

Technology for the Information Commons in a Special Library

Session C103

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Over the past few years "Information Commons" has become a buzzword with more than one meaning. Initially it referred to a gathering place for sharing new technologies in the library. More recently it is being used to indicate a virtual spot for accessing digital information. The National Institute of Standards and Technology's Information Services Division has adapted technologies and tools to provide its customers with a comprehensive Information Commons encompassing both.

The NIST Research Library, named Federal Library of the Year for 2003, has recently added group and individual workstations; a wireless laptop lending program with a wireless network that has recently been upgraded from Wired Equivalent Privacy (WEP) to WiFi Protected Access (WPA); wired laptop workstations; and a self-service Portable Document Format (PDF)¹ and Optical Character Resolution (OCR) scanning station. Under investigation are several new software applications.

A virtual reference Instant Messaging Pilot program is underway using AIM (AOL Instant Messenger), Yahoo and MSN Messengers. Trillian Basic 3.0 at the reference desk computer provides a simple single interface for sending and receiving messages to and from all three clients.

Tailoring its virtual space for the sharing of digital knowledge, the NIST Virtual Library (NVL) includes links to specific Open Access journals such as those available through the American Society for Microbiology, BioMed Central, and Public Library of Science. The NVL also provides federated searching, links to multimedia resources and a customized PDA Science and Engineering Resources page.

A digital library of NIST publications is currently under development. When complete it will provide common access to NIST's knowledge assets in the form of full text documents and digital objects.

Related Sites:

Software

AIM Express

http://www.aim.com/get_aim/express/aim_expr.adp?aolp=

Hal Screen Reader

<http://www.lowvisionproducts.com/hal.htm>

IBM Home Page Reader 3.0

http://www-3.ibm.com/able/solution_offerings/hpr.html

JAWS for Windows

¹ The identification of any commercial product or trade name does not imply endorsement or recommendation by the National Institute of Standards and Technology.

http://www.freedomscientific.com/fs_products/software_jaws.asp

KaleidaGraph
<http://www.synergy.com/>

MSN Web Messenger
<http://webmessenger.msn.com/>

Trillian Basic 3.0
<http://www.trillian.cc/>

Window-Eyes
<http://www.synapseadaptive.com/gw/wineyes.htm>

Yahoo Web Messenger :
http://login.yahoo.com/config/login_verify2?.src=pg&.done=http://messenger.yahoo.com/webmsgr/launcher.php?back=http://messenger.yahoo.com/

ZoomText and BigShot
<http://www.aisquared.com/Products/Products.htm>

Reading

Albanese, A.R. (2004). Campus library 2.0. Library Journal, April 15, 30-33:
<http://www.libraryjournal.com/article/CA408330?display=searchResults&stt=001&text=indiana+university>

Allmang, N. (2003). Our plan for a wireless loan service, Computers in Libraries, March, 20-25

Allmang, N. and Remshard, J. (2004) Leading the pack: Librarians create an original model for a customer-friendly publications system, Online Magazine.
http://www.infotoday.com/online/jan04/allmang_remshard.shtml

Curtis, D. and Greene, A. (2004) A University-wide, library-based chat service, Reference Services Review, vol. 32, no. 3.

Directory of Open Access Journals (1404 journals): <http://www.doaj.org/>

info-commons.org: <http://info-commons.org/>

Ludwig, L. and Starr, S. (2003).Results of a delphi study: what the library is depends on what it does:
http://www.aahsl.org/building/Ludwig_Starr.ppt

NIST Research Library: <http://nvl.nist.gov/>

NIST Virtual Museum: <http://museum.nist.gov/>

Open Archives Initiative: <http://www.openarchives.org/>

Public Library of Science: <http://www.publiclibraryofscience.org/>

Scholarly Publishing and Academic Resources Coalition (SPARC) Open Access Newsletter:
<http://www.earlham.edu/~peters/fos/>

The information commons: a public policy report: <http://www.fepproject.org/policyreports/infocommons.11.html>

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Information Services Division



National Institute of Standards and Technology
Technology Administration, U.S. Department of Commerce



NIST Research Library-- Who we are



- Part of National Institute of Standards and Technology
- Research Library/Museum/Electronic Information and Publications
- Customer focused - surveys, focus groups, advisory board, laboratory liaisons, subject specialists

The Information Commons— What is it?



Definitions:

- Physical place for gathering and sharing new technologies
- Virtual “place” for accessing digital information

How it developed

- Books → Web and beyond
- Libraries becoming
 - Places for collaboration
 - Places to use highly specialized technologies
 - Knowledge management centers
 - Open access and the knowledge society

How it developed



- Group and individual workstations
- Screen readers for low-vision users
- Beaming stations
- Wireless networks
- Scanners
- Production software
- Shockwave, QuickTime, RealPlayer
- Graphics applications
- Technology of the future

Ludwig, L. & Starr, S. Results of a delphi study: what the library is depends on what it does. *The Library as Place: Symposium on Building and Revitalizing Health Sciences Libraries in the Digital Age*. November 5-6, 2003. http://www.aahsl.org/building/Ludwig_Starr.ppt

How it developed



Open Access and the Knowledge Society

The Free Expression Policy Project: The information Commons

<http://www.fepproject.org/infocommons/intro.html>

SPARC Newsletter

<http://www.earlham.edu/~peters/fos/>

Goal:

A Comprehensive Information Commons



Physical Commons - shared technology
+ Virtual Commons - shared knowledge
Information Commons

The Physical Commons: Technology in the Reading Room



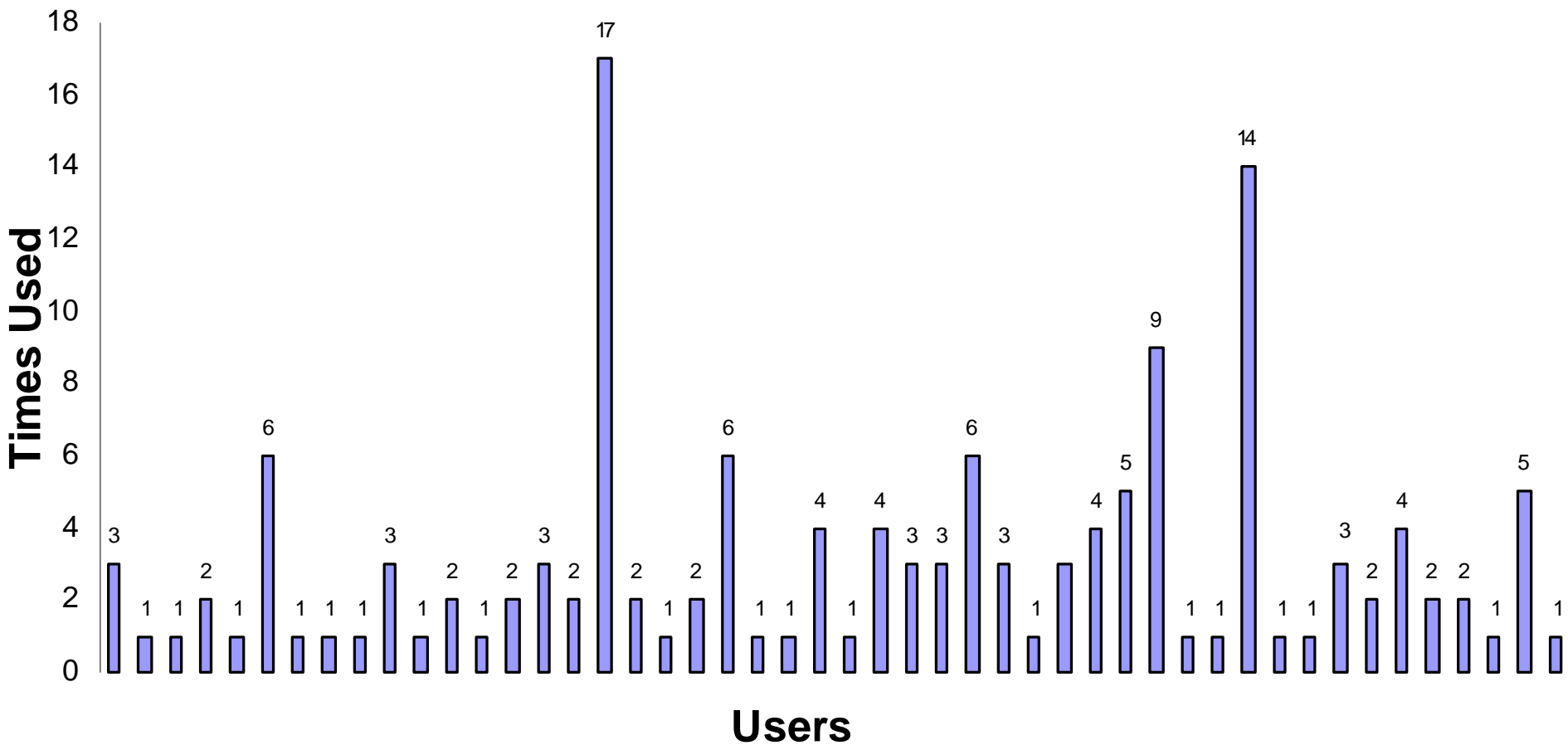
1. Wireless laptop loan program
2. Wired laptop workstations
3. Desktop workstation tools
4. Self-service PDF and OCR scanning station
5. Instant Messaging reference
6. Investigating new technologies

Wireless Laptop Loan Program



- Now 1+ years old
- 6 laptops
- 6 network cards
- 8 access points on 3 floors
- Wireless print server

Wireless Laptop Usage by User - First Year



Wireless Laptop Loan Program

Wireless Laptops Used	Users
3-17 times	2
8-12 times	1
3-7 times	16
1-2 times	29

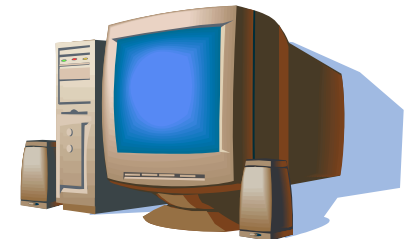
Wireless Security 101

- A *Service Set Identifier (SSID)* is the network name
- Some networks also use a *Shared Key*, a number shared between all devices accessing the network.
- Some networks use a *Medium Access Control address*, a unique identifier for each laptop
- A *firewall* is a system of hardware and/or software often used to prevent unauthorized internet users from accessing a private network
- Preauthorized IP addresses can provide additional security



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Our Current Wireless Network: Wireless Equivalent Privacy (WEP)



- Data sent over radio waves encrypted with a shared key
- Key is static – doesn't change
- Protected by a firewall
- Firewall is configured with the MAC addresses of each laptop. Only devices with those numbers are allowed to access the network. A **MAC** or *Medium Access Control address* is a unique identifier for each laptop.
- Static IP addresses provide additional security

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Our New Wireless Network: WiFi Protected Access (WPA)



- Next-generation wireless security
- Temporal key integrity protocol (TKIP)
 - Key dynamically generated
 - Key changes periodically while connected to network
- Additional controls for greater security
- Situated directly on wired network
- Static IP addresses provide additional security

Wireless Network Upgrade



- Purchased new WPA-capable hardware
 - 6 replacement network cards
 - 8 replacement access points
 - Same wiring
- Eliminated need for
 - wireless print server
 - firewall
- Configured new hardware

Desktop Workstation Tools



- Mozilla Firefox browser - <http://www.mozilla.org/>
- Production software
- Beaming software
 - Palms
 - Pocket PCs
 - Cell phones, Blackberries
- Screen reader for low-vision users such as IBM Home Page Reader, JAWS, Window-Eyes, BigShot

Instant Messaging Reference

- Choice of three clients for users' convenience
 - AOL Instant Messenger
 - Yahoo Instant Messenger
 - MSN Instant Messenger
- Trillian Basic 3.0 -
<http://www.ceruleanstudios.com/downloads/>
- Links to Web versions of AOL, Yahoo, MSN

Investigating New Technologies



- MP3 players
- IPODs
- Digital audiobooks

The Virtual Commons: Access to Digital Information



1. Virtual Library
2. NIKE – NIST Integrated Knowledge EditorialNet
3. Virtual Museum

The Virtual Commons: NIST Virtual Library



- Federated searching
- Links to Open Access journals
- Links to RSS aggregators: AmphetaDesk, Bloglines, Feedreader
- Links to RSS feed locators: Newsisfree, Syndic8
- Links to searches of video and audio files: C-SPAN, SpeechBot
- Customized PDA resources page

The Virtual Commons: NIST Virtual Library



Federated searching with SFX link resolver

- Searching software installed as ILS add-on
- OpenURL links relevant information from different providers.
- Resources may be clustered by subject
- Result = list of hits
 - Citations
 - Links to subscribed full text
 - Links to interlibrary loan system if no subscribed full text

Links to Open Access Journals

NIST Virtual Library

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Electronic Journals by Subject

Open Access (Free)

[Antimicrobial agents and chemotherapy \(OPEN ACCESS\)](#)

v.39 (1995)- Full-text
Current 6 months not available

[Applied and environmental microbiology \(OPEN ACCESS\)](#)

v.61 (1995)- Full-text
Current 6 months not available

[BioMed Central \(OPEN ACCESS\)](#)

Full-text holdings vary by journal title

[BMC biochemistry \(OPEN ACCESS\)](#)

v.1(2000)- Full-text

[BMC bioinformatics \(OPEN ACCESS\)](#)

v.1(2000)- Full-text

[BMC biotechnology \(OPEN ACCESS\)](#)

v.1 (2001)- Full-text

[BMC structural biology \(OPEN ACCESS\)](#)

v.1 (2001)- Full-text



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v.1 (2001)- Full-text

[BMC structural biology \(OPEN ACCESS\)](#)

v.1 (2001)- Full-text

[Clinical and diagnostic laboratory immunology \(OPEN ACCESS\)](#)



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The Virtual Commons: NIKE



NIST Integrated Knowledge EditorialNet

Digital library of NIST publications

- NIST- authored publications
- Scholarly journal articles and other publications written by NIST scientists about their research at NIST
- Search- and retrievable through library online catalog

NIST Virtual Museum

NIST

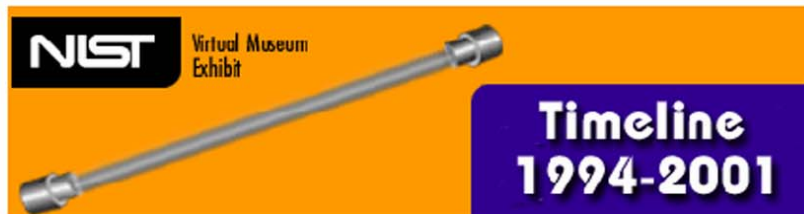
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Featured Exhibit:



New Exhibit:

The Standardization
of Women's Clothing



Title	Author	Contact
Standardization of Women's Clothing	Laurie Davis-Covin, Site Designer Lisa Greenhouse, Skye Allmang Information Services Division (250)	museum.webmaster@nist.gov
AD-X2 Controversy	Laurie Davis-Covin, Site Designer Information Services Division (250)	museum.webmaster@nist.gov

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Challenges of the Information Commons



- Evaluating multiple services and customer base
- Establishing baseline - variance in services and technology offered makes this difficult
- Service Points -finding the right balance in providing reference and IT Help Desk type information

Haas, L. and Robertson, J. (2004) The information commons. *ARL SPEC Kit 281*.

What's Next

- Online Tutorials – streaming media to educate customers to NVL Products
- Adaptive Technologies – for physical and learning challenges from blindness to print disabilities to ADD/ADHD
 - alternative keyboards
 - evaluation and repair web design tools
- Google Print Library – digitizing of research library collections
 - <http://print.google.com/googleprint/library.html>
- Google Scholar (beta)