



Great Gadgets in Libraries: Keeping up with current technology

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Gadgets in the workplace

○ Productivity versus Distraction?

- Time shifting

Gadgets may support work happening asynchronously (or when convenient) rather than synchronously (at that moment)

- Blurring of work and personal time
 - What is entertainment and what is work?
 - Where does creativity blur into work?

Overload versus the More the Better?

- Makes time to do more
- Makes more to do

From Science Fiction to Reality

From Heinlein's *Friday* (1982), pp. 219-220:

“Live music? I could punch in a concert going on live in Berkeley, but a concert given 10 years ago in London, its conductor long dead, is just as “live,” just as immediate as any listed on today’s program. Electrons don’t care. Once data *of any sort* go into the net, time is frozen.”

Today's Students

[Beloit Mindset](#) – Class of 2009 (Sept. 2005)

This list of 50 statements looks at the world of students entering college each fall, probably at age 18. This fall, that means they would have been born in 1987.

- 13.** They learned to count with Lotus 1-2-3.
- 16.** Voice mail has always been available.
- 20.** They may have fallen asleep playing with their Gameboys in the crib.
- 49.** Libraries have always been the best centers for computer technology and access to good software.



Topics to be covered

- What are gadgets & why are they important to librarians?
- Why single out gadgets?
 - They represent what consumers are willing to buy
 - They reflect the customization and personalization trends
 - They continue to change – show evolution and shifts
- What types of gadgets should we be watching?
- How are libraries using gadgets?
- What's next?

What do I mean by “gadgets”?

- Definition (Wikipedia):

- “A **gadget** or **gizmo** is a device that has a useful specific purpose and function. Gadgets tend to be more unusual or cleverly designed than normal technology.”
- Examples from Wikipedia
 - MP3 players
 - Remote control device of any sort
 - Cordless mouse
 - Any device that talks, like a calculator or clock

ZDNet's Top 10 Gadget Must Haves

1. Sony Playstation Portable - game
2. Apple Ipod – portable audio/video player
3. Sling Media Slingbox – remote tivo
4. Sony Ericsson W800i – cell phone
5. Toshiba Qosmio G25-AV513 - laptop
6. Archos Gmini 402 – portable video player
7. Nokia N90 – cell phone
8. PalmOne Treo 650 - smart phone
9. Motorola Razr V3 - cell phone
10. Logitech Harmony 880 – universal remote control

(Updated October 25, 2005 by CNET Staff)

What does this mean for us?

What to do?

- How do you decide which gadgets to adopt or support?
 - What makes sense in your environment?
- What gadgets should we be using?
 - What makes your life easier?
- What gadgets should we be supporting?
 - **What do your customers use?**
- The list will keep changing.

Trends

- Convergence
 - Gadgets are rarely single purpose.
- Personalization and customization
- Miniaturization (portability)
 - Smaller is better and lighter to carry.
 - Technology keeps letting us make things smaller.



Questions and Comments

What are you interested in?

What do you want to learn this afternoon?



A few of the gadgets

- PDAs, handhelds, smart watches
- Tablets, downsized laptops, ultra personals
- Cell phones, Smart phones
- MP3 players, voice players/recorders
- Video players/recorders
- Digital still and video cameras
- Pocket scanners and document pens
- Game machines
- GPS devices
- Jump drives (USB drive, fit key)
- Wireless devices, i.e. cordless presenters
- Remote controls: RFID, handheld apps

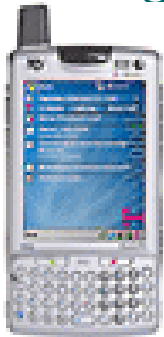
Morphing the Name of the PDA

- Palm or Pocket PC
- Personal Digital Assistant (or PDA)
- Handheld
- Mobile Media Companion
- Mobile Portable Media Center
- Entertainment Center
- Ruggedized handheld
- Pocket PC Phone (or Palm Phone)



PDA/Handhelds/Tablets

- Convergence is changing the products
- Thickness and weight versus functionality or not?
- PDAs are still part of the



HP , Sony Vaio U Ultra portable, Nokia N770 Internet tablet, IBM thinkpad tablet

Smart Watches



54 different brands on the market today:
Casio, Microsoft, Nike, Timex, etc.

- Using SPOT (small personal objects technology)
- Calendar, weather, news, sports, stock quotes, movie listings
- Wireless or synched
- Limited by reception area



Coming are watches as wearable computing

- IBM [Linux Watchpad™](#)



From top to bottom: Microsoft, Casio, IBM

Smart phone/Multimedia mobiles

- Single, integrated device for all your data and voice needs.
- Access your existing email wirelessly.
- Integrated phone, SMS, browser, and organizer applications.



Left to right:

Sony Ericsson W800i , Blackberry 8700c, Palm Treo, Nokia

MP3 players

- Ipods
 - Ipod Shuffle
 - Ipod Nano
 - Ipod Mini
 - The Ipod (now with video)
- Creative Nomad Jukebox 3
- Sony Network Walkman Bean
- iRiver H320
- Rio Carbon, Carbon Pearl, Forge Sport
- Creative Zen Micro, Touch
- Samsung Yepp YP-T7X



MP3 players



“If you want to design services for a technology that is actually being used, look to iPods.” from Michael Stephens. The iPod Experiments. *Library Journal Net Connect*. Spring 2005

It is all about Audio:

- music, spoken word, podcasts

Lots of types of mp3 players:

- CD/MP3 player
- Digital player, voice recorder
- Flash player
- Hard drive
- Micro drive
- With or without FM radio

Digital voice recorders

Tradeoffs between separate recorder and built-in or add-on MP3 player-recorder combination

- Ipod MP3 recorder add-on
- Olympus DM-20 USB Interface Digital Voice Recorder w/ MP3 and WMA music playback



Video players/recorders

- The Ipod (with video)
- Creative Zen Vision
- Archos Gmini 402
- Samsung YEPP YH-999 PMC



Digital Cameras and Digital Video Cameras

It's all about what you want to do!

- Standalones: Canon, Kodak, Minolta, Nikon, Sony
- Embedded or add-ons to other devices
- One time use/disposable – CVS
 - Time Gadget of the Week August 25, 2004
- Webcams



Pocket scanners (Reading pen)



- Scan, store and send
 - Reads notes aloud.
 - Beams to Smart phones, as well as to PDAs and PCs.
 - Includes English dictionary definitions.
 - USB connection to PC
- Get Immediate Translations and Definitions
- Reading Aids – portable devices for dyslexic users

Wizcom Technologies

<http://www.wizcomtech.com>

Other scanners (Fingerprint scanning)

- Library card? Check. Fingerprint? Really? ; Citing security, Naperville libraries will make patrons prove their identities before using computers. Privacy advocates fear misuse of the data.; [Chicago Final Edition] *James Kimberly, Tribune staff reporter. Chicago Tribune*. Chicago, Ill.: May 20, 2005. pg. 1
- One possible solution for the directive to banks to come up with more secure devices for authentication

Fingerprint recognition



Built-in

- [Keyboard](#)
- Mouse

USB storage devices

- [Sony Puppy fingerprint identity device for Windows](#)
 - helps you remember your passwords
- [Index Security bio stik fingerprint reader](#)
 - secures your data when you transport it



Digital Pen (Drawing pen)

Logitech io2 Digital Writing System

Take notes or draw sketches in ink on the smart paper and a “tiny camera” captures your work, storing up to 40 pages at a time. Intelligent power management maximizes every battery charge.

Capture the familiar feel of how you have created in the past and moves it to digital.



Game machines

Sony PlayStation Portable is THE gadget of 2005



"...as a form, games encourage exploration, personalized meaning-making, individual expression, and playful experimentation with social boundaries...."

Shaffer, et al. *Video Games and the Future of Learning* (2004)

"...forward planning, lateral thinking, and sustained problem solving required in modern computer games provides a healthy 'cognitive workout' that supports broad mental development."

Steven Johnson, *Everything Bad is Good for You* (2005)

Video game machines

- [Nintendo DS](#)
 - Two video screens
 - Built-in wireless networking (within 100 ft)
 - Gaming and networking – compete and chat
- [Nintendo Gameboy Micro](#)
- [Sony Playstation 3](#)
- [Microsoft XBox](#)



Games are here to stay!

From Leslie Hitch and Jim Duncan:

What you should do:

- Get knowledgeable
- Adapt teaching and research:
 - Consider students' expectations
- Manage the technology required
- Experiment
 - <http://www.twitchspeed.com/site/companies.html>
- Strengthen use of video games in student and staff development, and in library instruction.

Games in Higher Ed: When Halo 2, Civilization IV, and Xbox 360 Come to Campus. Leslie Hitch and Jim Duncan (pp. 5-6)

Educause Evolving Technologies Committee August 15 2005

<http://www.educause.edu/LibraryDetailPage/666?ID=DEC0503>

GPS devices

scavenger hunts, geocaching

- Lowrance iWay 500c
<http://www.lowrance.com/>
- Magellan Explorist
<http://www.magellangps.com>
- Garmin GPSMap 60CS
<http://www.garmin.com>
- Nokia 5140 phone with GPS shell
<http://www.nokia.com>
- Delorme Earthmate GPS
(use with PC)
<http://www.delorme.com>

Geocaching

<http://www.geocaching.com>



Special Purpose Chips



- USB drives: thumbdrive, jumpdrive
- Flash memory chip
 - May also be hybrid usb drive
- [Fitkeys](#)
- [Dexit](#)
- [SanDisk FlashCP](#) Cruzer (Booklocker)
- DRM [dongle](#)
- [IBM soulpad](#) project
- [Presenter to Go](#) SD card



Special Purpose Chips



- * * * Remote control: RFID technology
 - Pros: Locate, Inventory, Self-check-in/ check-out
 - Cons: Privacy and confidentiality concern

"3M RFID Tracking Solutions: Tag It – Track It – Manage It." <http://www.3m.com/rfid/>

"RFID." American Library Association. 2005.
<http://www.ala.org/ala/oif/ifissues/rfid.htm>

* * * Human bar codes: injectable chips

Wireless devices

- Wireless mice & keyboards
- Logitech cordless presenter
 - Value for library instruction



Remote control: Handheld apps

- [Logitech Harmony 880](#) — universal remote
- [MyNevo from UEI](#) — handheld device remote control



What toys do your toys have?

- Memory chips –
 - ever larger ever cheaper
- Keyboards for pdas
- Speakers
- Skins
- Caps (for Ipods)
- Carrying cases
- Charging bag
- Ringtones
- External speakers
 - for MP3s and PDAs
- Paid Subscriptions
- Hotspot detector





Questions and Comments



Applications

How are librarians using or supporting gadgets?

- Communication/Collaboration
- Entertainment/Learning
- Operations



Communication/collaboration

- **Instant messaging**

(via desktop, laptop, handheld, cell phone, game machine)

AOL, MSN, ICQ, Yahoo, Google

[Cerulean Studios Trillian](#) now supports: AOL, MSN, Yahoo

Valuable for Reference Services and Instruction

Communication/collaboration

- Instant messaging

- **Blogs**

(via desktop, laptop, handheld, cell phone, game machine – with Internet connection)

To locate:

Blogger: <http://www.blogger.com>

Bloglines: <http://www.bloglines.com>

FeedDemon: <http://www.bradsoft.com/feeddemon>

Google: <http://blogsearch.google.com/>

Valuable for Reference Services and Instruction

Communication/collaboration

- Instant messaging

- Blogs

- **Wikis**

(via desktop, laptop, handheld, cell phone, game machine)

<http://www.wikipedia.com>

Can also be used for internal purposes within library as well as within organization

Valuable for Reference Services and Instruction

Communication/collaboration

- Instant messaging
- Blogs
- Wikis
- **Podcasts**

(via desktop, laptop, handheld, cell phone, MP3 player, audio and video player, game machine)

To Locate: Use [Google](#), [Ipodder Lemon](#), [iTunes.com](#), [Podcastingnews.com](#)

Key factors for creating one: a clear/good voice, time to product script, a well written script/outline, audio easily downloadable ([from Michael Stephens' blog](#))

Valuable for Reference Services and Instruction

Podcast Examples

NEASIST spring conference 2005

Schoolhouse Rock

- Springfield College Babson Library WSCB 89.9 FM Radio
 - Dewey Decimal System program
 - Copyright

Potential use for questions answered over and over again

- Market your library
- Use to enhance web site resource instruction
 - [See Babson College library quick tutorials](#)
- Use for library instruction, tours, point of use instruction
- Answer questions about circulation policies
- Create personalized introductions to librarians and services they can provide

Valuable for Reference Services and Instruction

Entertainment/Learning

Files, data (books, articles, music, movies, photos, art, podcasts, etc.)

- Search engines: Google: <http://www.google.com/xhtml>
- E-books/e-journals/resources
 - NetLibrary, Ebrary, Knovel, Books 24x7, Safari Books, etc.
 - [Ereader for libraries](#)
 - Many databases, journals, i.e. [Ovid@Hand](#)
- Current Awareness
 - [Avantgo](#)
- E-audiobooks/files
 - [NetLibrary and Recorded Books current trial](#)
 - [Duke use of Ipods](#) (see next screen)

- Handheld/smart phone applications (there are lots)
- Games for library instruction
- Writing for small web pages

Duke iPod project:

<http://www.duke.edu/ddi/>

iPods were handed out to all freshmen last year and continued this year on a more focused basis.

[2005-2006 courses](#) using iPods include:

- Insurgent South
- Foreign languages
- Interviewing within classes on conservation, education & immigration

[Duke Library to expand digital collections](#)

- Managing that content could well be “the essential complement” to the Duke Digital Initiative.

Entertainment/Learning

Files, data (books, articles, music, movies, photos, art, podcasts, etc.)

- Search engines
- E-books/e-journals/resources
- Current awareness
- E-audiobooks/files
- Handheld/smart phone applications (there are lots)
 - Catalog pages:
 - [Cuyahoga County Public Library](#)
 - NYU Libraries web site:
 - <http://library.nyu.edu/mobile/>
 - Legal Content at New York Law School
 - <http://www.nyls.edu/pages/420.asp>
 - Pubmed for Handhelds
 - <http://pubmedhh.nlm.nih.gov/nlm/>
 - Health Sciences Resources for your PDA
 - <http://www.library.ualberta.ca/pdazone/health/index.cfm>
- Writing for small screen web pages
- Games for library instruction

Entertainment/Learning

Files, data (books, articles, music, movies, photos, art, podcasts, etc.)

- E-books/resources
- E-audiobooks/files
- Handheld/smart phone applications (there are lots)
- Writing for small screen web pages
 - Webmonkey End-all Guide to Small Screen Web-Dev (CSS is your friend)
 - <http://hotwired.lycos.com/webmonkey/04/12/index4a.html>
 - Making Small Devices Look Great
 - <http://my.opera.com/community/dev/device/testing/>
 - Web-enabled pages for small screens
 - <http://www.openmobilealliance.org/>
- Games in library instruction

Entertainment/Learning

Files, data (books, articles, music, movies, photos, art, podcasts, etc.)

○ Games in library instruction

- Games are beginning to play a role in the way we deliver content. Think of the computer gaming background of this generation.
 - John C. Beck and Mitchell Wade. [Got Game: How the Gamer Generation is Reshaping Business Forever.](#)
- Visual/graphic learners
- Use active learning – learn by doing
- Do any of you remember the Internet hunt?
 - Oberlin College library instruction: http://www.oberlin.edu/library/programs/WT97/session7_lab.html
- Think out of the box
- Where is the WIIFM?
 - Keep in mind *Attention Economy* by Tom Davenport

Library Operations

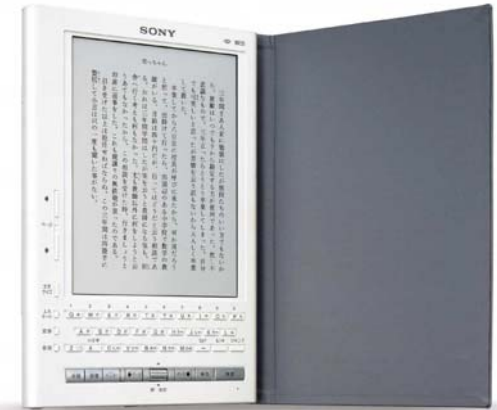
- Bibliographic file management applications, such as [EndNote for handhelds](#)
- Inventory control, RFID
 - Use handheld bar code readers
 - RFID readers including self-checkout
- Remote control
- Circulation / lending
 - [Wireless cards](#)
 - [MP3 players \(circulate with e-audiobooks\)](#)
 - [Keyboards](#)
 - [Digital Cameras](#)
 - [Voice recorder](#)
 - [Tablets, laptops](#)
 - [USB drives](#)
 - [Devices](#)

What's next

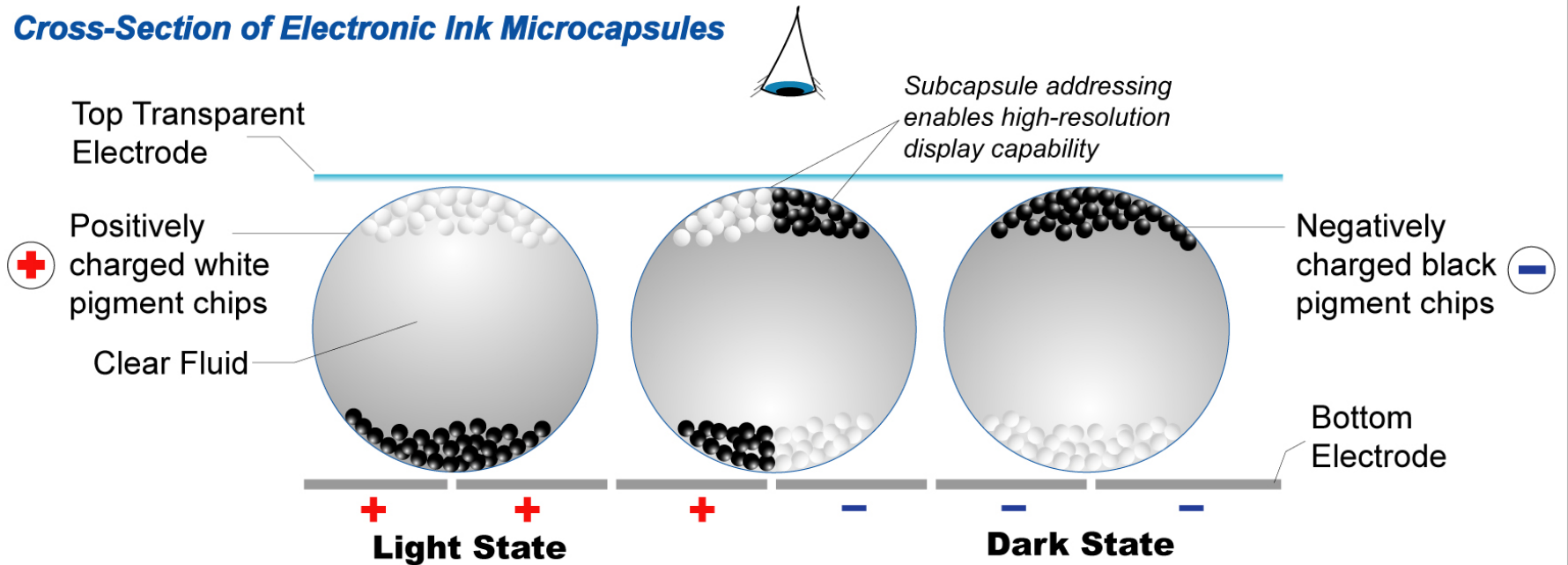
- What will we be able to do with
 - E-ink, E-paper, flexible displays, keyboards with wall display?
 - Wearable computing?
 - More realistic simulations and “games” within libraries?

E-ink

Sony LIBRIé e-Book Reader Featuring E Ink's Electronic Ink Technology - 2004
- Jointly developed by E Ink, Philips and SONY



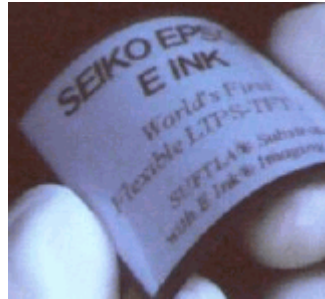
Cross-Section of Electronic Ink Microcapsules



Note: For illustration purposes only - not drawn to scale. Copyright E Ink Corporation, 2004.



E-paper



“Seiko Epson unveiled a flexible 200 ppi e-paper display at the [Society for Information Display 2005 Conference](#). Only a month ago Seiko [demonstrated](#) a curved wristwatch incorporating the same technology.

Tech-On [is quoting](#) Seiko saying that the company "aims to commercialize the technology within 1-2 years" targeting such markets as handheld products.”

[MobileRead Networks Blog, May 31, 2005]

E-signage



“The Stephen M. Ross School of Business at the University of Michigan Embraces Electronic Paper-Based Dynamic Messaging for Improved Campus Communications;

To better manage and display event listings and room schedules, **Gyricon LLC** today announced that the Stephen M. Ross School of Business at the University of Michigan has incorporated dynamic messaging into the Business School's wireless network with its award-winning **SyncroSign Message Boards**.

Using the included Gyricon SignSync(TM) software, the administrative staff can now easily create, schedule, and wirelessly transmit timely information using this new generation of eSignage.” *PR Newswire US September 27, 2005*

Wearable computing

MIT Labs

“With heads-up displays, unobtrusive input devices, personal wireless areas networks (LANs), and a host of other context sensing and communication tools, the wearable computer can act as an intelligent assistant, whether it be through a Remembrance Agent, augmented reality, or intellectual collectives.”

<http://www.media.mit.edu/wearables>

<http://borglab.media.mit.edu/wiki/borglab/>

Great ideas waiting for practical applications and a market

Wearable computing today

Movie Glasses

- In Skymall magazine – Icuity Video Eyewear (optional DVD player)



MP3 sunglasses

- Thump by Oakley.com
http://oakley.com/news/thump_review/



Head-worn display

Icuity M920 – small and lightweight



Games and libraries: Embedded librarians

- More realistic simulations and “games” within libraries
- Reference librarian avatars
 - Playing a character in a game who comes in to help
- Guided learning
- A generation that expects to find FAQs, hint books, strategy guides, and cheats
 - They are part of the game experience



Trends

- Convergence
- Personalization and customization
- Miniaturization (portability)

Some things never change:

- Save the time of the reader!

Today's customers want what they want anytime, anywhere, in any way they want to receive it (and the possibilities are much greater than ever before).



Ranganathan Five Laws

- Books are for use.
- Every reader his or her book.
- Every book its reader.
- Save the time of the reader.
- The [Library](#) is a growing organism.

“Five Laws of Library Science” from [Wikipedia](#)

For More Information

Many magazine articles and conference presentations

Websites, Lists, Blogs, Podcasts show the vitality of the formats

Gadgets: <http://www.gizmodo.com>

PDAs, Handhelds:

<http://www.handheldlib.blogspot.com>

<http://palmaddict.typepad.com/palmaddicts/>

Cnet: <http://shopper.cnet.com>

ConsumerSearch: <http://www.consumersearch.com>

Wikipedia: <http://www.wikipedia.com>

Yahoo groups: Pdalibraries, Pda-ebook

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Find the presentation at:

<http://www.hopetillman.com/presentations/bcsla2005.pdf>

<http://www.hopetillman.com/presentations/bcsla2005.ppt>



Questions and Comments
