Current technologies impact on functions and activities of the library
Hamilton Library - University of Hawaii at Manoa

Library Server Room
Moore’s Law & the future

Sun Microsystems cofounder and former Cisco Vice President Andy Bechtholsheim predicted that performance of networking chips — which determine how quickly you can surf the Internet - will improve 1,000 times in the next 20 years.

Moore’s Law, the prediction in 1965 by Intel’s Gordon Moore that the number of transistors on a chip will double every two years, is still holding up.


The future is already here — it’s just not very evenly distributed.

-William Gibson [Gibson, William, 1948-]

Libraries benefit and are challenged by the former while often experiencing the latter
Moore’s law = cheap storage, increased processing power, fast broadband

Open source / Open access
New automation products
  information discovery and delivery systems
  library services platforms
  integration of ebooks & mobile devices
Software As A Service (SaaS) / Cloud computing
Mass digitization / Digital libraries
Web archiving
User generated content / Crowd sourcing
Digital humanities / eScience
  very large objects (video, data sets) / big data
  data mining and reuse
Content/Data curation / management
  academic criteria to evaluate / tenure
  roles for library - guides
  preservation
  verification/authenticity: Trusted Repositories
Moore’s Law = CHEAP STORAGE, INCREASED PROCESSING POWER, FAST BROADBAND

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Just Google it?
Marshall Breeding notes* that this is an incredibly interesting period for library technologies.

He says “Rather than just refining and rebuilding products on models of functionality … in place since the early decades of library automation … efforts are under way to break free from … historical approaches and create new products … that embrace current technology architectures.”

He believes that the new approaches and products are designed to better align with the “multifaceted realities” of library collections and services.
Discovery & Delivery Systems

Breeding says* that in the past few years Discovery Services have brought in a large proportion of library automation as sales of traditional Library Management Systems have been in decline. He declares four major web-scale discovery products, WorldCat Local, EBSCO Discovery Service, Serials Solutions Summon, and Primo Central from Ex Libris to have achieved “high levels of maturity”.

In early 2004 the UHM Library implemented use of an Open URL link resolver system from Serials Solutions. In early presentations to staff when the OpenURL Task Force was evaluating systems and vendors - 2 important selling points were emphasized:

- OpenURL Increases the Use of Expensive eJournals
- OpenURL Provides a Major Increase in Digital Access for Faculty, Staff and Students

This was our first step into linking bibliographic and index searches to full text retrieval. Over the years it became an important part of basic service our patrons expected. And it did indeed increase access to and usage of ejournals.
In his 2013 Tech Review, Breeding noted “Especially among academic libraries, the need for discovery tools broader than an ILS’s online catalog is well accepted”.

At UHM Library an “Action Team” was formed in 2008 with the mission to “Review, recommend, and outline an implementation plan for one or more software/electronic products or services which enhance seamless discovery, access, and/or delivery of library resources and services.” The team recommended acquiring and implementing the open-source federated search system “LibraryFind” (http://libraryfind.org/). However there was no further action on the recommendation. In retrospect this may have been a good thing, since it doesn’t look like any LibraryFind code updates have taken place since 2010.

In late 2011 a contract between the University of Hawaii at Manoa Library and Ex Libris was signed:

- To continue with the Ex Libris Voyager library management system
- To replace the Voyager server hardware and not migrate to "cloud" services
- To sign a 3-year contract for the Primo discovery and delivery tool

A phased installation of SFX (replacing Serials Solution) and Primo took place June through December 2012; Primo “One Search” went live at the start of 2013.
Significance of digital libraries

The construction of digital libraries have certainly framed technological challenges, particularly with regard to various aspects of scale, [...] and indeed have given rise to substantial progress in these and other technical fields. But I believe that the greatest significance of digital libraries has been at a more profound intellectual level, inviting us to envision new kinds of environments for knowledge discovery, formulation, and dissemination; approaches to defining, managing and interacting with the cultural and intellectual record of our societies.

- Clifford Lynch

*The Futures of Digital Libraries: The Evolution of an Idea*

Research and Advanced Technology for Digital Libraries

Lecture Notes in Computer Science Volume 6966, 2011, p 2
UHM Libraries Digital Repository Proposal

A Draft Plan for moving the Library into the Digital Arena.

Bob Schwarzwalder
August 9, 2004

Direction

- Library's role has shifted to providing digital information services
- Scholarly Communication crisis has highlighted the need for local archive of intellectual capital
- Call for UHM to provide digital access to Hawaiian historical and cultural materials
- Need to support grant activities, university archives, and departmental information initiatives
- Creation of intellectual platform for training students to research; support of Hawaiian Place of Learning

Background

- Creating a networkable information repository is a key element of the NSF Cyberinfrastructure http://www.communitytechnology.org/nsf_ci_report/
- D-Space Initiatives have been started at a number of large US universities to create academic information repositories
- Digital Repositories support UHM initiatives on Distance Learning, Student Life, and making UHM an Hawaiian Place of Learning

We stand at a crossroads for the Library. We have within our reach, the ability to make the Library a steward of university information, a virtual classroom for students, a guardian of Hawaiian historical and cultural materials, and a vital part of the future for the university and the state. Beyond the financial cost of making this transition, there is the need to see our mission and our jobs in a new light. However, if successful, we can make the Library an even more vital part of the University community.
Two months later – flood destroyed the library IT infrastructure completely.

First (original) library web & digital collection server

Everything from the central computer room looked like this or worse.
Based on a philosophy of non-proprietary community-supported development

When rebuilding our web server – we switched from proprietary Sun Solaris OS and Apache to Linux/Apache

• Dspace was identified as our choice for Institutional Repository software
• Linux / Apache / MySQL /PHP was our choice for delivering digital image content
• Plone CMS on top of Zope application server was selected for the library intranet
Specific goals included
- Long-term storage of digital materials
- Persistent network identifiers for stable access
- Consistency checks to maintain integrity of the digital files

We wanted to
- recapture our institution’s intellectual content from commercial publishers
- provide local control of content and open access
- give our users faster and more up-to-date online access and showcase library unique collections
- demonstrate the importance of the Library for wide-spread dissemination of University research
Over 600% growth rate in 5 years

12 communities and 940 files

488 communities and 32,247 files
Global Scope

Asia & Pacific

Center for Chinese Studies [94]
Center for Japanese Studies [43]
Center For Korean Studies [7]
Center for Okinawan Studies [17]
Center for Pacific Islands Studies [2160]
Center for Philippine Studies [61]
Center for South Asian Studies [24]
Center for Southeast Asian Studies [116]

Language Documentation

International Conference on Language Documentation and Conservation (ICLDC) [367]
Language Documentation & Conservation [234]
Language Documentation Training Center [34]

LDTC project
LDTC project/PhD dissertation.

Alsatian
Amis
Chao Zhou
Dayak Ngaju
Ema (Kemak)
Isan
Javanese
Javanese
Kalmyk-Oirat
Keres
Kerinci Siulak
Konkani
Scholarspace Usage by City
Open Access at UH

The Library hosted the first Open Access Week events in October 2009 including sponsoring campus-wide student activities, a panel presentation on scholarly communication issues and a presentation on copyright.

In 2010 the Library organized a second Open Access Week campus-wide celebration; coordinated the successful passing of an “Open Access Resolution” by the Manoa Faculty Senate and helped to organize a “Scholarly Communication 101” Workshop sponsored by the Scholarly Publishing and Academic Resources Coalition (SPARC).

In 2011 the library made numerous presentations and organized a third Open Access Week campus-wide celebration; coordinated the approval process for the UHM Open Access Policy approved by the UH Chancellor in March 2012; participated in the Coalition of Open Access Policy Institutions (COAPI).
Value of digital collections

“digital collections represent significant potential economic and social value, provided they are made easily accessible”

The Dutch Foundation for Economic Research carried out an analysis of the economic and social costs and benefits of making cultural heritage available digitally for a number of mass digitization projects. [...] These analyses show that, on balance, the total benefits of digitization and accessibility outweigh the costs. The heritage sector, creative industries, the education sector and consumers will all experience immediate benefits from the widespread availability of cultural heritage objects. Indirect social benefits include an increase in digital literacy and a strengthening of the knowledge-based economy.
Computer & scanning equipment used for the library’s first digitization project

early 1990’s: Windows 3.1 PC and Agfa Duoscan flatbed scanner
Most recently acquired scanner
Quartz Digibook with A1 size capacity
Ryukyu-Okinawa digital archive

Material from UHM Library Asia Collection will be added to this digital archive

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Digital Image Collections at the University of Hawaii Library

Almost 40 Streatprint digital image collections; 18 web/HTML-based collections

http://library.manoa.hawaii.edu/research/digicoll.html

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Streetprint

- Created in 2003
- Grew out of Canada Research Chair Humanities Computing Studio project to create a “computerized and integrated multi-media humanities research centre to unite humanities research and digital technology” in 2001
- Licensed under the Gnu Public License (GPL)
- First collection was digitized British street literature *Streetprint: Revolution and Romanticism*

**Good points:**
- CSS & templates provided
- PHP (easy to change functionality)
- Comment feature
- Easy to use

**Drawbacks:**
- Code not bug free or finished
- Only Dublin Core metadata
- No cross-collection search
- Small user base, inactive lists
- Did not know how scalable?
- No batch load
Save Our Surf

Save Our Surf

Welcome to Save Our Surf

The Save Our Surf (SOS) digital collection consists of unpublished material from the SOS organization - an environmental, social, political, and cultural movement that contributed to the contemporary Hawaiian Sovereignty movement.

Latest News

Proposal Funded -- 2005-11-10

"Save Our Surf, a Grassroots Organization" received $5,075.00 from the UH Manoa Diversity and Equity Initiative to fund scanning of a unique collection of primary resource materials produced by the Save Our Surf group. More

Featured Text:

A Brief on John Kelly and Save Our Surf

Scanned, OCR'd & completed over two semesters by one student assistant
Traditional Micronesian Navigation Collection

Welcome to the Steve Thomas TRADITIONAL MICRONESIAN NAVIGATION COLLECTION.

The Steve Thomas Traditional Micronesian Navigation Collection is comprised of unpublished papers, audiovisual and photographic materials (including oral history transcripts and 35mm slides), publications and miscellaneous items related primarily to traditional navigation on the Western Carolinian island of Satawai, which is located within Yap State, Federated States of Micronesia.

**July 13, 2010: Master Navigator Mau Piallug Dies.**
Several news outlets are reporting today that Mau Piallug passed away over the weekend on his home island of Satawai: Honolulu Star-Advertiser; KHJ Honolulu web story.

**July 20, 2010: News outlets worldwide continue to publish memorials to Mau Piallug:** Wall Street Journal; The Economist; Washington Post; Saipan Tribune; East West Center News; Chuuk Reform Movement.

FEATURED SLIDE:
Steve Thomas, *Mau Piallug on Beach - 2*
Online comments
Comments
add ethnographic information
Commenting makes a static collection more dynamic

Comment by williana narheo at 16:06:04 on 25 June 2008

Comment by jerry seweralpyj joseph at 19:12:39 on 12 December 2007
Rapanui collection

Author: Edmunds, Henry P.

Document Type: Photograph
Category: People - Individuals
Date: Circa 1900

Notes:
Notes written on the back of two duplicate photographs. Alternate verse reads, "Angata the Prophetess".

Comments: 2 comments [view add]
Last comment by Cristián Moreno Pakarati at 11:10:50 on 17 October 2010

Photo record edited by Stu Daws at 2009-11-29 12:41:26
She is Te 'Oho a Neru, born circa 1830 and died in 1915. A rapanui woman of the Marama tribe who lived between Hanga Piko and Mataveri. Mother of Nicolás Pakarati Ure Po Tahi, Arone Rapu Neru and Salome Te Rahi Rapu.

Comment by Cristián Moreno Pakarati at 11:10:50 on 17 October 2010.

She is Te 'Oho a Neru, born circa 1830, died in 1915 leaving 2 adult sons and 1 daughter: "Nicolás Pakarati" Ure Po Tahi (1851-1927), "Arone" Rapu Neru and "Salome" Te Rahi Rapu.

Comment by Cristián Moreno Pakarati at 11:10:14 on 17 October 2010.
In his 2012 article on the automation marketplace*, Marshall Breeding noted “the emergence of a new genre of automation”. He called the new products “library services platforms” and described their characteristics as including

• integrated management of print and electronic library materials
• reliance on global knowledgebases instead of localized databases
• offering deployment through multi-tenant (serving multiple client-organizations) SaaS (Software as a Service) architecture
• provision of application programming interfaces (APIs) to enable interoperability and extensibility
Library as a platform

When you think of a platform for user-generated content, you may not think of that platform as having power. [...] YouTube, Flickr, and other major Web 2.0 sites have lots of power. There are four main powers that platforms have:

• the power to set the rules of behavior
• the power to preserve and exploit user-generated content
• the power to promote and feature preferred content
• the power to define the types of interaction available to users

 [...] Museums [...] just have to pick the few interactions that most support the kind of behavior and content creation that we value. [...] As long as you create a platform that is consistent in its values and the interactions provided, you will be able to control the experience as you open up content authority.

There are real opportunities here for museums to retain authority related to values, experiences, and community behavior. The power of the platform may not let you dictate every message that floats through your doors. But with good, thoughtful design, it can ensure that those messages enhance the overall museum experience.

- Nina Simon, Executive Director of the Santa Cruz Museum of Art & History
New relationships with users

THE PAST

Authority is content provider

THE FUTURE

Authority is platform provider

The Future of Authority: Platform Power posted October 08, 2008
http://museumtwo.blogspot.com/2008/10/future-of-authority-platform-power.html
Mobile devices and Social Networking

The ever-increasing use of smartphones, tablets, and other mobile devices are making it necessary for libraries to expand [modes of] access to their collections and services*.

The pervasive influence of social networking sets expectations for all patron-facing products and presents opportunities for products that directly engage these media, such as SirsiDynix’s Social Library*.

SirsiDynix describes Social Library as a “fully native Facebook application that lets your library users search, place holds, view, rate, discuss and share library materials all within Facebook”.  

- http://www.sirsidynix.com/sociallibrary
Tagging at UHM Library

Voyager

- Get This Item
- Print/Save
- Export
- Email
- Add to My List
- Persistent Link

Social Bookmarks:
- del.icio.us
- Digg
- Facebook
- Google
- MySpace
- StumbleUpon
- Y! MyWeb

- Voyager Record
- Staff View

Worldcat
User-Generated Content (UGC)
Crowd Sourcing / Tagging

Some institutions have used game mechanics to incentivize tagging. In 2008 Carnegie Mellon created two games (ESP game and Phetch) that allowed players to competitively tag images on the Web. Museums and other institutions pursuing tagging as a way to get user-generated content about collections should consider using gaming to motivate participation.

Brooklyn Museum Posse
http://www.brooklynmuseum.org/community/posse/

Posse members can play collection-based tagging games:

- Tag! You’re It!
- Freeze Tag!

Contribute

Join the community that’s organising and improving this information resource.

- 146,194 newspaper text corrections today
- 1,980 images from users this month
- 12,681 items tagged this week
- 1,394 comments added this month
- 771 works merged or split this month
- 815 lists this month

Connect to others with similar interests on the Trove forum.
Library administration and management should examine what types of big data sets their library could be gathering and analyzing using big data tools. Does your library have an opportunity to measure something new, some massive data set which previously was out of your reach because of software and hardware constraints? From the side of big data curation, could your library, as part of storing your faculty’s scholarly research and making it accessible, also store and mount your faculty’s raw research data for others to use?

[…] Or you could be the thought leader on big data curation at your institution by providing guidance to storing and making accessible big data sets. Now is the opportunity for your library to understand the issues and opportunities big data offers to researchers, administration, and the librarians at your institution.*

http://www.ala.org/acrl/publications/keeping_up_with/big_data
Data Curation - Data Management Plans

UHM Library is starting from a position of strength – our role as pathfinders and consultants

Creating guides

Giving campus workshops for researchers

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Thank you … Mahalo … Gracias

Martha Chantiny
chantiny@Hawaii.edu