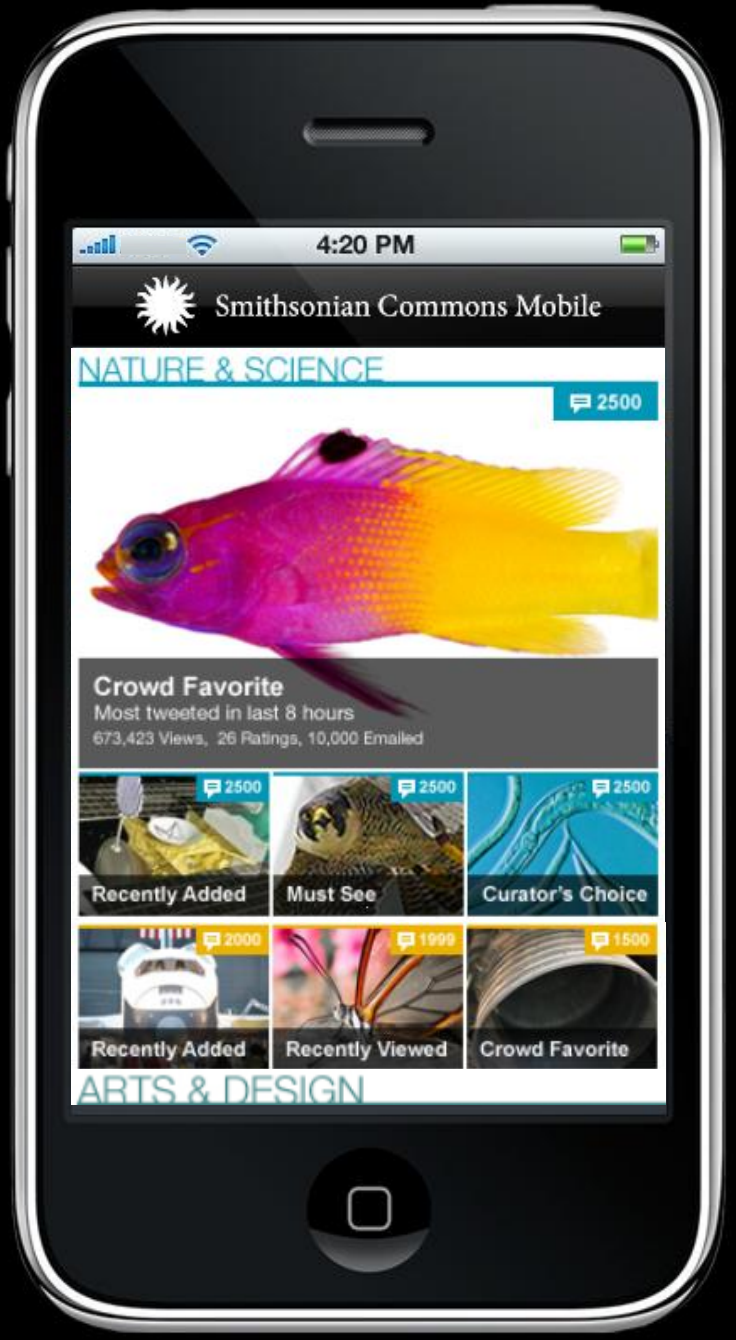
Smithsonian Institution:
a
hnology
erview



Carmen Iannacone
Chief Technology Officer
Smithsonian Institution, Office of the CIO
iannaconec.edu | @SI_CTO

- Who is this guy?
- Why is he here?
- Why does that matter to me?
- How can I make use of what he’s saying?

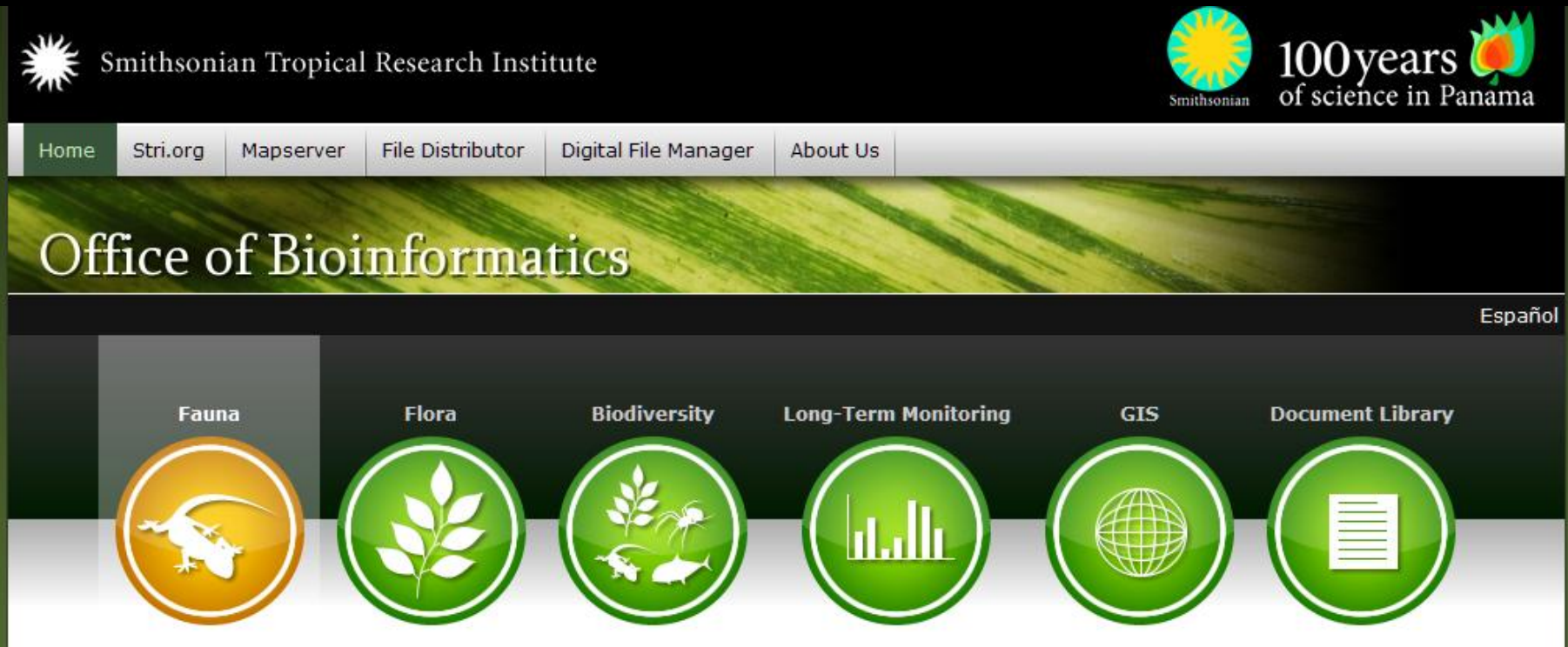
First,
a disclaimer

Informatics @ SI

- It's everywhere,
  and many of our experts are CENDI members
- Depending on how we draw the perimeter, many, many activities at SI are compelling examples

Some great, quick examples:

- The Encyclopedia of Life (one web page/species)
- The Barcode of Life (DNA collection)
- Center For Earth & Planetary Studies
- STRI Informatics Office



A Technology Survey
(grounded in some numbers)

America's national educational facility with
19 museums, 9 research centers and
over 160 affiliate museums around the world.

165 years old

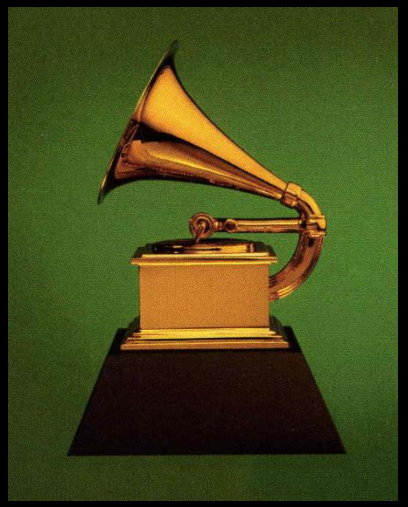
~6000 people: ~3000 employees / ~3000 volunteers

5 x

2 x

6 x

10 x



1 x

Smithsonian CHANNEL

137,000,000 x

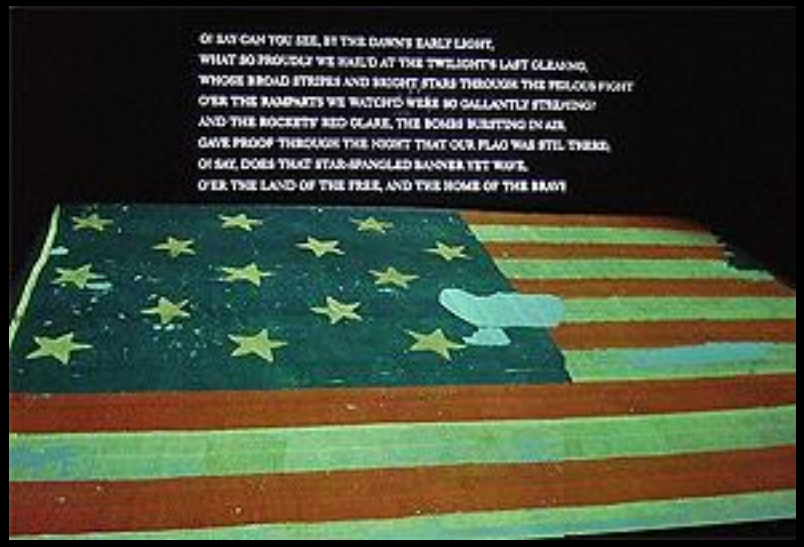
plus libraries and archives

1x

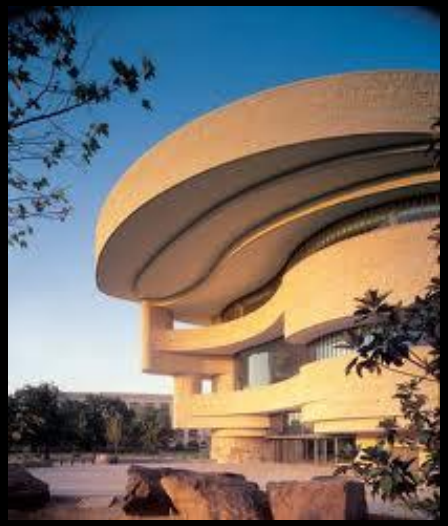
1x

1x

1x


O SAY CAN YOU SEE, BY THE DAWN'S EARLY LIGHT,
WHAT SO PROUDLY WE HAIL'D AT THE TWILIGHT'S LAST GLEAMING,
WHOSE BROAD STRIPES AND BRIGHT STARS THROUGH THE PERILOUS FIGHT
O'ER THE RAMPARTS WE WATCH'D WERE SO GALLANTLY STREAMING?
AND THE ROCKETS' RED GLARE, THE BOMBS BURSTING IN AIR,
GAVE PROOF THROUGH THE NIGHT THAT OUR FLAG WAS STIL THERE.
O SAY, DOES THAT STAR-SPANGLED BANNER YET WAVE,
O'ER THE LAND OF THE FREE, AND THE HOME OF THE BRAVE

1x

160x 

5x

7x

900 x

plus ancillary devices

With these collections,
systems, resources and staff
we do amazing work
in research, preservation,
exploration and exposition
on behalf
of you.

∞ x

∞ x

∞ X

- Astrophysicists
- Computer Scientists
- Curators
- Biologists
- Education/Outreach Specialists
- Informatics Analysts
- Financial Analyst
- Statisticians
- Anthropologists
- Antiquities Specialists
- Aviation Historian
- Botanists
- Veterinarians
- Researchers
- Librarians
- Archivists
- Horticulturists
- Cartographers
- Event Planners
- Security Guards
- Conservators
- Exhibition Specialists
- Zoologists
- Carousel Repairman
- Ethnomusicologist

30,000,000 x

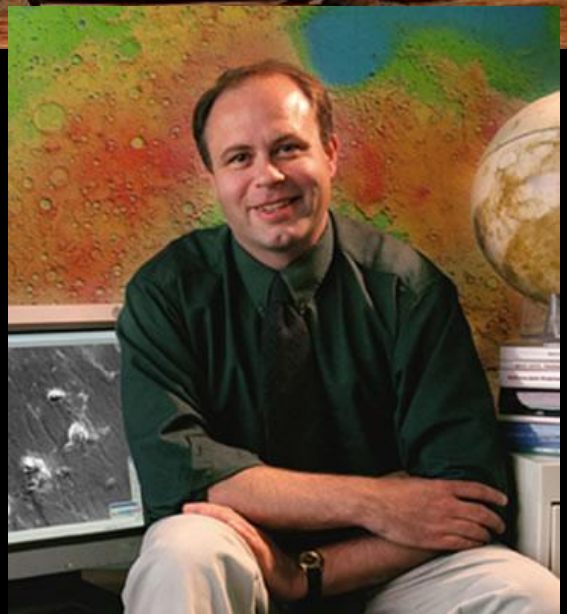
188,000,000 x

Did you know?

Species Identification

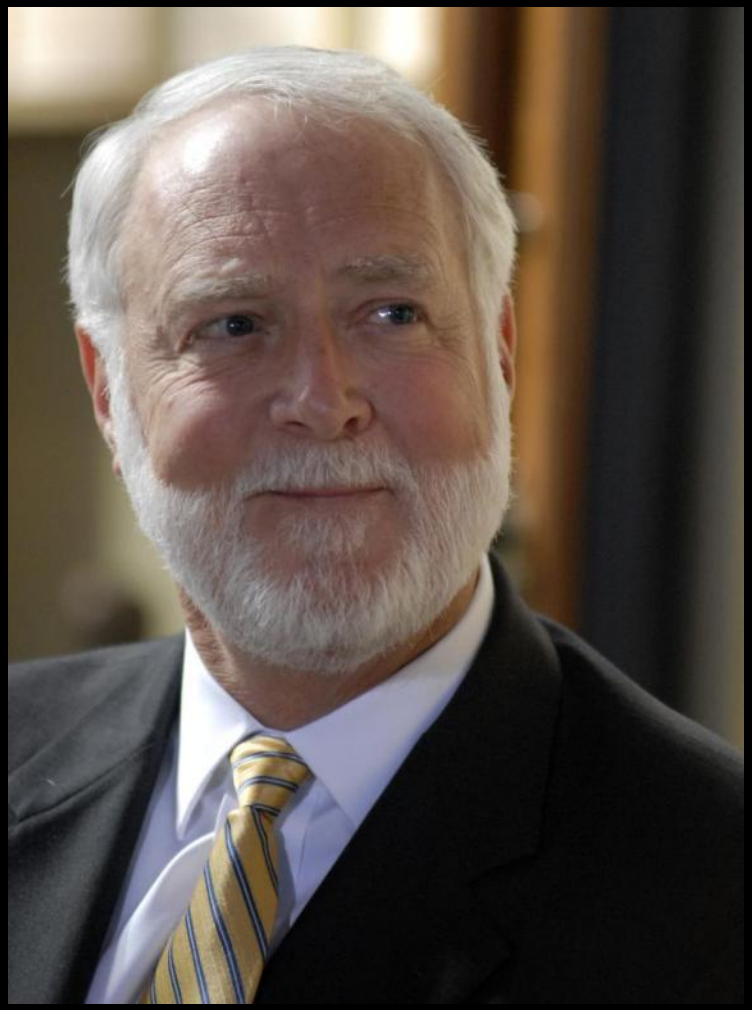
Forensic Anthropology

Age Regression of the Dune Lady
by: Samantha Steinberg 2006



Smithsonian Strategic Plan

http://www.si.edu/about/



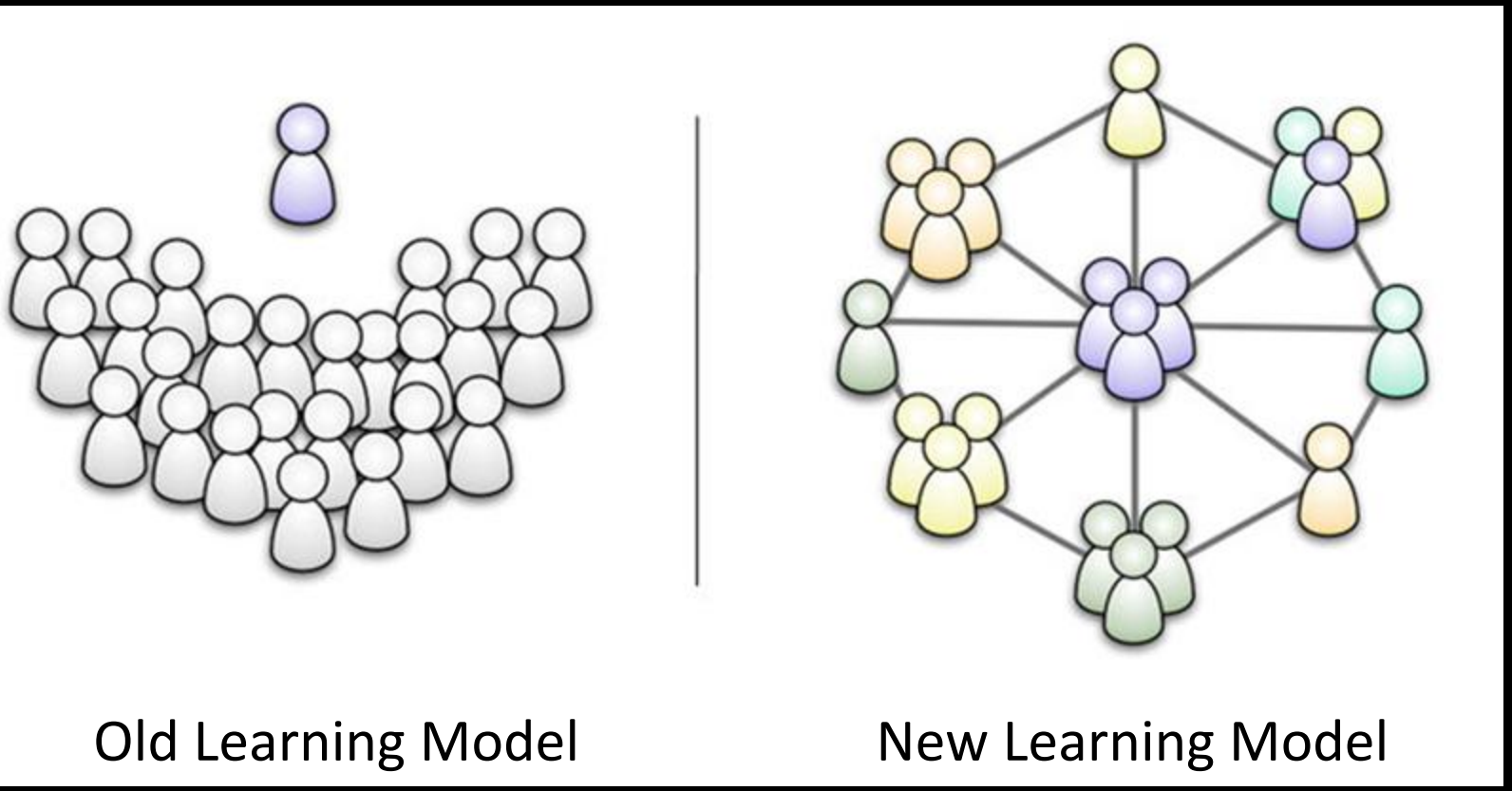
Dr. G. Wayne Clough, Smithsonian Secretary

Four Grand Challenges

1. Unlocking the Mysteries of the Universe
2. Understanding and Sustaining a Biodiverse Planet
3. Valuing World Cultures
4. Understanding the American Experience

A dynamic,
evolving environment
poses questions
to our staff,
our funders,
and our constituents

How do we best shepherd the collections?



What experiences and ways of interacting do our constituents seek?

What decisions must we make
with respect to technology
and change management?

Technology Initiatives for Broadening Access

- The Modern Web
- The Smithsonian Commons
- Mobile Computing
- Tablets and Microsoft™ Surface
- 3D Digitization and Fabrication

The Modern Web

Traditional Web

Improve opportunities for discovery

1. Free visitors from having to know our organizational structure to find the information they seek
2. Highlight our social media offerings
3. Improve search
4. Improve accessibility
5. Reflect our new strategic imperatives

CONSTRAINT: Stay with existing infrastructure & limited funds

Smithsonian

Donate Now

SEARCH

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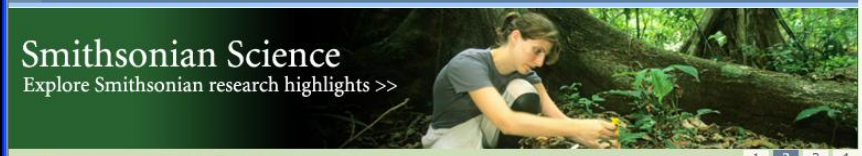


1 2 3 4

Smithsonian for:

- Kids
- Teachers
- Interns
- Members
- Volunteers
- Researchers

Smithsonian Magazine

Smithsonian Journeys

Smithsonian Folkways Recordings

SmithsonianStore.com

Historic Cities of the Sea
May 15 - 29, 2011

Smithsonian Journeys

Smithsonian FOCUS
Explore the wonders of the Smithsonian! Receive our free monthly e-newsletter.
SIGN UP TODAY!

WELCOME TO THE SMITHSONIAN

Welcome to the **Smithsonian Institution**, the world's largest museum complex and research organization composed of 19 museums, 9 research centers, and the National Zoo.

» Join Ben Stiller for a video tour of the Smithsonian!

Plan Your Visit
Create lifelong memories of discovery when you visit the Smithsonian's museums or research centers

Museums and Zoo
Explore the Smithsonian's 19 museums and the National Zoo

Exhibitions
Learn about new exhibitions and old favorites

Events
Films, lectures, tours, concerts, demonstrations, activities for kids and families...

Education and Outreach
Opportunities for lifelong learning at the Smithsonian and across America

Research Centers and Programs
Inquiring across disciplines to understand and creatively interpret our world

Science Highlights
Explore science at the Smithsonian through video, feature article, photos and more

Online Collections and Datasets
Search over 4 million records with 265,900 images, video and sound files, electronic journals and other resources from all across the Smithsonian

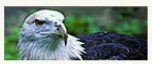
Membership
Join today to receive exclusive benefits and behind-the-scenes access

Smithsonian Channel
Bringing you original documentaries and videos exploring history, air and space, science, nature, and culture on TV, online and On Demand
»Watch Now!

ENCYCLOPEDIA SMITHSONIAN

ART & DESIGN
Architecture, Artists, Asian Art, Photography...

HISTORY & CULTURE
American History, Film, Music, Politics, Sports...



SCIENCE & TECHNOLOGY
Animals, Astronomy, Aviation, Ecology, Geology...

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Smithsonian

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Home | Museums & Zoo | Research Centers | Exhibitions | Events | Cultural Programs | Collections | Newsroom

1 2 3 4 5

INSPIRING GENERATIONS
Through
KNOWLEDGE & DISCOVERY

The Smithsonian is shaping the future by preserving our heritage, discovering new knowledge, and sharing our resources with the world.

Plan Your Visit »

Explore Our Exhibitions »

Search Our Collections »

Browse Our Encyclopedia »

Visiting the Museums & Zoo

Most museums are open seven days a week from 10am to 5:30pm, except December 25.

- Hours & Admission
- Maps & Directions
- Floor Plans
- Foreign Language Speakers
- Visitors with Disabilities
- Visiting with Groups

Visiting with Kids

- Visitor Information for Families
- Events & Activities for Kids
- Exhibitions for Kids & Families

Featured Events

Cultures in Motion Performance: Elvis Presley, Live-in-Concert
Thu, Jan 20, 2011, 7pm

Curator and Collector
Fri, Jan 21, 2011, 12pm

Artist Talk with Mark Sfirri
Sun, Jan 23, 2011, 2pm

The Sierra Leone—Gullah Link, Part 2
Fri, Jan 28, 2011, 7pm

My Tehran for Sale
Fri, Jan 28, 2011, 7pm

Reel Time: North African Film Festival
Thu, Feb 3, 2011, 7pm

Supreme Court Justice Ruth Bader Ginsburg
Thu, Feb 3, 2011, 7pm

See the Complete Events Calendar »

Popular Smithsonian Blogs

A Snow Day, the National Zoo Way
Winter is in full effect and so far, the D.C. area has only gotten a few inches of snow...

1939: The year of goldfish gulping
It started out with one. One live goldfish, swallowed up by a Harvard freshman on a...

Sinclair and Son
Here's another great letterhead from the collections of the Smithsonian Institution...

See a Listing of Smithsonian Blogs »

Smithsonian Magazine

January 16, 2011

Martin Luther King Jr. by Mural

Cosmic Errors

Read more on SmithsonianMag.com »

Connect Online

See all Social Media Offerings »

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FOIA | Recovery Act | Inspector General | General Counsel | Small Business & Diversity
Page Last Modified: 1/14/2011

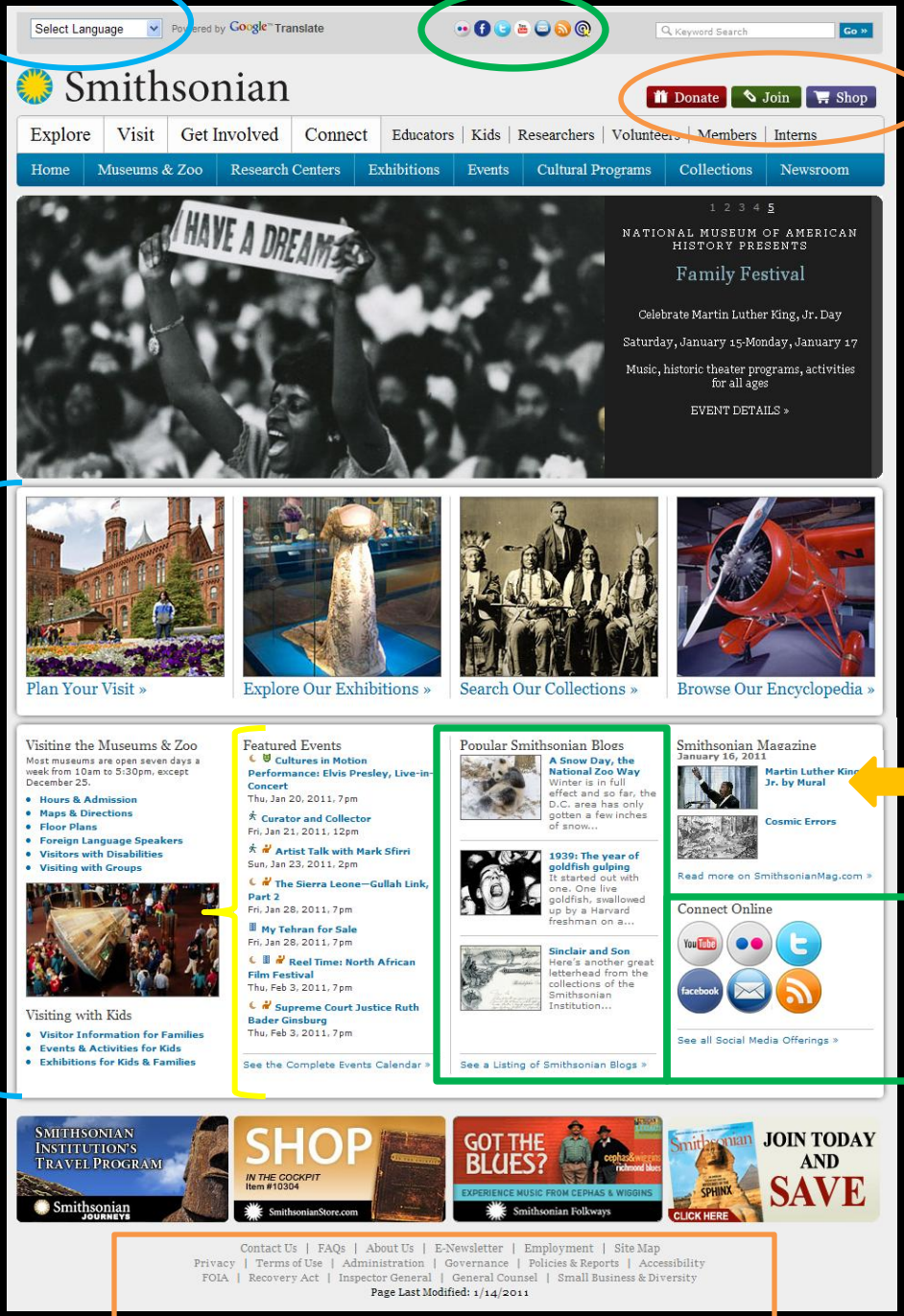
Real-time translation in 50+ languages

Navigation-based on visitor's objective

Plan my Visit: #1 Reason People Come to the Main site

Upcoming Events from Shared Calendar

Banners Promoting Smithsonian Commercial Offerings



"Call to Action" buttons

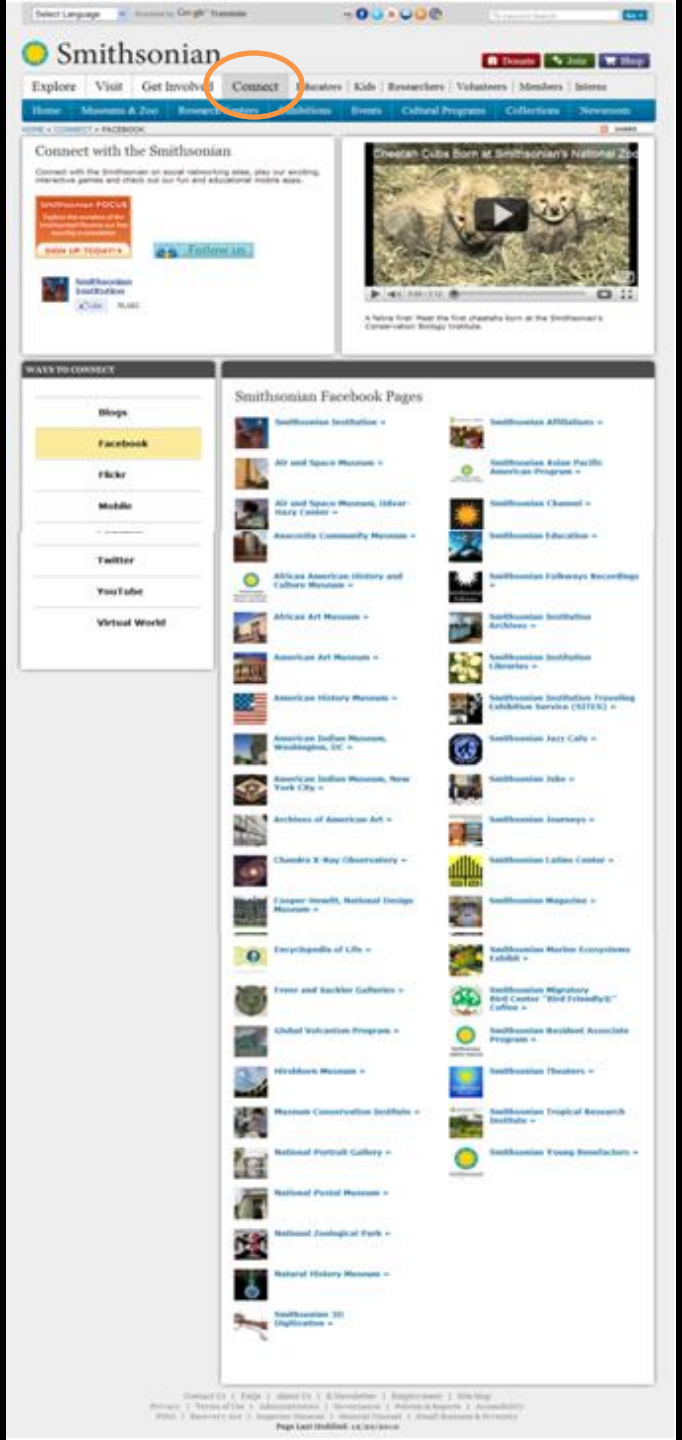
Photo slide show

Most requested information on the Home Page

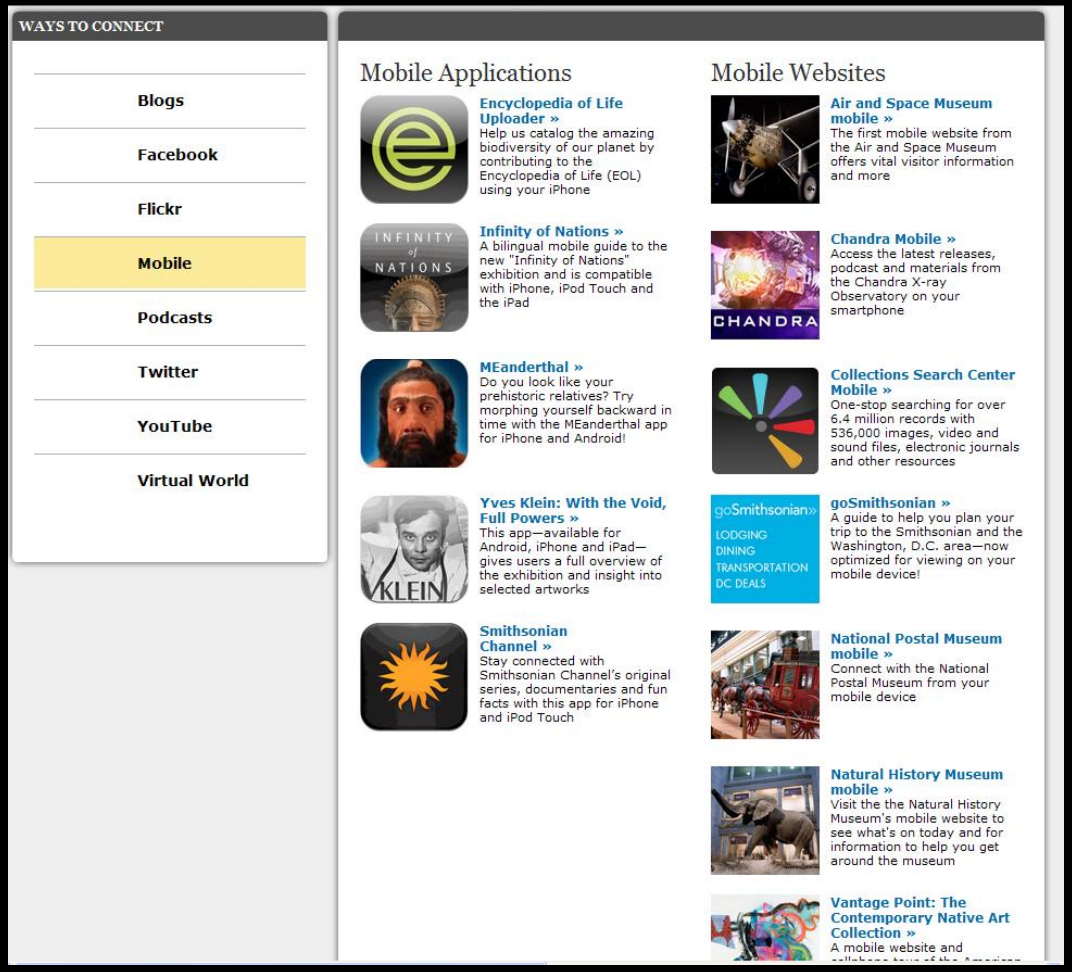
Dynamic Feeds from the Magazine

Highlight Social Media Offerings

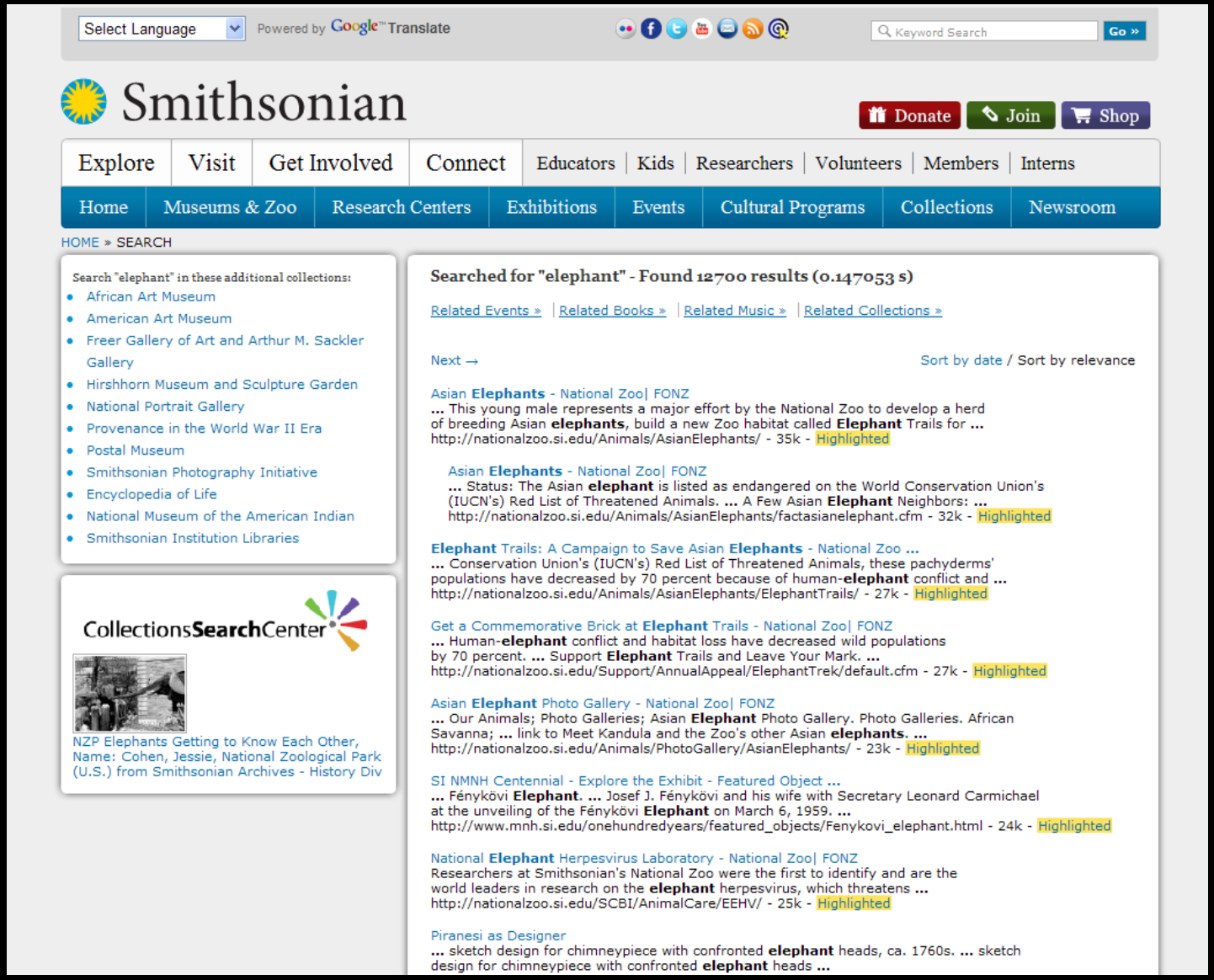
Required Governance Information



With an ever-expanding collection of mobile offerings



Improved precision and recall in our searches, and more practical functionality to the results



Better accessibility with practical tools and translation services

- USDA Target Center tested
- Section 508 & W3C Compliant
- Browse Aloud Screen Reader

The Smithsonian Commons

What is a Commons?

A set of resources
maintained in the public sphere
for the use and benefit of everyone

SOME RIGHTS RESERVED
Uploaded on January 12, 2007
by gsdali

What is a Commons?

An organized workshop where raw materials can be found and assembled into new things.

An efficient and scalable knowledge creation platform

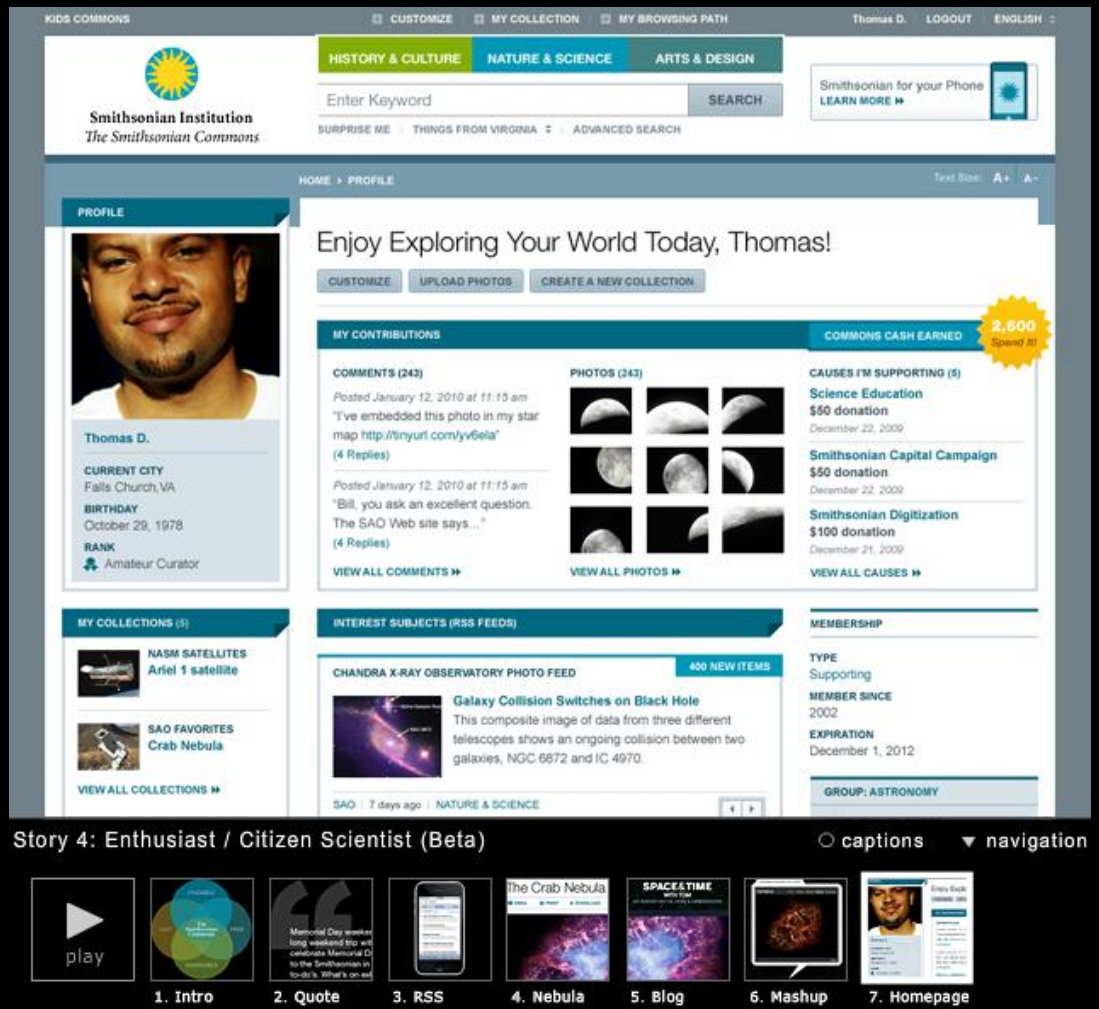
SOME RIGHTS RESERVED
Uploaded on May 29, 2008
by dave_7

The Attributes of the Smithsonian Commons

12 characteristics of a commons

- Federated
- Designed for users
- Findable
- Shareable
- Reusable
- Free
- Bulk Download
- Machine Readable
- High Resolution
- Collaboration w/o control
- Network effects
- Public Domain

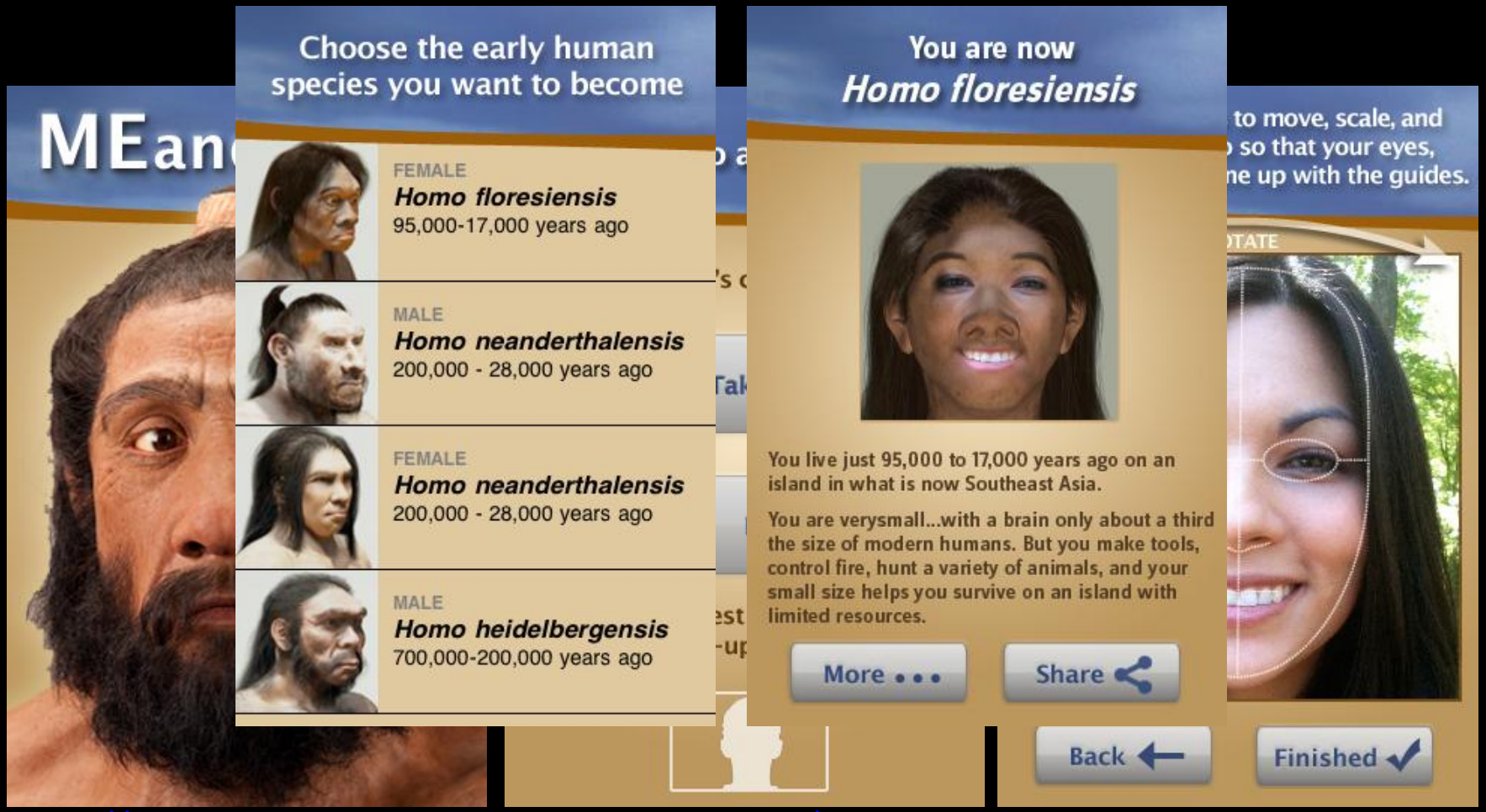
Story 4/4: Citizen Scientist (Smithsonian Commons Prototype)



http://www.si.edu/commons/prototype

Mobile Computing, Tablets and Microsoft™ Surface

MEanderthal

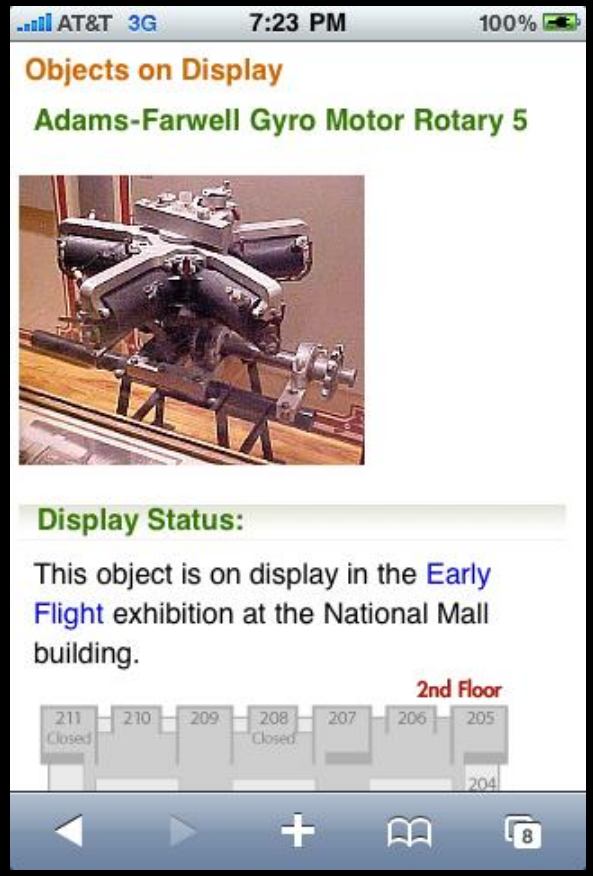


http://smithsonian-webstrategy.wikispaces.com/MEanderthal

NMAI.SI.edu/mobile

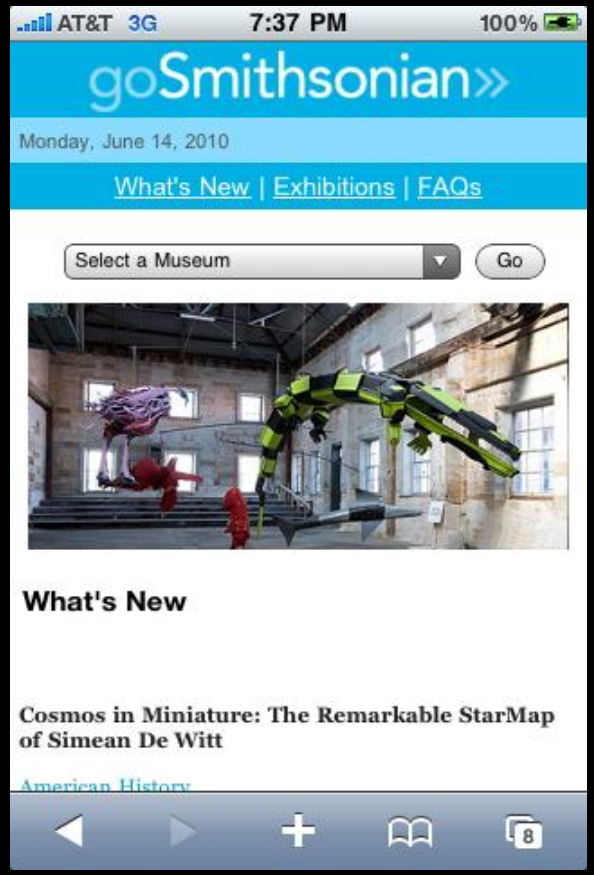
http://smithsonian-webstrategy.wikispaces.com/Fritz+Scholder+mobile+web+tour

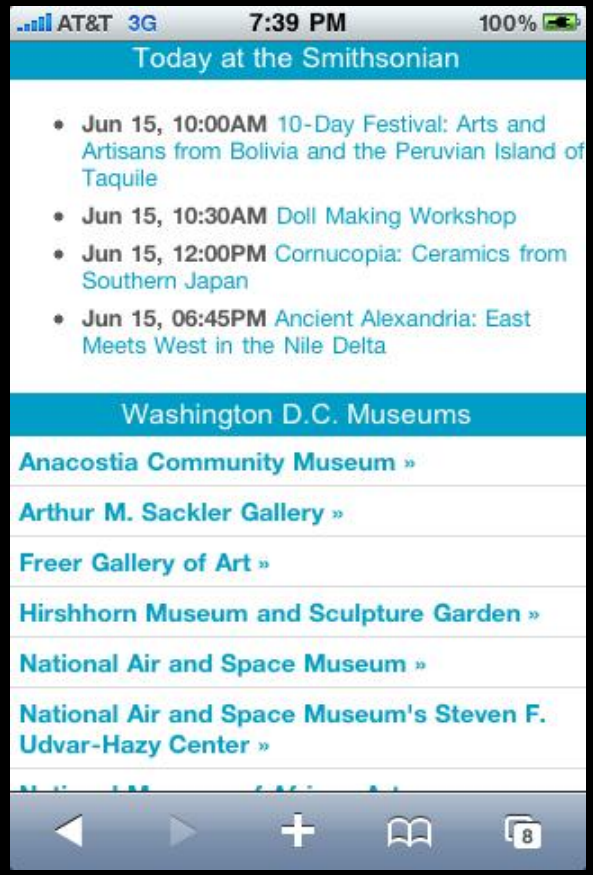
Mobile.NASM.SI.edu



http://smithsonian-webstrategy.wikispaces.com/NASM+Mobile+Website

GoSmithsonian.com (mobile)





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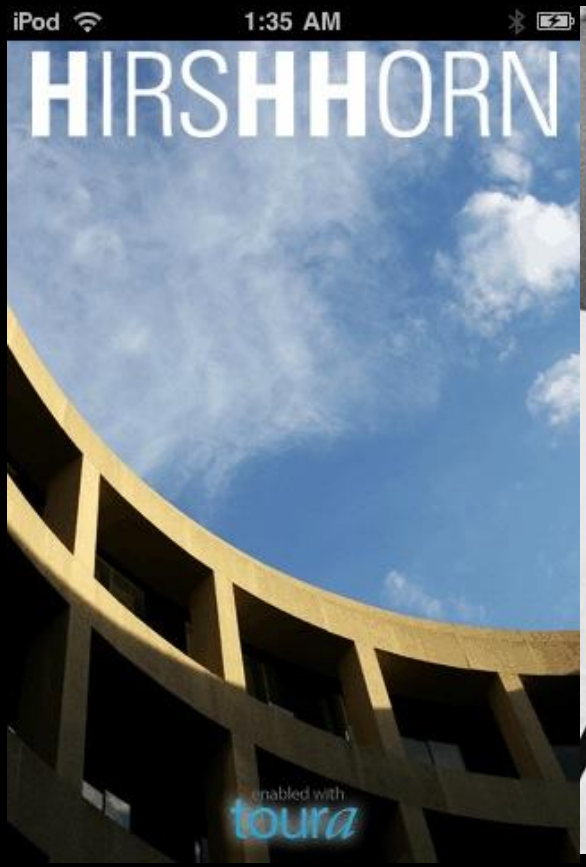
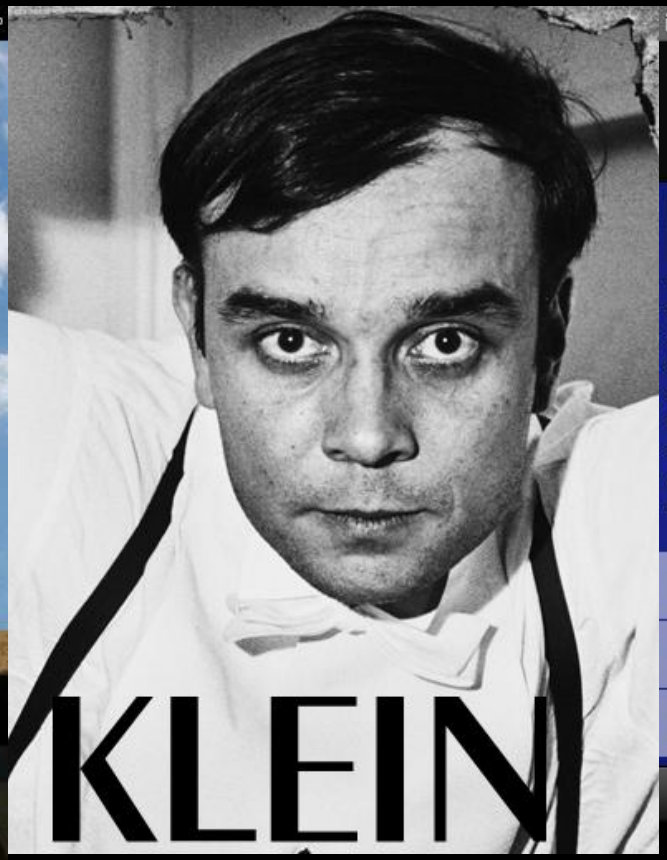
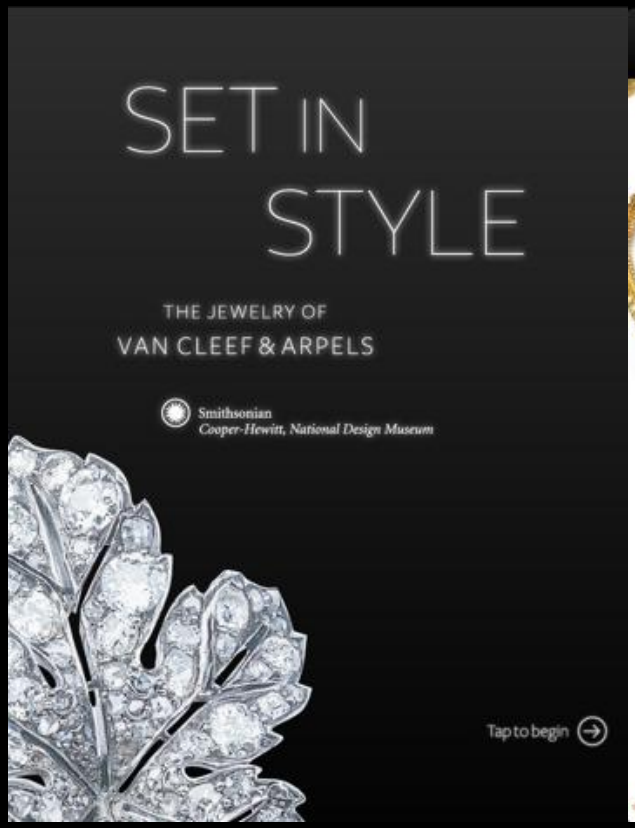
Hirshhorn: Yves Klein

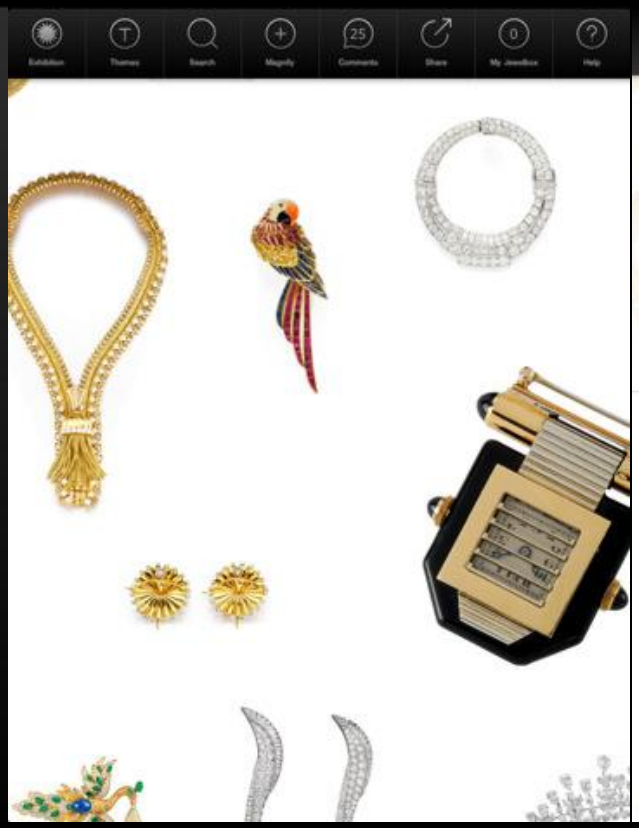


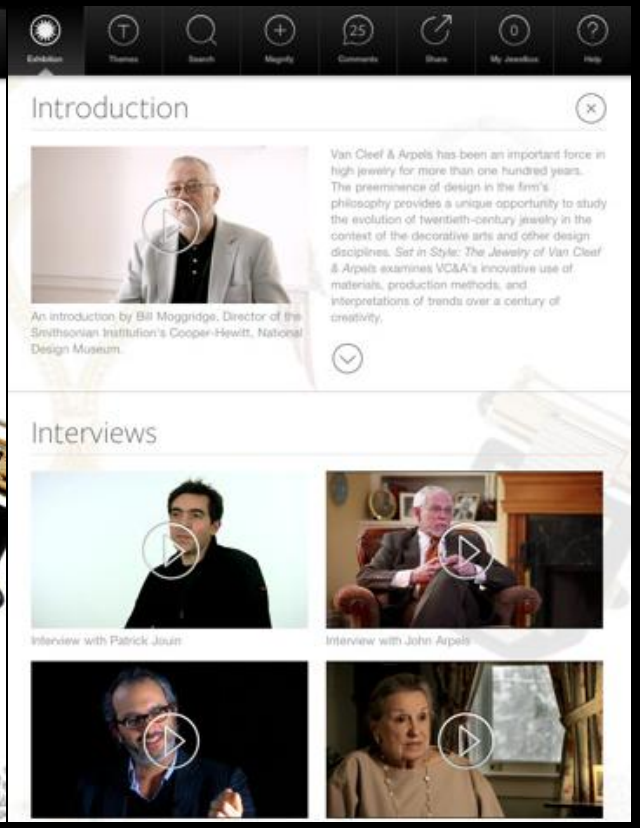


http://smithsonian-webstrategy.wikispaces.com/Design+USA+iPod+Touch+tour

Cooper-Hewitt: Van Cleef & Arpels







iPad

Microsoft Surface

Installations at Castle, museums

Microsoft Surface

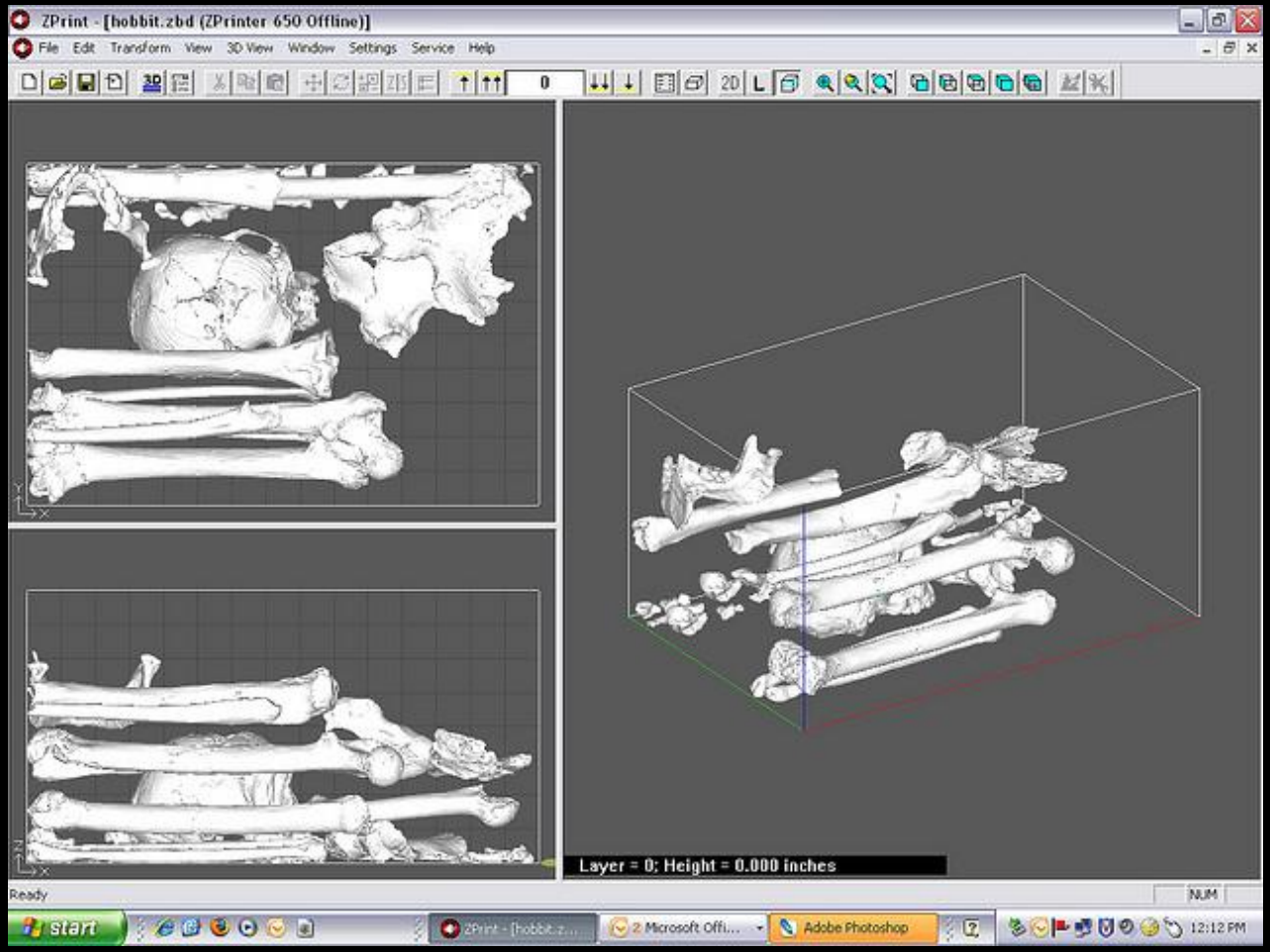
Installations at Castle, museums

Microsoft Surface

Clever sensors and cameras

3D Digitization
And
Fabrication

3D Digitization and Fabrication



Some Considerations

Thank you!
… and please take us on your learning journey.

Carmen Iannacone
Chief Technology Officer
Smithsonian Institution, Office of the CIO
iannaconec.edu | @SI_CTO