Crowdsourcing and the NIST Digital Archives

Using the "crowd" to describe NIST Museum artifacts

Eastern CONTENTdm Users Group
August 2, 2011
Towson University, Towson, MD

ISO
INFORMATION SERVICES OFFICE
MANAGEMENT RESOURCES

Introduction

Regina Avila

Digital Services Librarian

CONTENTdm Administrator

regina.avila@nist.gov

301-975-3575

Andrea Medina-Smith

Metadata Librarian

andrea.medina-smith@nist.gov

301-975-3575

National Institute of Standards and Technology

Founded in 1901, NIST is a non-regulatory agency within the U.S. Department of Commerce.

NIST's mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

Information Services Office

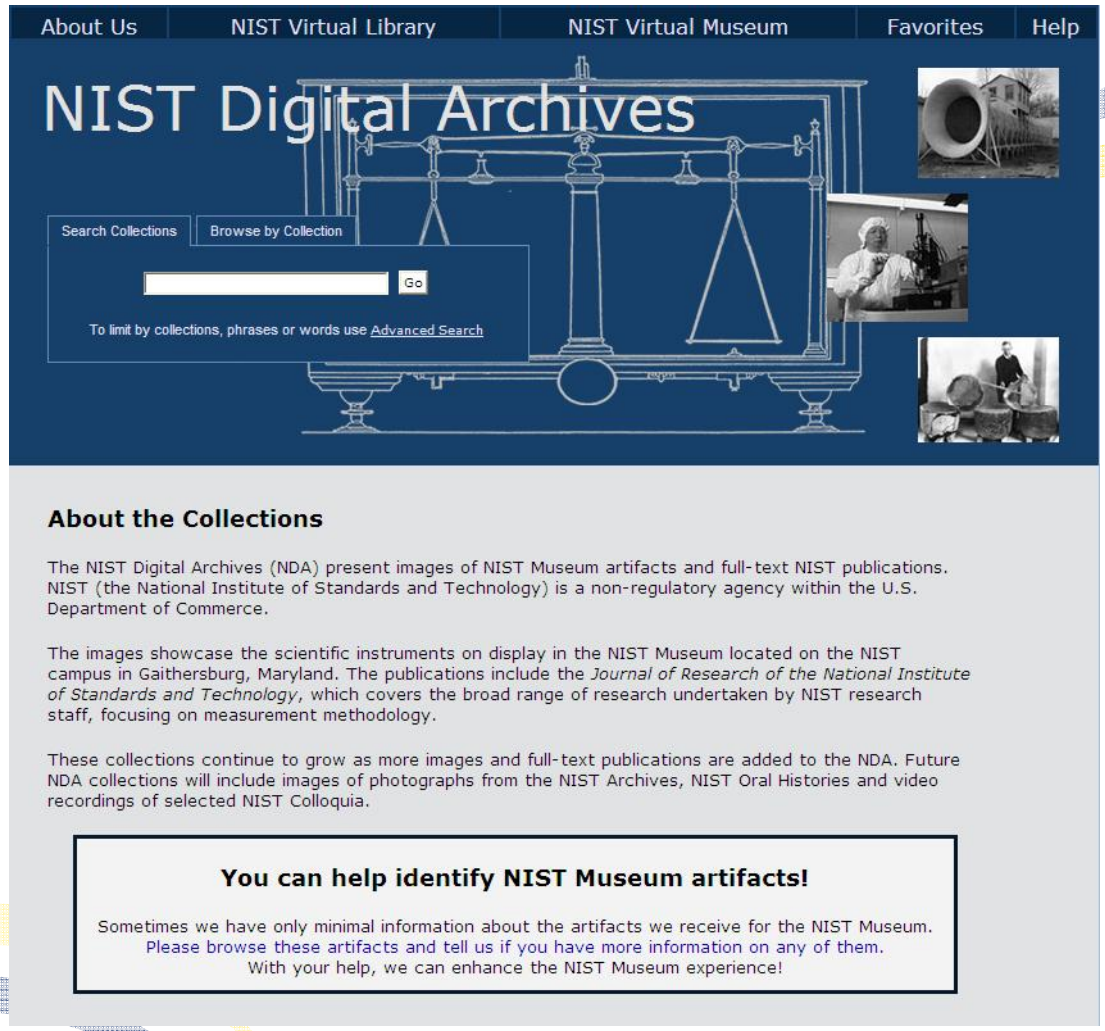
O provides professional scientific and technical research assistance through three primary programs:

Research Library Information Program

Electronic Information and Publications Program

NIST Museum and History Program

NIST Digital Archives



http://nistdigitalarchives.contentdm.oclc.org

Why Museum artifacts?

Complements ISO efforts to tell NIST's story through publications and museum & history program to increase NIST's impact

Fulfilled long-term goal of creating digital surrogates to increase visibility of scientific instruments developed and used by NBS/NIST scientists

Coincided with need to conduct inventory of NIST heritage assets and to move artifacts from storage into space within the Library

Crowdsourcing

What is crowdsourcing anyway?

http://www.flickr.com/photos/kheelcenter/5278592710/

What is crowdsourcing, anyway?

Simply defined, crowdsourcing represents the
ct of a company or institution taking a function
nce performed by employees and outsourcing
to an undefined (and generally large) network
f people in the form of an open call."

- Jeff Howe

June 2, 2006

What does crowdsourcing do?

Correction & Transcription Tasks

Contextualization

Collecting

Classification

Co-curation

Who's using crowdsourcing?

Smithsonian

NOAA

LIBRARY OF CONGRESS

GALAXY ZOO

© WWF®

phm powerhouse museum science + design

What are the results?

Why did NIST choose crowdsourcing?

Wood box with one dial at top

Great marketing tool

Crowdsourcing Science History: NIST Digital Archives Seeks Help in Identifying Mystery Artifacts

From NIST *Tech Beat*: April 12, 2011

Contact: Ben Stein
301-975-3097

Do you hold the key to solving some gadget mysteries from the last century of U.S. science and technology? In its 110 years, the National Institute of Standards and Technology (NIST) has made many innovations in the way we measure things, from basic quantities like the volt and nanometer to specialized questions like the purity of sugar.

A new website, the NIST Digital Archives (http://nistdigitalarchives.contentdm.oclc.org/), is exhibiting images of historically significant scientific instruments used to obtain these measures, in addition to providing access to full-text publications from the agency's history. (To end the suspense, you measure sugar with a *saccharimeter*.) NIST is inviting enthusiasts to participate in describing some of the hundreds of historical objects collected through the decades. Some of the artifacts are unidentified or need more descriptive information. Visitors to the site can view the items and offer clues about the history and origins of some of these important artifacts.

Project Tinkertoy Wafer Tube Amplifier

The artifacts are in the collection of scientific instruments in the NIST Museum, located on the NIST campus in Gaithersburg, Md., and can be viewed on the NIST Museum Artifacts* portion of the new Website. Most of the artifacts are well-documented, such as a 1950s creation known as the Project Tinkertoy Wafer Tube Amplifier. It is a 45 rpm record player built as a part of Project Tinkertoy, an endeavor to develop mechanical production methods for electronic equipment using standardized components. However, some artifacts remain a mystery, such as the enigmatic brass-colored, crank-like Metal Instrument in Wood Case.

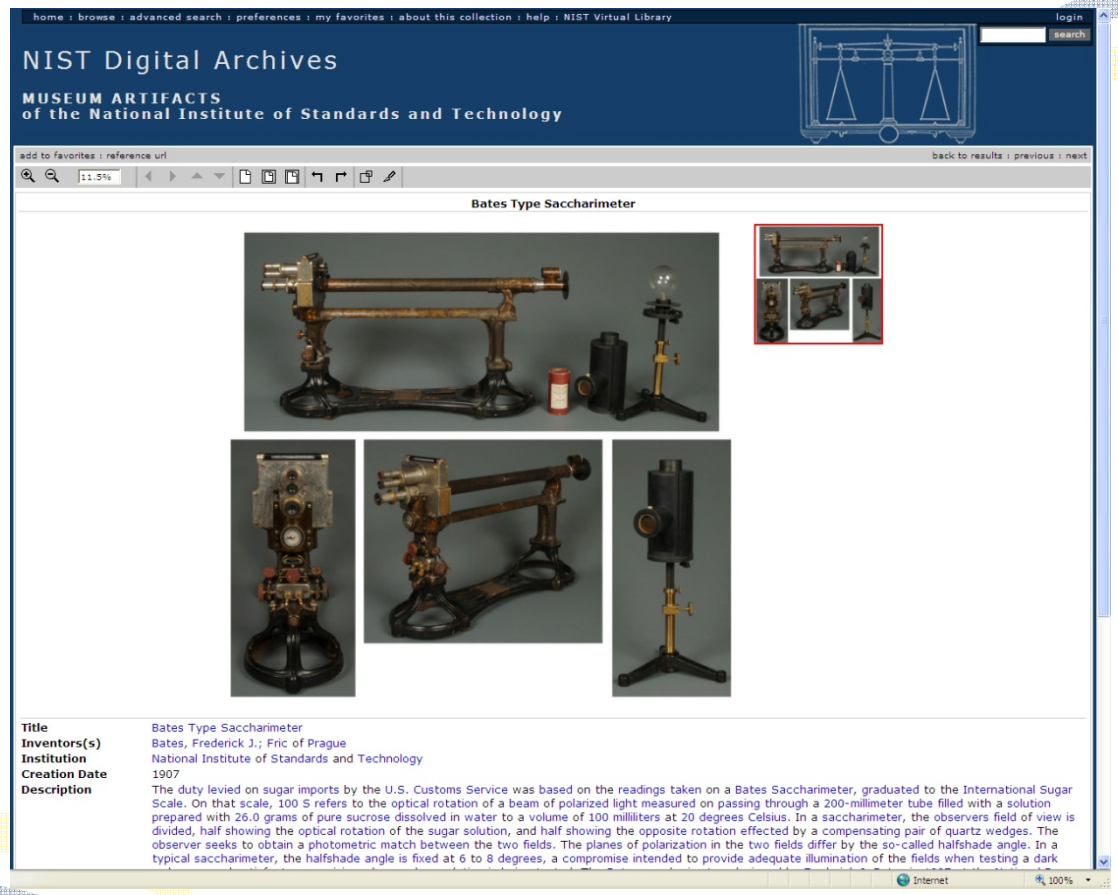
"We have some artifacts in our collection we want to identify, so we thought we could exhibit them online and ask for help," says NIST Digital Services Librarian Regina Avila. "It was fun to photograph them, but challenging. Some artifacts were broken, others had missing pieces. Some were heavy and others were fragile." Currently, 137 artifacts are on the site, and hundreds more will be added in the coming months.

The digital archive also contains some NIST publications, including the *Journal of Research of the*

Press attention

- Wired.com
- Popular Science
- Information Week
- Government Computer News
- R&D Magazine
- ReadWriteWeb
- Smithsonian
- The Gazette (Montgomery County)
- Radio
- Several Blogs

NDA “Compound” object



http://nistdigitalarchives.contentdm.oclc.org

Slide 16

AMMS1 At this point I would want to transition to the background of crowdsourcing by introducing our delimma (not enough information on the objects)
Andrea Medina-Smith, 7/18/2011

Crowdsourcing

These collections continue to grow as more images and full-text publications are added to the NDA. Future NDA collections will include images of photographs from the NIST Archives, NIST Oral Histories and video recordings of selected NIST Colloquia.

You can help identify NIST Museum artifacts!

Sometimes we have only minimal information about the artifacts we receive for the NIST Museum.
Please browse these artifacts and tell us if you have more information on any of them.
With your help, we can enhance the NIST Museum experience!

☐ 9.		Wood Heads	Wood models of human heads. Inscription on bottom of models reads "National Bureau of Standards 6-1-1946. Size 7". Some heads are also inscribed "Size 7.5". These model heads may be a "95% profile model"....
☐ 10.		D'Arsonval Galvanometer Movement	A D'Arsonval Galvanometer Movement, used to measure DC current.
☐ 11.		National Bureau of Standards Stamp Dies	Two National Bureau of Standards stamp dies.
☐ 12.		Frequency Analysis Recording on 17 Year Cicada	"A cardboard tube holds a frequency analysis chart on the 17 year cicada. The chart is dated June 1936 and is labled ""Radio Section"". This most likley refers to

Direct response: nda@nist.gov

Wood Heads

Some very helpful

st apparatus for respirator masks. Such masks had to be designed to a large number of facial structures, so a ‘95% profile model’ was veloped. The contours of this model were said to be common to 95% he population. When designing a respirator mask, you need to have edges seal tightly against the face, so possibly these wooden heads antified what a ‘face’ is.”

Some not as useful … but funny

These items are middle managers. You can distinguish them from upper management which are made of bone instead of wood.”

Indirect Response: Answers from outside sources

Разгребая завалы на чердаке, музейщики национального института стандартов и технологий (NIST) натыкаются под час на весьма хитроумные приборы и механизмы. Утраченная документация и мануалы повергают ученых в уныние, ведь назначение этих приборов зачастую не определить с первого взгляда (а часто бывает, что и со второго). Вот поэтому они и обращаются к тебе, %username%, за помощью в идентификации всяческих пыльных железяк.

80 лет в интернете

теплый ламповый звук

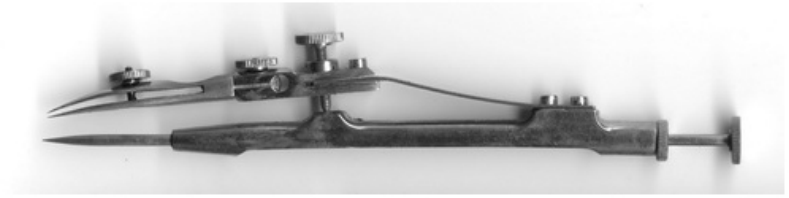
Пост-загадка

Коломбо выходит на след

Google translation: “Raking piles in the attic, museum workers of the National Institute of Standards and Technology (NIST) stumble under an hour on a very sophisticated instruments and mechanisms. Lost documentation and manuals plunged scientists in gloom, because the purpose of these devices often do not identify at first glance (and it often happens that in the second). That's why they turn to you for help in identifying every piece of iron dust.”

Russian website

oxigen: There is no classical "[balerinki]".



23 Wrote Akula, 20.04.2011 into 17.52 ↑.

Akula: **thus, and where my drawing instruments?**

*[prishla] into the head the idea to draft anything, to [otskanirovat] and on the outlines to bring on the computer (I write "on the computer" in order not to separate [khollivarov] "in than more conveniently to draw") *

0 Wrote DrStep, 20.04.2011 into 19.31 ↑.

Akula: It is not above to the left similar?

5 Wrote KEMBL, 21.04.2011 into 00.53 ↑.

KEMBL: On the classical entire mechanism freely moves along the long axis with the needle of [vverkh]-[vniz], which makes it possible to conveniently raise the drawing part above the whatman, without inclining entire tool.

0 Wrote Akula, 21.04.2011 into 05.28 ↑.

Metafilter

Eight Dials Set in Wooden Frame is almost certainly a variable current shunt used for measuring the current flowing in a system using a volt-meter. There is **another device** on their site which has the same purpose and is more easily identifiable.
"Int Ohm" stands for "**International Ohm**" which was the International unit of resistance before the adoption of SI units, in use between 1893 and 1948.
Manganin is an alloy with non-temperature-variable resistance properties (perfect for a current shunt).

Here is a current version of such a device.
posted by **Morbuto** at **9:18 AM** on April 14

Tapping the experts

rrent and
tired NIST
nployees

andards
umni
ganization

Photo credit: Chris Rossi/The Gazette

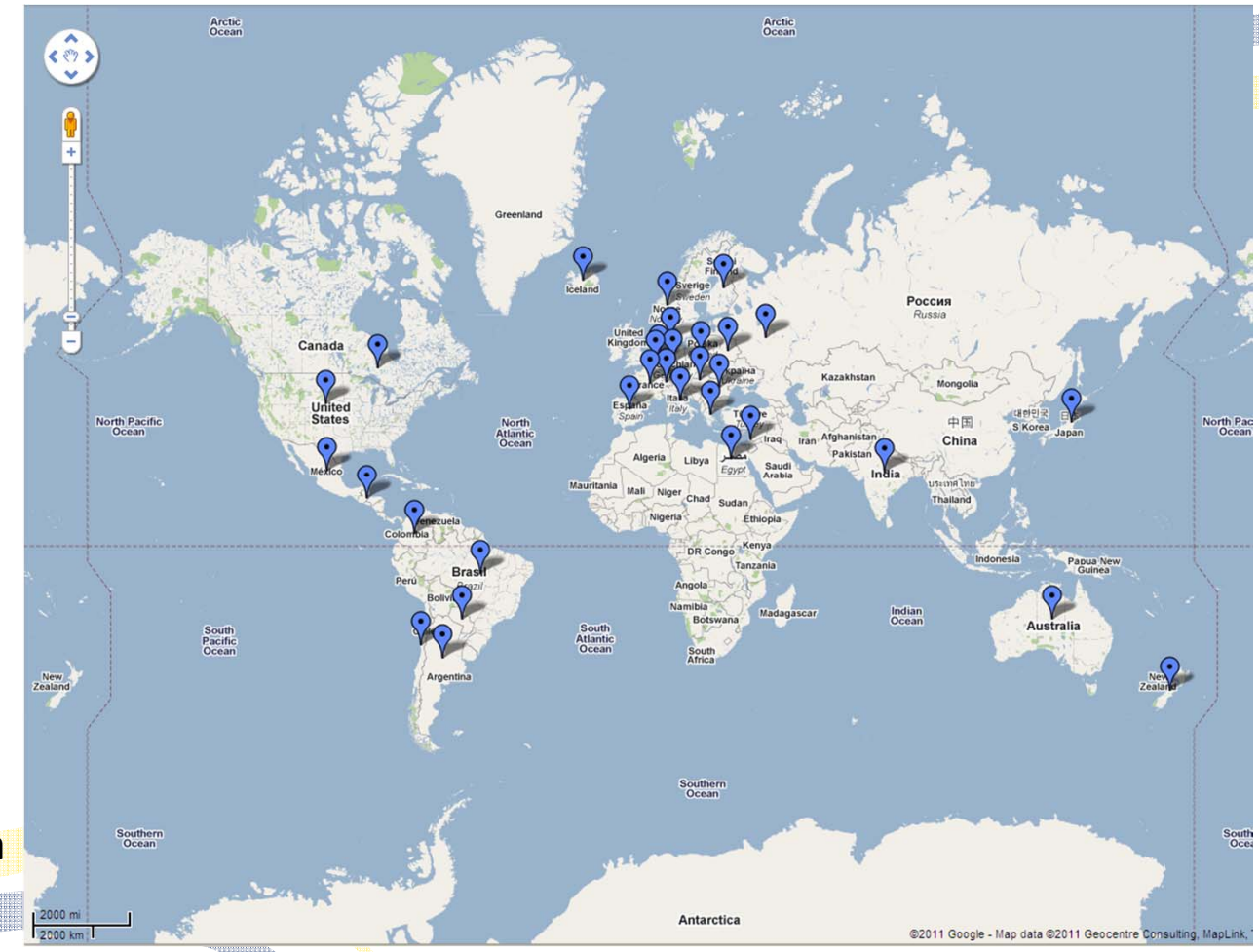
Usage stats

End of March to mid-April went from
1,165 Visits, 135 Unique hosts to
23,283 visits, 16,606 unique hosts

Continued responses, press coverage

“Long tail” effect

31 Countries



tina
alia
us
um
da
nbia
nark
nd
e
any
ce
emala

Hungary
Iceland
Israel
Italy
Japan
Mexico
Netherlands
New Zealand
Norway
Paraguay
Poland
Romania
Russia
Spain
Switzerland
USA

Questions?

Bibliography

C. Anderson, The long tail, Wired Magazine, 12 (10), October 2004, http://www.wired.com/wired/archive/12.10/tail.html (accessed August 2, 2011).

J. Howe, Crowdsourcing: A Definition, Crowdsourcing Blog, http://crowdsourcing.typepad.com/cs/2006/06/crowdsourcing_a.html , (accessed August 2, 2011).

M.R. Kalfatovic, E. Kapsalis et.al., Smithsonian Team Flickr: A library, archives and museums collaboration in web 2.0 space, Arch. Sci. 2009, http://hdl.handle.net/10088/8156 .

M.G.Krause and E. Yakel , Interaction in virtual archives: The Polar Bear Expedition Digital Collections next generation finding aid, American Archivist **70** (2), 282-314 (2007).

Bibliography

J. Oomen and L. Aroyo, Crowdsourcing in the cultural heritage domain: Opportunities and Challenges in 5th International Conference on Communities & Technologies – C&T 2011, http://www.crowdsourcing.org/document/crowdsourcing-in-the-cultural-heritage-domain-opportunities-and-challenges/3136 , (accessed August 2, 2011).

C. Shirkey, Power laws, weblogs, and inequality, Clay Shirkey's Writing About the Internet, February 8, 2003 http://www.shirky.com/writings/powerlaw_weblog.html, (accessed August 2, 2011).

M. Springer, B. Dulabahn et.al., For the common good: The Library of Congress Flickr pilot project, Library of Congress, Washington, DC, October 2008, 50pp. www.loc.gov/rr/print/flickr_report_final.pdf (accessed August 2, 2011).

B.Stein, Crowdsourcing science history: NIST Digital Archives seeks help in identifying mystery artifacts, NIST Tech Beat, April 12, 2011, http://www.nist.gov/director/archives-041211.cfm (accessed August 2, 2011).