful one.
Appendix

*Create a Web Page Slide Show with Dynamic Content, for Free: Presentation Notes*
A handout for a presentation given at the Hawai‘i Library Association Annual Conference, November 8, 2013.

*Report on the Hawai‘i Emergency Preparedness and Homeland Security Workshop 2013*
A report prepared for the members of the Hawai‘i Library Association.
Create a Web Page Slide Show with Dynamic Content, for Free
Presentation Notes
Hawai‘i Library Association Annual Conference, November 8, 2013
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You can create an automatically-cycling slide show of web pages using a simple HTML command and a web browser in “kiosk” mode. In kiosk mode, a browser displays web pages full-screen, without any of the browser’s normal menus, status displays, or toolbars. By adding a simple line to the HTML code of each web page, you can make the browser automatically load the next web page after a period of time that you specify. You can update your slide show as easily as you can update any web page. You can use web widgets and other techniques to include dynamic content on your slides to create an interesting and informative display.

The HTML Meta Refresh Method

You can add a line of code to the <head> section of an HTML document that will make the web browser either reload the page or load another page after a specified number of seconds. The code looks like this:

<meta http-equiv="refresh" content="20; URL=filename">

The number in the content section is the number of seconds before the next page is loaded. The filename is the file name of the next web page you want displayed. If all of web pages in your slide show are in the same folder, you only need to give the file names, rather than a full URL, as the browser will assume that the next page you want is in the same place as the page that’s already showing.

It is possible to have the web page files on the hard drive of the computer, although if you upload the web page files to a web server, you can get additional functionality (such as Server-Side Includes, explained below), and it will probably be easier to log in to the server to update pages, than to manipulate files on the computer running the slide show.

If you do put your web page files on a web server, then you should also add the following line to the <head> section of each page, so the Internet search sites don’t index your pages:

<meta name="robots" content="noindex, nofollow">

With these two lines added to your document, the <head> section could look like this:

<head>
<meta http-equiv="Content-Type" content="text/HTML; charset=utf-8" />
<link rel="stylesheet" type="text/css" href="slides/css/slide.css" media="Screen" />
<title>LCC Library: Hours</title>
<meta name="robots" content="noindex, nofollow" />
<meta http-equiv="refresh" content="20; URL=twitterfeed.html" />
</head>

Note: This example was taken from a web page coded in XHTML, so each of the unpaired tags ends with a closing slash character.
Other Uses for Meta Refresh
If you have people trying to connect to obsolete pages on your website, you can use it to redirect people to the current page. If you’re trying to track usage of a particular resource on a site, but you can’t get usage statistics for it, you can create a page with a counter or analytics tracking code in it, that you link to so it registers the view before it forwards the user on to the resource.

Web Page Design Considerations

Depending on the particular combination of computer and monitor you use for your show, you might have little control over how those devices interact, with regard to screen resolution and aspect ratio, especially with older equipment. You may have to play with different fonts and layouts to see what looks good.

If you use a wide-screen monitor, you might end up with a stretched image if the computer doesn’t recognize the monitor as being wide. If that happens, you might want to squeeze your graphic images to 75% of their original width, so they will look normal when they’re stretched out. You should do this for QR codes, round images, or anything else that looks obviously distorted when stretched.

Read each slide slowly, as if you reading it for the first time for information unfamiliar to you, to see if it’s being displayed for a long enough period of time. If you have a slide with a QR code, allow extra time for the patron to get their phone out and start their scanner app.

Using a Browser in Kiosk Mode

Internet Explorer (IE) and Chrome are the easiest browsers to use for an automated slide show. Both display web pages full-screen, and can be made to run in kiosk mode automatically. IE is a little easier to set up.

On a Windows computer, you can start Internet Explorer in kiosk mode by clicking on Run in the Start Menu, and typing the following in the command field:

    iexplorer -k webpage-address

For Chrome, type:

    chrome -kiosk webpage-address

The webpage-address is the URL of the page you want to start the slide show. If the web page file is located on the computer’s hard drive instead of a web server, the address will take the form file:///C:/folder/filename.html
Creating a Desktop Shortcut to Simplify Startup

You can create a desktop shortcut that executes a similar command to start a browser in kiosk mode, except the command has to include the specific path to the location of the program file on your computer. Right-click on the desktop, choose New, then Shortcut. For IE, enter:

"C:\Program Files\Internet Explorer\iexplore.exe" -k webpage-address

You need to include the quote marks because of the spaces inside the path to the program file.

It’s a little more complicated to set up a shortcut for Chrome. Instead of the conventional Program Files folder that most programs are installed in, Chrome installs into the Local Applications Data folder of the user account that installed Chrome. For Windows XP, the command will be something like:

"C:\Documents and Settings\username\Local Settings\Application Data\Google\Chrome\Application\chrome.exe -kiosk webpage-address"

For Vista:

C:\Users\username\AppData\Local\Google\Chrome\chrome.exe -kiosk webpage-address

In either case, substitute the account name for username. It may be easier to find the Chrome shortcut on your computer, and view the shortcut’s properties to find the correct program path.

Browser Controls

To exit out of the browser, you can use the standard Windows Alt-F4 shortcut to close the program.

If the slide show stalls because of an unretrievable page, you can try pressing Alt-³ to reload the previous page, or you can Alt-F4 to exit the browser and double-click the desktop shortcut to restart it.

Setting Up the Computer For Automatic Operation

You can copy the desktop shortcut from the previous section into the Startup folder in your Start Menu programs. That will cause your slide show to be launched automatically when you start the computer. If the computer is set up to login automatically on start-up, you can leave the keyboard and mouse unplugged, and use the On/Off button to start and shut down the computer.

Ideally, the computer should have a wired network connection for reliability. If you need to use a wireless connection, the first page you load should be a “please stand by while the presentation loads” page located on the hard drive, and it should have a meta refresh tag that waits a minute or so before loading the first actual slide show page, to give enough time for the wireless connection to start working. The meta refresh tag must have the full URL of the slide page.
Adding Dynamic Content

Web Widgets
You can add web widgets to your pages to bring in information from other online sources and display it as part of your page. For example, you can put a Google Calendar on one of your slides to announce events or classes, or include an RSS news feed. You can show your Twitter or Facebook posts, or show photos from your Flickr account. To put a widget on your page, visit the website of the content provider to obtain instructions and the code to add to your page. You might be asked to specify things like size and color to generate the code, and sometimes you have to register on the site. Widgets are sometimes called badges, gadgets, or other names, so if you search for information on widgets and don’t find it, that functionality might be available under a different term.

You might also find widgets from sources other the entity providing the content. Some such widgets might require a fee to use, but also might display the content in a more useful or aesthetically pleasing way than the free widgets do.

Widgets access information from content providers via APIs (Application Programming Interfaces). If a content provider changes its API, older widgets may be rendered inoperative. This recently happened with Twitter. If you search for third-party Twitter widgets, you will likely encounter information about widgets that no longer work.

Server-Side Includes
Server-Side Includes is a technique that allows you to combine content from separate files into a web page. This can make it easier to keep your slides updated, by sharing content with your regular website. SSI is a commonly available web server feature, but it’s not a basic web function. You’ll need to ask the system administrator of your institution’s web server about using this feature, and for the specific page code you need to link the files.

One way I use this technique is for the library hours slide. I have a text file that contains the library hours, formatted in an HTML table. Several web pages, including the library hours page on the main website, the mobile website hours page, and the slide show hours page, all contain code that connects to the hours table text file. The web server merges the hours table into each web page. By using this technique, I only have to update the one text file to update all of the different hours pages.

Process Summary
1. Create web page slides that look good on the screen you’re going to use.
2. Determine the order and timing of the slides.
3. Add meta tags to block indexing, and to connect each slide to the next slide and the last slide back to the first slide.
4. Create a shortcut on the computer to start the slide show in kiosk mode, and copy the shortcut into the Startup folder.

Nov. 6, 2013
On October 21-23, 2013, I attended the Hawai‘i Emergency Preparedness and Homeland Security Workshop, held at the Hawai‘i Convention Center, on an invitation extended to the Hawai‘i Library Association.

Information about the conference, include presentation slides and photos, are available at http://hephsw.hawaii.gov/index.htm

In past years, this conference had been attended primarily by representatives of government and non-government disaster response agencies and organizations. This year, a broader range of participants was invited, reflecting an evolution in the approach to disaster planning. There is a recognition of the need to engage the whole community in order to take advantage of the community’s capacity to respond to and recover from disasters. In the past, disaster planning primarily involved government, large non-profit disaster relief organizations, and large private-sector organizations. Now, there is a new emphasis on building resilience within the community, and on bringing businesses and organizations without a traditional disaster response role into the planning process.

Examples of Community Engagement that Builds Resilience

Groups built on shared interests, culture, sports, hobbies, religious affiliation, etc., often have a deep awareness of the particular needs and cultural norms in their community, and may have special capabilities. They can play a role in educating emergency planners about special needs and concerns, and can also play a role in delivering services to address those needs.

Businesses might be willing to make their equipment, facilities, and personnel available to serve during disasters. With pre-disaster engagement, emergency planners can establish relationships with business managers so their services can be implemented smoothly. Employees can receive training in working in a coordinated disaster response operation. Having a government program that officially recognizes a business’s willingness to participate in disaster planning and response can make it easier for government to provide other forms of support to those businesses, such as fuel reimbursement.

Community volunteers can take an active role in evaluating the risks and resources in their community, and work with area clubs, organizations, and businesses to develop a disaster plan tailored to the particular needs of their community. The Community Emergency Response Team (CERT) program provides basic disaster response training (first aid, light search and rescue, small-scale firefighting, incident management, etc.) to ordinary citizens so they can form teams to assist their neighbors during a disaster when emergency responders are overwhelmed. Outreach efforts at community events aim to educate people about minimizing hazards in their homes and preparing themselves and their families for emergencies.
Conference Structure and Focus

The Community Resiliency track focused on developing disaster-ready communities, which are self-reliant in emergencies, and better able to bounce back and recover from a disaster. Programs and tools to train and support community leaders were described. Successful community organization efforts were featured.

The Mass Care and Vulnerable Populations track focused on meeting people’s needs during a disaster through activities such as sheltering, medical care, psychological support, and specialized services to populations with special needs. Groups that provide mass care services gave presentations about their operations.

The Cyber Security for Everyone track focused on fostering awareness of threats and vulnerabilities in a world heavily dependent on networked computer systems. The sessions provided an overview of issues without going deeply into technical details. There was also an optional day-long FEMA Essentials of Community Cybersecurity course taught by the Texas A&M Engineering Extension Service, offered concurrently to the other sessions.

Much of the conference focused on showing emergency managers how they could engage with the community, and on educating disaster management practitioners about specific emergency management and response topics. It wasn’t really a workshop to teach community organizations how to do their own emergency planning and preparation. But it was a stimulus for community organizations to think about the roles they could perform in a resilient community, and a chance to see how they might go about fulfilling those roles.

What Roles for Libraries?

Throughout the conference I kept thinking about what roles there could be for libraries and librarians in a resilient community. These are some ideas that occurred to me.

1. We should be prepared to address our specific collection care needs. Fortunately, that’s something many of us already do.

2. We can be a source for emergency preparation information for our patrons.

3. We can ourselves become knowledgeable about emergency preparedness and be aware of the threats in our specific neighborhoods, so we’d be able to give sound guidance to patrons who happen to be in our facilities when the warning sirens go off.

4. Following a disaster, we can be a source of recovery information. We can we have general information on hand, and we might be able to disseminate incident-specific information. Some of us might be able to offer our facilities as places where people can meet with representatives of relief agencies.

5. We can be a source of information about recovering storm-damaged books, photos, and documents.
6. Many libraries normally serve as a venue for community activities. In the aftermath of a disaster, providing a bit of respite and distraction during a long and difficult recovery process could be very helpful.

I’m sure we can think of many ways to serve our communities before, during, and after an emergency. But to be part of a resilient community, we also have to be willing to work with emergency planners so they know what we’re able and willing to do, and can support us in providing those services.

**Overview of Sessions I Attended**

The presentation slides from many of these sessions are available at the website given at the top of this report.

**Opening Address**
Major General Darryll Wong, Adjutant General for the State of Hawai‘i

Major General Wong spoke on the importance of community resiliency, and the necessity of getting everyone involved in disaster preparation. The state and county governments cannot handle a major disaster alone, and our geographic isolation puts assistance and resources from the mainland days away. He discussed the need for organizations to plan for the continuity of operations, addressing the questions of who are you dependent on, and who depends on you.

**County and Integrated Planning for Response and Recovery**
William Carwile, Assoc. Administrator (Retired), Federal Emergency Management Agency

Mr. Carwile discussed the factors that make for successful and unsuccessful responses to major disasters, and addressed the question, “Does a very large disaster always become a catastrophe?” He reviewed past disasters, pointing out how lessons learned about preparation and coordination from the ineffective response to Hurricane Andrew led to a much better response to Hurricane Charley, and how the lessons from Katrina significantly improved the response to Sandy. Key lessons include the need to abandon “small disaster” response paradigms that are government-centric and risk-averse, the need for an organizational structure based on standard practices to achieve shared goals, the need for focused attention to function despite the psychological stress of coping with heavy casualties, the need for disciplined allocation of inadequate resources, the importance of engaging senior elected officials in the response, and a recognition of the role of the media.

A government-only response will not be able to meet the needs of the community after a major disaster. It is necessary to engage the entire community. Survivors are often the first to provide assistance to their neighbors, and with training and organization, can be an invaluable resource. Volunteer organizations have motivated members with intimate knowledge of community needs, and can be key to the distribution of services and resources. The private sector operates the normal system of distribution for goods and services, and will often retain some of their capabilities in a disaster-affected area. They are also instrumental in long-term recovery. The media is instrumental in keeping the public informed, and must be continuously informed and engaged.
Ensuring the Continuity of Government
Keone Kali, Deputy Chief Information Officer of Operations for the State of Hawai‘i.

Mr. Kali’s address focused on the need for a culture of innovation to address problems such as the risk of data loss, cyber threats, and aging computer systems and network infrastructure. Challenges include developing skills within a shrinking IT staff, and preparing for the retirement of staff with specialized knowledge. Possible solutions include getting industry interested in investing in new undersea fiber cables that update and upgrade connectivity within and outside the state.

Surviving the "Big One," Lessons Learned from Past Disasters
Marilyn Shigetani, Deputy Director of the Pacific Area Office, FEMA Region IX

During the Monday lunch session, Ms. Shigetani presented 12 tips for the emergency manager:

1. Plan. Planning never ends. It happens before the event in preparation, and during the event as part of the response.
2. Organize and engage major stakeholders. Engage the community to define needs and develop ways to meet them. Engage the assets, institutions, and social processes that work well on a daily basis to improve resilience.
3. Know the rules of engagement. These include the standardized incident management protocols, as well as things like traditional values and cultural norms. It’s important for the impacted community to “own” the disaster, because it leads to empowerment, which is necessary for a successful recovery.
4. Identify needs, prioritize and take action.
5. Manage expectations – of the teams, the leaders, and the community.
6. Flexibility and creativity equals success.
7. Avoid setting up barriers. Avoid the “It’s not my kuleana” attitude. There is a strong need for collaboration between NGOs, the private sector, and government at all levels.
8. Help will arrive. Prepare for help to arrive, not just from organizations with defined and practiced roles, but also from spontaneous volunteers. It’s important to support CERT programs.
9. Do not miscalculate the creativity and will of the American people!
10. Seize the opportunity.
11. Avoid denial and indifference.
12. It’s not about you.

Essentials of Community Resiliency
Dr. Erin Hughey, Director of Disaster Services, Pacific Disaster Center

Resiliency is the ability to resist, absorb, recover from or successfully adapt to adversity or a change in conditions, or in other words, the ability to bounce back. It’s based on long-term strengthening of physical and social systems, and it requires collaborative effort.

Resiliency can be built at the individual, family, and community level. An individual can become educated about hazard risk, preparedness, and response, and can prepare by assembling an emergency kit, maintaining a safe home, and buying adequate insurance. Families can prepare
and practice evacuation plans, develop emergency contact plans, and make sure that the welfare of their pets are planned for. Community involvement can be through faith-based, education, or social groups; hobby and athletic groups; and CERT groups.

**Building the Whole of Community**
Michael Chatman, Pacific Disaster Center

“Whole Community” is a philosophical approach to emergency management that seeks to address challenges faced by traditional response organizations, such as the increasing frequency and severity of disasters, budgetary constraints, and the needs of diverse communities. Communities best understand their own needs, values, and resources, and developing strong relationships with communities increases efficiency in disaster planning, response, recovery, and hazard mitigation. Programs, tools, and strategies for creating engagement were discussed.

**The Role and Responsibilities of Healthcare Coalitions in Disaster Medical Services**
Toby Clairmont, Director of Emergency Services, Healthcare Association of Hawai‘i

Mr. Clairmont began his presentation with an overview of disaster trends, and a description of the roles and characteristic of various entities involved in providing health care. The government’s role in health care is mainly regulatory in nature, focused on public health issues, and is influenced by political processes. The health care industry consists of multiple independent organizations that are competitive with each other, and provides most of the acute care. Coalitions are self-governing autonomous organizations consisting of strategic partners that are industry focused.

The Healthcare Association of Hawai‘i Emergency Services Coalition consists of 129 organizations, including hospitals, nursing homes, health centers, air and ground ambulance services, laboratories, equipment suppliers, the Hawai‘i Disaster Medical Assistance Team, and other care providers. The coalition works in partnership with the state Department of Health and emergency management agencies. Its core missions are to coordinate health care response operations, deploy emergency response teams, mobilize health care delivery systems, provide specialty logistical support, and support planning and preparedness.

**DisasterAWARE**
Dr. Erin Hughey, Director of Disaster Services, Pacific Disaster Center

The Pacific Disaster Center works to bridge the gap between science/academia and disaster management practitioners through applied information research and evidence-based analysis. PDC’s DisasterAWARE (All-hazard Warning, Analysis and Risk Evaluation) is an integrated platform providing situational awareness, decision support, and information exchange capabilities to disaster management decision makers. There are different products that deliver information from the platform, designed for different user groups.
Dangers of Cyber Use (Panel - Social Media, Phishing, Stalking)
Jodi Ito, Information Security Officer, University of Hawai‘i
Chris Duque, Investigator, Honolulu Department of the Prosecuting Attorney
Brian Calkin, Assistant Director, Center for Internet Security Operations Center

Various risks and methods of attack were described. Over-sharing on social media can reveal information useful to criminals and business competitors. It can also make it easy to guess the answer to “secret answer” lost-password systems. It’s safer to make up fake answers for such questions. “Water-holing” is used to target specific groups by planting malicious software on websites likely to be visited by those in that group. URL shortening services are a useful tool for communicating addresses for resources with long addresses, but they can also obscure the true destination of an address. “Spear phishing” is a highly targeted type of phishing that uses information about a person or targeted group to personalize an attempt to deceive someone into revealing sensitive information.

Cloudsweeper is a tool that you can use to estimate the value of your Gmail account to criminals, based on the number of retail accounts tied to that address.

Laws have not kept up with the severity and consequences of cyber stalking. Harassment is a misdemeanor. Unauthorized Use of a Computer is a class-C felony.

Creating Cyber Awareness: Lessons Learned
Jodi Ito, Information Security Officer, University of Hawai‘i

Cyber awareness training is critical in a large complex organization like the University of Hawai‘i, which has a very large number of networked computer devices and decentralized data management. Past data breaches have occurred when people have kept sensitive data on insecure computers, long after it was no longer necessary to have that information to support an operational need or a research project. It’s important to have policies regulating the handling and retention of sensitive confidential data.

Hawai‘i Hazards Awareness & Resiliency Program (HHARP)
Kevin Richards, Earthquake and Tsunami Program Planner, Hawai‘i State Civil Defense
Sharon Mielbrecht, Hazard Mitigation Specialist, Pacific Disaster Center

HHARP was developed in 2013 as a collaborative joint activity between SCD and PDC. The program recognizes and supports communities that engage in ongoing efforts to build their own resiliency. Its goal is “to enhance community resilience to multiple hazards through a facilitated education and outreach program that promotes hazard understanding and awareness, and offers tools and information resources to guide mitigation, preparedness, response and recovery.”

Securing Cyber Space
Laura Iwan, Senior Director of Cyber Security Operations, Multi-State Information Sharing and Analysis Center, Center for Internet Security

During the Tuesday lunch session, Ms. Iwan reviewed a number of threats and gave some recommendations.
Put a passcode on your smartphone. But not 12345, which is the most commonly used password. Passwords also tend to be used on multiple sites, so if it gets compromised on one site, other accounts are also at risk. They should be at least nine characters long.

One of the hazards of thumb drives is that most people put so many files on it, that if they lose the device, they have no idea of what was on it.

Associations typically have less security than organizations, and thus are targets for hackers.

An Advanced Persistent Threat (APT) is not necessarily technically advanced, but it is very persistent. Attackers try to gather information about the target, through phone lists and directories, social media, and social engineering, to create specifically targeted attacks.

Some viruses infiltrate an organization, but deliberately avoid infecting all the computers so it can be harder to detect and can reinfect cleaned computers from behind the firewall. The only way to deal with this kind of attack is to carefully monitor it, and then take down the organization’s entire network and clean everything at once.

Ransomware encrypts files, and attackers demand payment to decrypt the files. The most effective way to defend against this is to perform regular backups onto offline storage devices that are not kept connected to the computer.

Unpatched content management systems (e.g. Joomla, Wordpress, etc.) can be vulnerable to attack.

The best way to combat cyber threats is to share information.

For more information, visit http://www.cisecurity.org

Cyber Threats - Understanding Online Risks
Ken Newman, Sr. Vice President and Information Security Officer, Central Pacific Bank

From a business reputation standpoint, security is trust, and trust protects the brand.

Identity theft is an ongoing problem in the banking industry. Hacked e-mail accounts are used to send fraudulent messages to banks in an attempt to execute transactions.

There are sophisticated viruses that will infect your computer and phone at the same time.

It’s a good idea to scratch out your credit card number if it appears on the merchant’s copy of a charge slip. It’s not necessary to have the number, as the transaction has already been electronically processed.

It’s best to use unique passwords on different sites, but that can be difficult to keep track of. One way to add variety to your passwords is to devise an algorithm to create a prefix or suffix for your passwords. For example, count the number of letters in the site name and combine it with the last letter – for Facebook, that would be 8K – and add it to the beginning or end of a base
password.

LongURL.org is a website that can expand a shortened URL, so you can determine where it really goes to.

Mr Newman recommended these security products: AVG, Comodo Internet Security, HTTPS Everywhere, NoScript, Spybot Search and Destroy, ZoneAlarm, Web of Trust.

For more information, visit http://staysafeonline.org

**Media Behind-the-Scenes During an Emergency (Panel)**

Burt Lum, Host of Bytemarks Café
Robyn Furuya, KZOO Radio
Justin Fujioka, KITV Television
Oskar Garcia, Associated Press

The panelists described the nature of their organizations and their experiences covering emergency situations. Mr. Lum discussed the work of the Virtual Operations Support Team, which monitors social media to gather information, track rumors and misinformation, and advise emergency managers about what they need to communicate to the public about. Ms. Furuya discussed being a source of information to the Japanese-speaking listeners of her radio station. Mr. Fujioka described what it’s like to cover an ongoing emergency situation during a continuous live TV broadcast. Mr. Garcia described how their three-person local staff generates content for the worldwide Associated Press newsgathering organization.

**Hawai‘i Emergency Preparedness Executive Consortium Meeting**

The annual HEPEC meeting concluded the conference, and consisted of presentations by several agencies and organizations, followed by an opportunity for anyone in the room to report to the group on their activities and developments.

FBI Special Agent Earl Asato gave a briefing on terrorism and security issues.

Dr. Hughey of the Pacific Disaster Center gave an overview of the organization and their work to foster resiliency and reduce disaster risk through research, information dissemination, and support of decision makers and disaster response practitioners.

Jerry Dolak talked about the Hawai‘i Hotel & Visitor Industry Security Association, which is an organization consisting of tourist industry security managers, law enforcement agencies, and emergency planners. They share information and support each other in dealing with crime, crisis management, and safety issues. They have an Emergency Support Center that distributes information, facilitates communications, and provides coordination during emergencies.

Ray Trombley recounted the origins of Hawai‘i Financial Industry Resilience, Security and Teamwork (HawaiiFIRST), a cooperative effort by Hawai‘i financial institutions to develop crisis contingency plans. It was created in the aftermath of the 9/11 attacks, when there was a need to transport checks between islands for processing in the days when air transportation was
shut down. They estimate that there is enough cash in Hawai‘i to sustain a cash economy for at least ten days without a resupply from the mainland. They recommend withdrawing $50 when preparing for an impending disaster.

Capt. Gerald Kaneshiro of the Honolulu Police Department’s Major Events Division gave an overview of their efforts to work collaboratively with other agencies to improve responses to emergency situations. One area they are working on is figuring out how they can get people with critical disaster responsibilities who are not credentialed emergency service workers (such as military personnel and airport and harbor workers) through police roadblocks during an evacuation.

November 25, 2013

About me: I am the systems librarian at Leeward Community College, a campus of the University of Hawai‘i. I work with computer technology, but I am also interested in electronics in general and in radio technology. I also have an interest in emergency preparedness and response, and am a reservist with the City & County of Honolulu Department of Emergency Management. As a licensed ham radio operator, I have a particular interest in public service and emergency communications.