End of Term Web Archive

US Federal Government Websites 2008-2009

The United States End of Term Web Archive

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CNI Project Briefing – April 3, 2012

Building the 2008 Archive

- Background
- 2008 Project & Nomination of URLs
- Demo of public interface
- Data transfer
- Preparing for Access

Collaborating Institutions

- Library of Congress
- Internet Archive
- California Digital Library
- University of North Texas
- US Government Printing Office

Why Archive .gov? Why Collaborate?

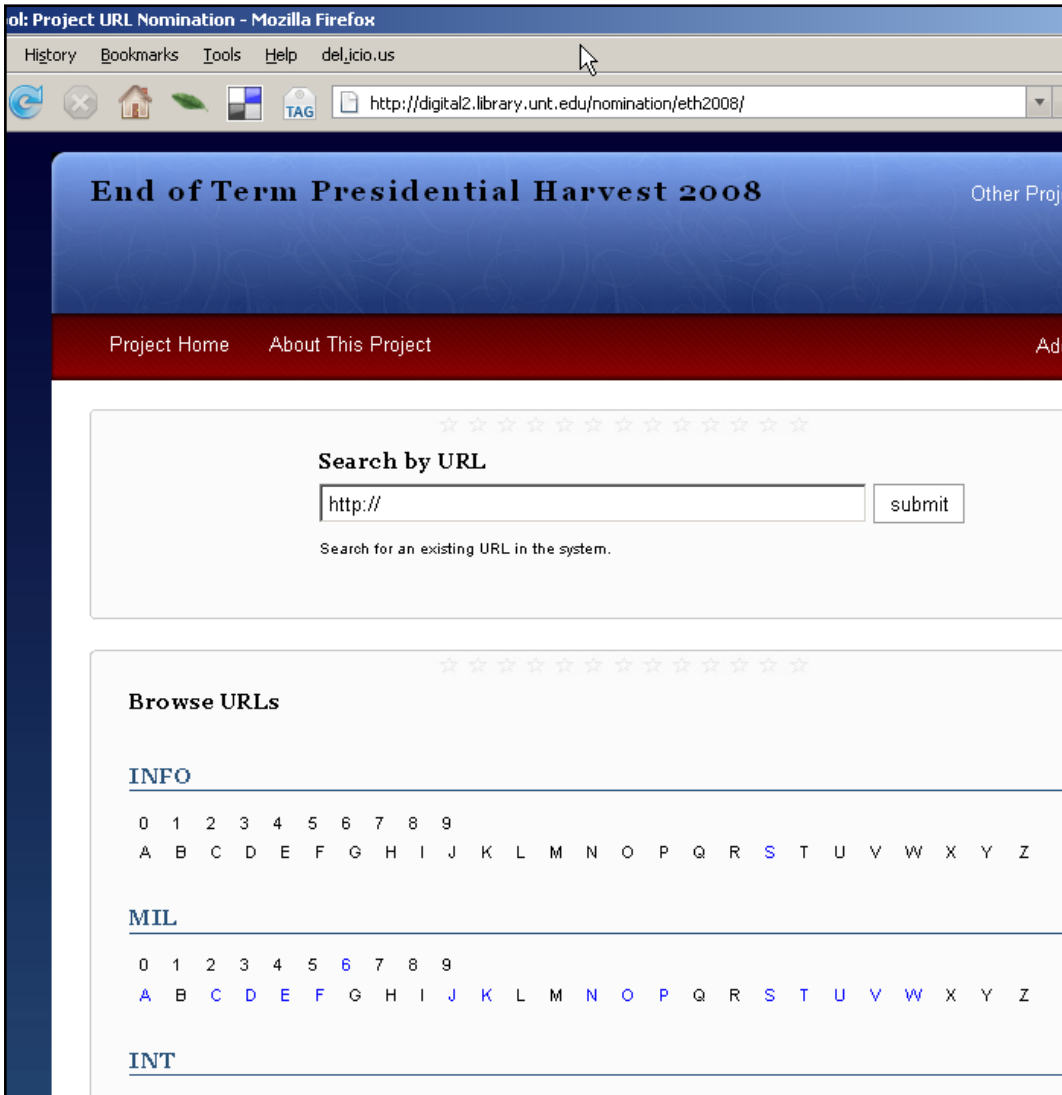
- Fit with partner missions to collect and preserve at-risk (born-digital) government information
- Potential for High Research Use/Interest in Archives
- It Takes a Village
- Experienced Partners

Project Goals

- Work collaboratively to preserve public U.S. Government Web sites at the end of the current presidential administration ending January 19, 2009.
- Document federal agencies' presence on the Web during the transition of Presidential administrations.
- To enhance the existing research collections of the five partner institutions.

URL Nomination Tool

- Facilitates collaboration
- Ingest seed lists from different sources
- Record known metadata
  - Branch
  - Title
  - Comment
  - Who nominated
- Create seed lists for crawls



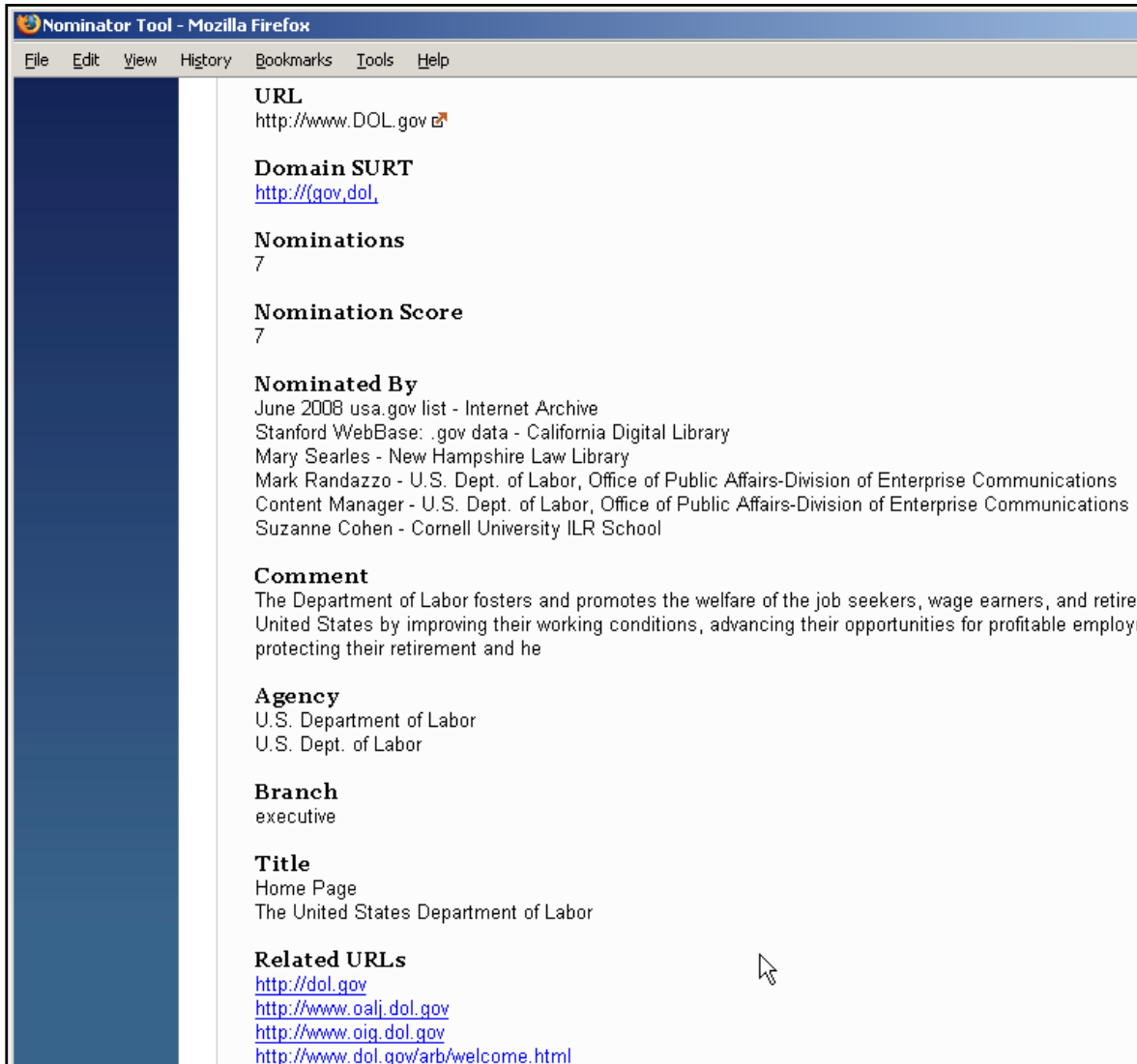
Volunteer Nominators

- Call for volunteers targeted:
  - Government information specialists
  - Librarians
  - Political and social science researchers
  - Academics
  - Web archivists

- 31 individuals signed up to help

Nominator To-Dos

- Nominate the most critical URLs for capture as "in scope"
- Add new URLs not already included in the list
- Mark irrelevant or obsolete sites as "out of scope"
- Add minimal URL metadata such as site title, agency, etc.



In Scope vs. Out of Scope

- In scope: Federal government Web sites (.gov, .mil, etc.) in the Legislative, Executive, or Judicial branches of government. Of particular interest for prioritization were sites likely to change dramatically or disappear during the transition of government
- Out of scope: Local or state government Web sites, or any other site not part of the above federal government domain
- Not captured: intranets, deep web content

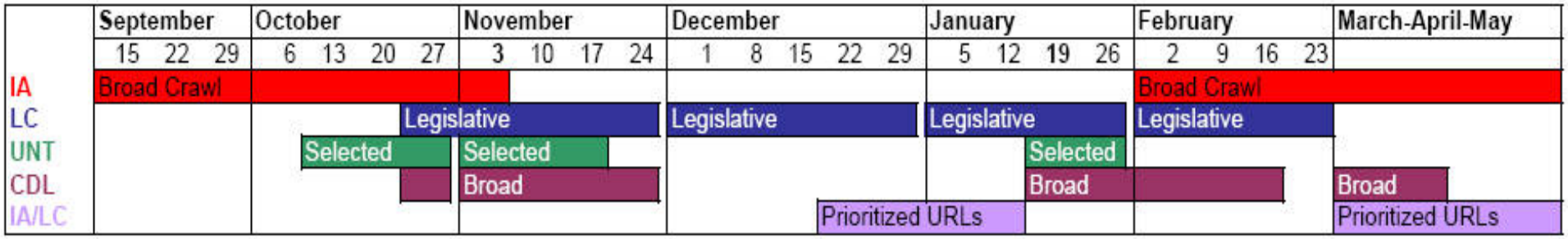
Prioritized URLs

- ~500 URLs nominated by volunteers

Selected Researcher/Curator Interests

- Homeland Security
- Department of Labor
- Department of Treasury
- Education/“No Child Left Behind”
- Health Care Reform
- Stem Cell Research
- Bush Administration Budget Justifications
- Federal Program Assessments (ExpectMore.gov)

Crawl Schedule



- Two Approaches:
  - Broad, comprehensive crawls
  - Prioritized, selective crawls

- Key dates:
  - Election Day, November 4
  - Inauguration Day, January 20

Results

Between September 2008 and November 2009:

- Over 3,000 “sites” archived (or is it 4,622?*)
- 160 million files/documents
- Over 15 TB of data

*counting is tricky: sites are loosely defined

http://after-school.gov
http://afterschool.gov
http://www.afterschool.gov
http://gears.tucson.ars.ag.gov
http://www.tucson.ars.ag.gov
http://www.uswcl.ars.ag.gov
http://agingstats.gov
http://www.agingstats.gov
http://agoa.gov
http://www.agoa.gov
http://ahcpr.gov
http://www.ahcpr.gov
http://meps.ahrq.gov
http://www.ahrq.gov
http://aids.gov
http://airnow.gov
http://alc.gov
http://amberalert.gov
http://amc.gov
http://amembassy-fiji.gov
http://americaslibrary.gov
http://www.americaslibrary.gov
http://americasoutdoors.gov
http://americasstory.gov
http://americastory.gov
http://americore.gov
http://americorp.gov
http://americorps.gov
http://americorpse.gov
http://www.etd.ameslab.gov
http://www.external.ameslab.gov
http://www.msg.ameslab.gov
http://sc94.ameslab.gov
http://www.scl.ameslab.gov

Data Transfer

- Goal: Distribute 15.9 TB of collected content among partners

- LC's central transfer server used:
  - "Pulled" and "pushed" data from and to partners via Internet2, May 2009 – Mid 2010

  - Common transfer tools, specifications were key

More info here: http://blogs.loc.gov/digitalpreservation/2011/07/the-end-of-term-was-only-the-beginning/

Transfer Tools: Bagger

Spring Rich Client Application

File Window Help

Create New Bag | Open Existing Bag | Create Bag In Place | Validate Bag | Is Bag Complete | Close Bag | Save Bag | Save Bag As...

Bagger

Payload

- data
  - CDXCollection.xml
  - wayback.xml

Tag Files

- cybercemetery
  - bagit.txt
  - tagmanifest-md5.txt
  - bag-info.txt
  - manifest-md5.txt

Bag Info

File name: O:\web capture\Bagger\cybercemetery

Profile: <no profile>

Bag version: 0.96

Holey Bag?: false

Serialize Type?: none

Bag-Info

Standard : Add

Bag-Size	85.6 KB
Payload-Oxum	87248.2
Bagging-Date	2011-10-14

Console

Complete: Valid: Profile Compliant:

[Fri Oct 14 15:07:01 EDT 2011]: This space will contain messages generated by the creating and updating of bags.

Mouse over the status label to see it's description.

[Fri Oct 14 15:08:31 EDT 2011]: Opened the bag O:\AndersonTeamWork
[Fri Oct 14 15:09:26 EDT 2011]: Failed to create bag: Unknown format
[Fri Oct 14 15:10:17 EDT 2011]: Opened the bag O:\web capture\Bagger\cybercemetery

Preparing for Access

1st Tuesday of each month, 12:00 pm:

Anything to report on public access?

No, nothing to report on public access.

Internet Archive also had:

- A full copy of the content from all EOT partners
- A QA “Playback” tool (takes screen images of archived materials)
- An export of the Nomination Tool metadata from UNT
- MODS record extractor tool

CDL had:

XTF
eXtensible Text Framework

graphic

Bookbag (0)

Browse by: All

RSS | Modify Search | New Search

Results: 196 Items

Browse by Facet | Title | Author

Sorted by: relevance Go!

Page: 1 2 3 4 5 ... Next

Subject

- Collection of the Dublin Heritage Museum (196)
- Schools -- California -- Dublin (39)
- Pioneer Families of Dublin (Calif.) (35)
- School children -- California -- Dublin (30)
- Portrait photographs -- California -- Dublin (25)

more

1 Author: Alfred Greene, Photographer
Title: Murray Public School, (1935), photograph image
Published: 1935
Subjects: School children -- California -- Dublin | Teachers -- California -- Dublin | Schools -- California -- Dublin | Students -- California -- Dublin | Collection of the Dublin Heritage Museum
Similar Items: Find

Requires cookie*

2 Author: Unknown
Title: Elizabeth Flanagan Nevin (1901-1902), photograph image
Published: 1902
Subjects: Teachers -- California -- Dublin | Nevin, Elizabeth Flanagan | Collection of the Dublin Heritage Museum
Similar Items: Find

Requires cookie*

eScholarship
University of California

Home About Browse Publish Help My Items (0)

Search publications... go

Follow eScholarship on

General Information

Center for African Studies

ias.berkeley.edu/africa

Policies

Submit a Paper

Administrator Login

RSS

Breslauer Symposium on Natural Resource

There are 12 publications in this collection, published between 200

Ryan, Sadie: A spatial location-allocation GIS framework for
resources in a savanna nature reserve, 2006

Beyene, Zewdineh; Wadley, Ian L.G.: Common goods and the c
Transboundary natural resources, principled cooperation, an
Initiative, 2004

University of California

browse a-z . about . contact us

calisphere

a world of primary sources and more

search

view all featured images

Collections for Educators

Themed Collections

Quickly find compelling primary sources that support California

California Cultures

Discover the faces and history of California's diverse population.

The Letters of John Muir

NEW! Learn about the career of scientist, writer, and activist John Muir through his prolific correspondence.

Browse A-Z

1-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1-9 1906 earthquake
442nd Regimental Combat Team

A Abernathy, Ralph
Advertising
Aerospace industry
Agricultural equipment
Agricultural laborers
Assembly line
Automobile industry

B Bear Flag Republic
Bidwell, John
Black Panthers
Bracero Program
Bridges
Bridges, Harry

C Central Pacific Railroad
Chavez, Cesar
Chicano Moratorium Committee

selected UC websites

Connect with us

OAC
Online Archive of California

Home Browse Institutions Browse Collections Browse Map About OAC Help What is OAC?

Welcome to the Online Archive of California

Search OAC go

Browse the Collections

By Title from A to Z

0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

By Institution

African American Museum and Library at Oakland, Oakland Public Library
Agua Caliente Cultural Museum
Alameda County Library, Dublin Library
Albany Library
American Jewish University
Anaheim Public Library
Arcadia Public Library
Architecture Collections, Huntington Library
Archives and Special Collections Department, California State University, Dominguez Hills
Art Center College of Design Archives
Arts Library Special Collections, UC Santa Barbara
Autry National Center Institute for the Study of the American West

Browse Map

Caveats

- As with any web archive, the crawler is good, but not always perfect!
- Full-text index of 16 TB of data
  - Some behaviors designed to help rank and navigate such a large body of content

Beta Interface

Contact Us Help

End of Term Web Archive

US Federal Government Websites 2008-2009

Home | Search Full Text | Site List | Explore Data

Overview

Project Background

Project Partners

End of Term 2012

The End of Term Web Archive documents the United States Government's World Wide Web presence during the transition between the administrations of President George W. Bush and President Barack Obama.

Committee on Natural Resources, Republican Site – Sep. 15, 2008

Use this archive to:

Browse over 3000 U.S. Govt. websites
Search the full text of over 160 million files

The 2008 End of Term web archive contains over 16 terabytes of data collected from U.S. Government agency websites between September 2008 and November 2009.

eotarchive on Twitter

Join us Monday, Oct 17th at the Federal Depository Library Conference for a project overview & demo! http://t.co/T0w9ZP6V

Jul 2011 – Cooperative Archiving: Event Harvesting in Perspective @NDIIPP #pub http://t.co/myzfecWj

Jul 2011 – The End of Term Was Only the Beginning @NDIIPP #pub http://t.co/2gyDHAd4

May 2011 – Curation of the End of Term Archive. #UNT #pub http://t.co/5OJ3nnW4

Dec 2010 – Findings of the Web Archive Survey of Federal Depository Libraries #UNT

Full text search

Archival Search Sample XSLT

This simple XSLT demonstrates the transformation of OpenSearch XML results into a fully-functional, human-friendly HTML search page. No JSP needed.

Search for no child left behind Search ☐ HTML ☐ PDF ☐ MS Word

Results 1-10 of about 548,834 (2.341 seconds)

1. No Child Left Behind - ED.gov

   No Child Left Behind - ED.gov Advanced Search Students Parents Teachers Administrators NCLB Overview Stronger Accountability More Local Freedom Proven Methods Choices for Parents A-Z Index About ED Budget & Performance Press Room Publications Teaching Resources FAQs Contact Help Jobs at ED Online Services Recursos en español State Information Web Survey Features A-Z Index Find your way around the NCLB section. GO > NCLB Policy Policy documents on accountability, choice, SES, teacher quality, and more. GO > NCLB State Status See the status of your state's efforts to achieve NCLB goals. GO... Program NCLB Policy Letters **No Child Left Behind** Programs By Subject By Title By CFDA# Search News... Contacts Budget Annual Reports and Plans Jobs at ED Inspector General **No** FEAR Act Data Site Policies...
   http://www.ed.gov/nclb/landing.jhtml - 35k - text/html
   All versions (1) - More from ed.gov

2. Friday, January 12, 2007 - Texas Times: Reinvigorating No Child Left Behind

   Friday, January 12, 2007 - Texas Times: Reinvigorating **No Child Left Behind**...
   http://cornyn.senate.gov/calendar/2007/01/12/reinvigorating-no-child-left-behind/index.html - 1k - text/html
   All versions (1) - More from senate.gov

3. President Bush Discusses No Child Left Behind

   President Bush Discusses **No Child Left Behind** Skip Main Navigation PRESIDENT | VICE PRESIDENT... Audio Photos En Español Fact Sheet: The **No Child Left Behind** Act: Challenging Students... objective. And the **No Child Left Behind** Act was all part of making sure that we get it right in the schools... **No Child Left Behind** says, look, we trust the local folks. I don't want Washington, D.C. running... the education system functions for all. And that's the spirit of **No Child Left Behind**. By measuring... things that I think is most important about the **No Child Left Behind** Act is that when you measure... unfair to the children. And the **No Child Left Behind** Act demands result for every **child**, for the good... time to reauthorize the **No Child Left Behind** Act, my attitude is, instead of softening **No Child Left**...
   http://www.whitehouse.gov/news/releases/2006/10/20061005-6.html - 43k - text/html
   All versions (1) - More from whitehouse.gov

4. No Child Left Behind

   No Child Left Behind Skip Main Navigation PRESIDENT | VICE PRESIDENT | FIRST LADY | MRS. CHENEY... Education So That **No Child** is **Left Behind** As America enters the 21 st Century full of hope and... met. In America, **no child** should be **left behind**. Every **child** should be educated to his or her full... establishing annual assessments in grades 3-8, within two years of enacting this plan. "**No Child Left Behind**... of disadvantaged students will be recognized and rewarded with "**No Child Left Behind**" bonuses... in closing the achievement gap will be honored with awards from a "**No Child Left Behind**" school... eligible to receive a one-time

Site List

Contact Us | Help

End of Term Web Archive

US Federal Government Websites 2008-2009

Home | Search Full Text | Site List | Explore Data

Results: 9 Items

Sorted by: relevance Go

Site List

Page: 1

Site Lookup:

library of congress

Clear Go

Look up a site by keywords in the title, description or URL.

Government branch

- Legislative (5)
- Executive (1)

URL segment

The following text appears in a section of the site's URL. This can help you narrow results to particular agencies.

- loc (7)
- thomas (2)
- catalog (1)
- digitalpreservation (1)
- memory (1)
- rs6 (1)
- usa (1)

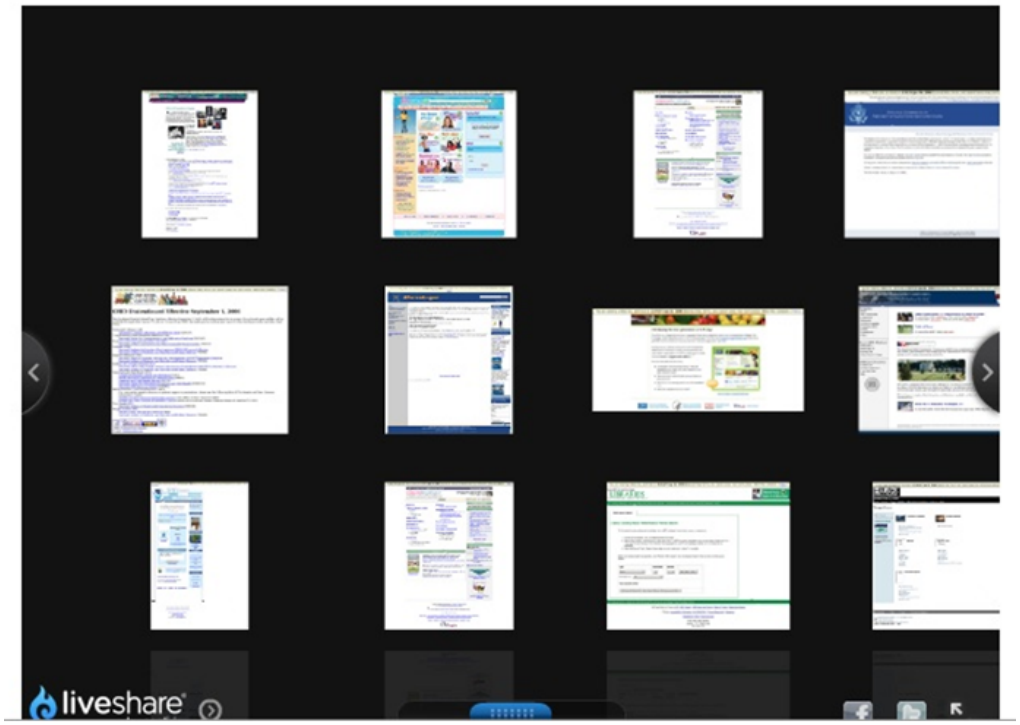
Title: Library of Congress Home
Archival URL: http://eot.us.archive.org/eot08/20080915221603/loc.gov/index.html
IA Site value:
Live URL: http://www.loc.gov/index.html
Coverage: September 15, 2008 - August 25, 2009
Description: The Library of Congress. The Library of Congress is the nation's oldest federal cultural institution, and it serves as the research arm of Congress. It is also the largest library in the world, with more than 120 million items. The collections include books, sound recordings, motion pictures, photographs, maps, and manuscripts.

Matches: 5 hits
...Legislative **Library of Congress** Home http://...
...index.html 2008-09-15 2009-08-25 The **Library of Congress**....
...The **Library of Congress** is the nation's oldest federal...

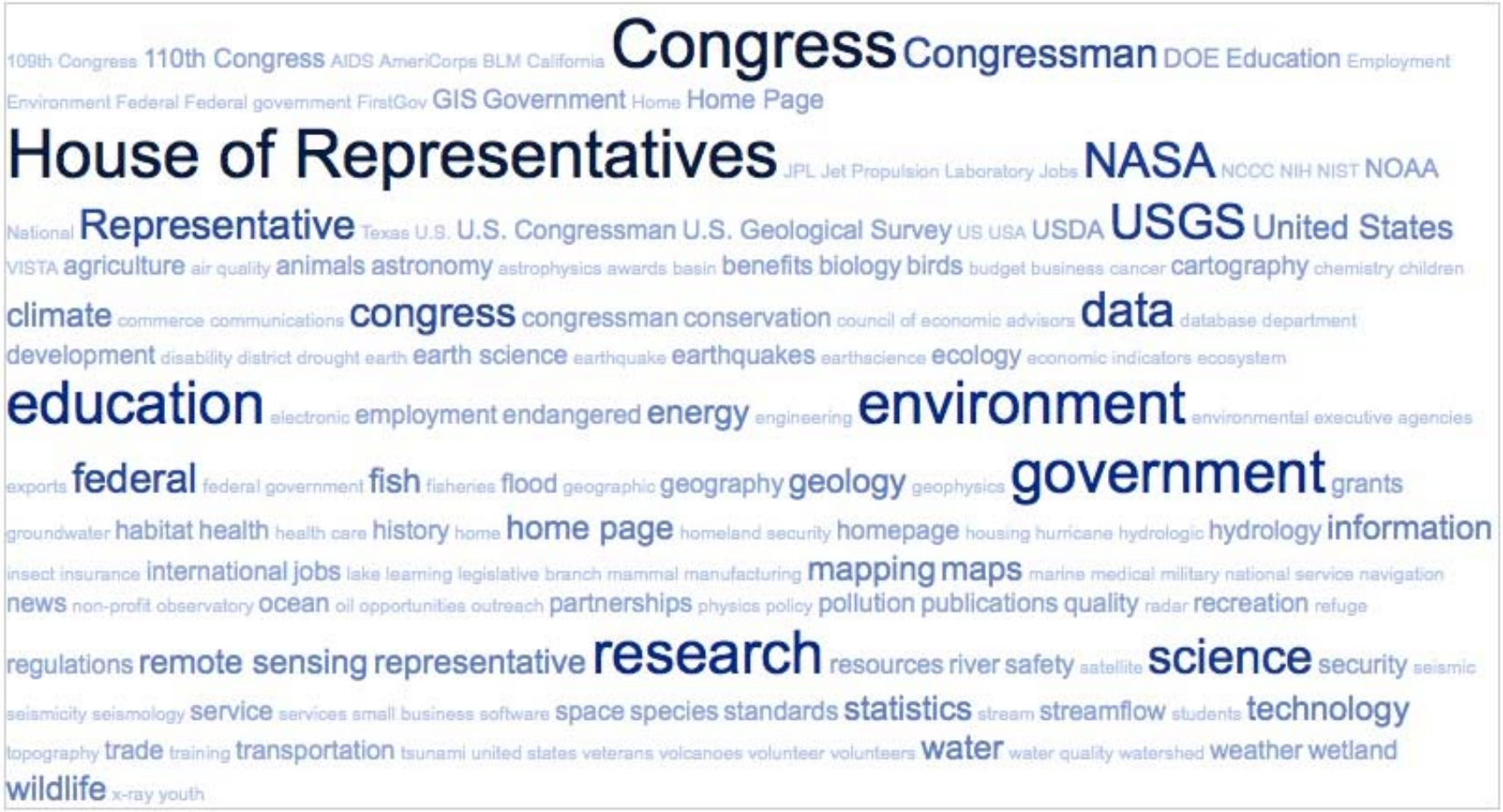
Title: Library of Congress Online Catalogs (Upgraded May 19, 2008)
Archival URL: http://eot.us.archive.org/eot08/20080916003635/catalog.loc.gov/
IA Site value:
Live URL: http://catalog.loc.gov/
Coverage: September 16, 2008 - May 8, 2009
Description: The Library of Congress collections include over 110 million items in a variety of formats and languages. The catalog information for many of these items has appeared in a number of traditional card catalogs located in the Library. Much of the information in these catalogs is also searchable over the Internet. This page links to the two methods for search the main Library of Congress Online Catalog and to several

Browse by Image

- Internet Archive tools for visualizing web archived data ("explore data")



Forthcoming: Tag cloud extracted from metadata



Classification of the End-of-Term (EOT) Archive: *Extending Collection Development Practices to Web Archives*

University of North Texas Libraries | IMLS National Leadership Grant

- Project Background
- Archive Classification
  - SMEs: SuDocs Classification Scheme
  - Link Analysis: Web graph
    - Cluster Analysis
  - SMEs : Cluster Tagging
- Conclusion

Background

- Problem
  - The absence of descriptive metadata or classification schemes thwarts discovery & access
  - WARC files (ISO 28500)
    - Specifies formats needed for storage, management, and exchange of data objects (or resources); Not designed for user access
  - Wayback access
    - Need to know a resource's URL
- Objective: Classify materials in accord with the Superintendent of Documents (SuDocs) Classification Numbering System
- Outcome: Enable librarians to utilize existing selection practices to identify materials in the EOT Archive

Classification: Size Challenge

Domains	# URLs	Subdomains
gov	137,847,822	14,339
mil	3,555,425	1,677

16,016

SURTS: Reordering URLs by domain structure

URL: http://marriagecalculator.acf.hhs.gov/marriage/

SURT: http://(gov,hhs,acf,marriagecalculator,)

Domain | 1 | 2 | 3

Subdomains

Unique 1st Level Subdomains = 1,647

After validation = 1,151 Subdomains

Human Classification

- SuDocs Classification Scheme
- 10 SMEs classified 1,151 URLs (230/SME)
  - 70% agreement ($n = 808$)
    - Unable to classify: 18 – in scope; 36 – out of scope
  - 30% disagreement ($n = 343$)
- 3 arbitrators classified 343 URLs
  - Assigned SuDocs authors to 286 URLs
  - Unable to classify: 42 – in scope; 15 – out of scope

Classification: Findings

- Overall, SuDocs Scheme worked well
- Assigned SuDocs authors to 1,040 subdomains
  - 1,111 authors (1,040 + 71 multiply authored sites)
- Major Classification Challenge
  - Determining primary author among multiple authors
- Weaknesses
  - Lacks sufficient granularity for subordinate agencies

Link Analysis

- Web graph
  - Identified # of outlinks and inlinks for each URL
- Subdomains
  - 1,151 1st level subdomains within .gov & .mil domains
  - Multiple URLs per subdomain
- Explored cluster analysis algorithms
  - Best result: Linlog Coordinates with Agglomerative Hierarchical Clustering

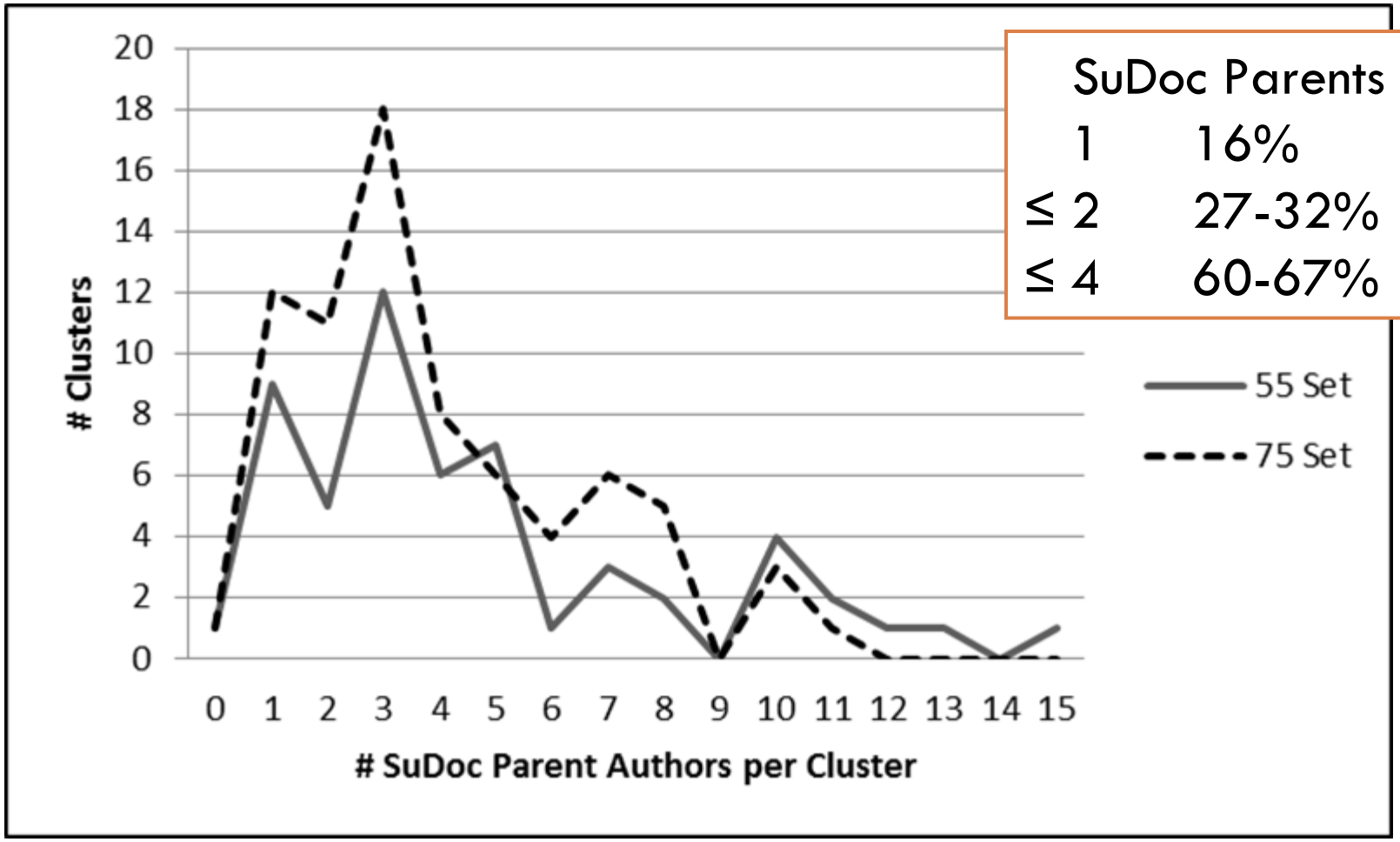
Cluster Analysis

- Set limit on number of clusters to identify
  - First analysis: Set of 55 clusters
  - Second analysis: Set of 75 clusters

Cluster Analysis		
55-Set		75-Set
39	*Identical*	*39*
16	13 / 2 2 / 3 1 / 4	36

Clusters 55-24 & 75-31
Identical Subdomains
• fdic.gov • fdicconnect.gov • fdicig.gov • fdicoig.gov • fdicseguro.gov • myfdicinsurance.gov • egrpra.gov

Findings: SuDoc Classification



SuDoc Parents	
1	16%
≤ 2	27-32%
≤ 4	60-67%

Topical Evaluation of Clusters

- Total of 130 clusters tagged (55+75)
  - 12 SMEs: Each cluster tagged by 3 SMEs
    - 52 Clusters tagged 3 times
    - 39 Clusters tagged 6 times

Cluster Analysis		
55-Set		75-Set
39	*Identical*	*39*
16	*Unique*	36

Tag Analysis

- How topically related are the tags?
- Two researchers independently assigned "relatedness category" (RC)
  - RC 1 = little or no relation
  - RC 2 = somewhat related
  - RC 3 = strongly related

Cluster 55-19
2 Subdomains
• federalregister.gov • fedreg.gov

Cluster 55-19	SME 40	SME 32	SME 42
RC 3	• federal regulations • administrative law	• federal regulations	• federal regulations

Findings: Topical Evaluation

- Relatedness Categories ($N = 130$)
  - RC 1 = little or no relation ($n = 27$; 21%)
  - RC 2 = somewhat related ($n = 24$; 18%)
  - RC 3 = strongly related ($n = 79$; 61%)

Clusters	RC 1	RC 2	RC 3
130	21%	18%	61%
75-Set	21%	17%	61%
55-Set	20%	20%	60%

- Cluster Analysis successfully identified strongly related subject content in the subdomains of 61% of clusters

Impact of Increasing # of Clusters

Clusters	#	RC 1	RC 2	RC 3
Identical	39	18%	10%	72%
All	130	21%	18%	61%
Unique in 75-Set	36	22%	14%	64%
Unique in 55-Set	16	25%	31%	44%

- Identical clusters had the highest percentage of topically related subdomains (72%)
- Unique clusters had a substantially higher percentage of topically related subdomains after subdivision (64% v. 44%)

Conclusion

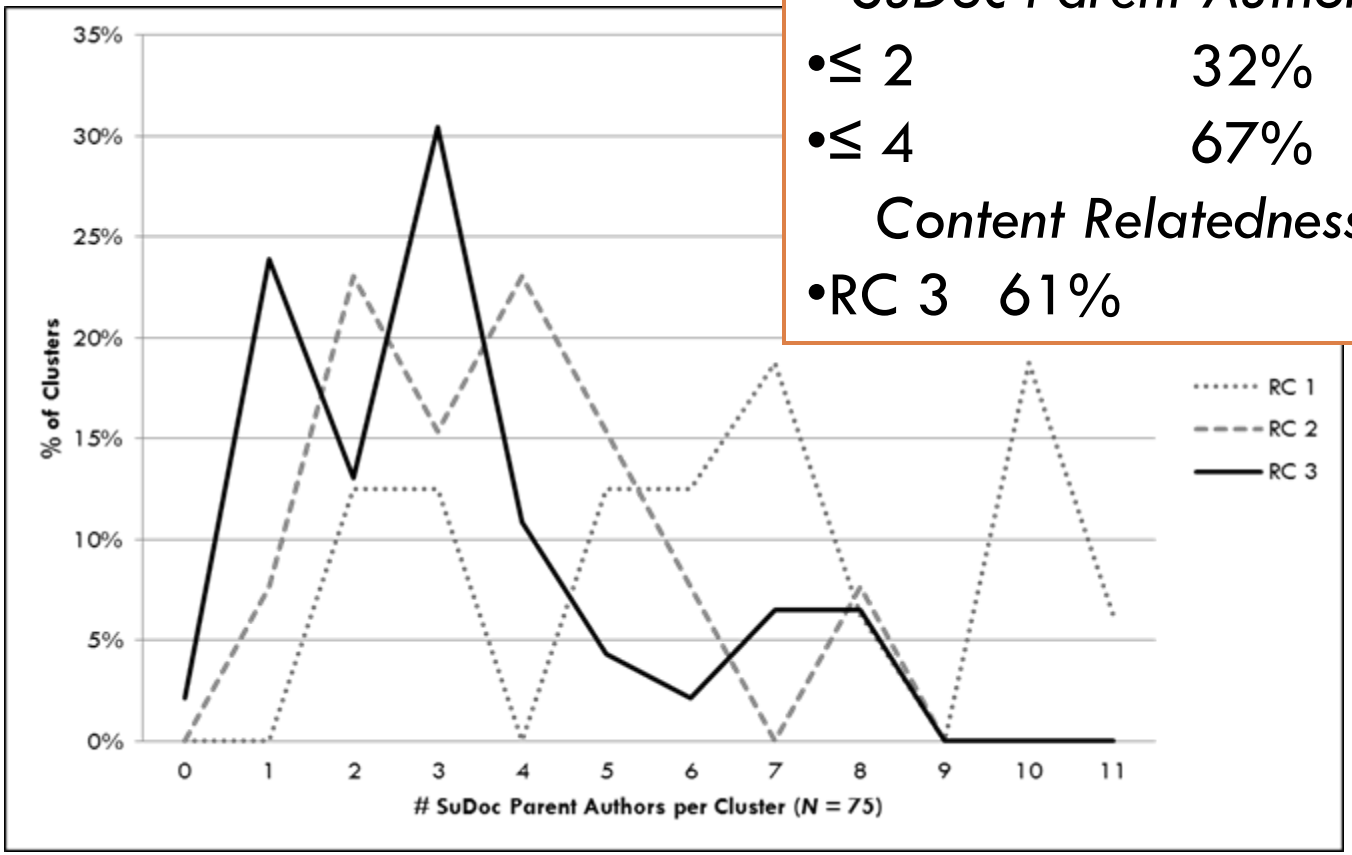
- Cluster analysis was reasonably effective at organizing the EOT Archive

SuDoc Parent Authors

- ≤ 2 32%
- ≤ 4 67%

Content Relatedness

- RC 3 61%



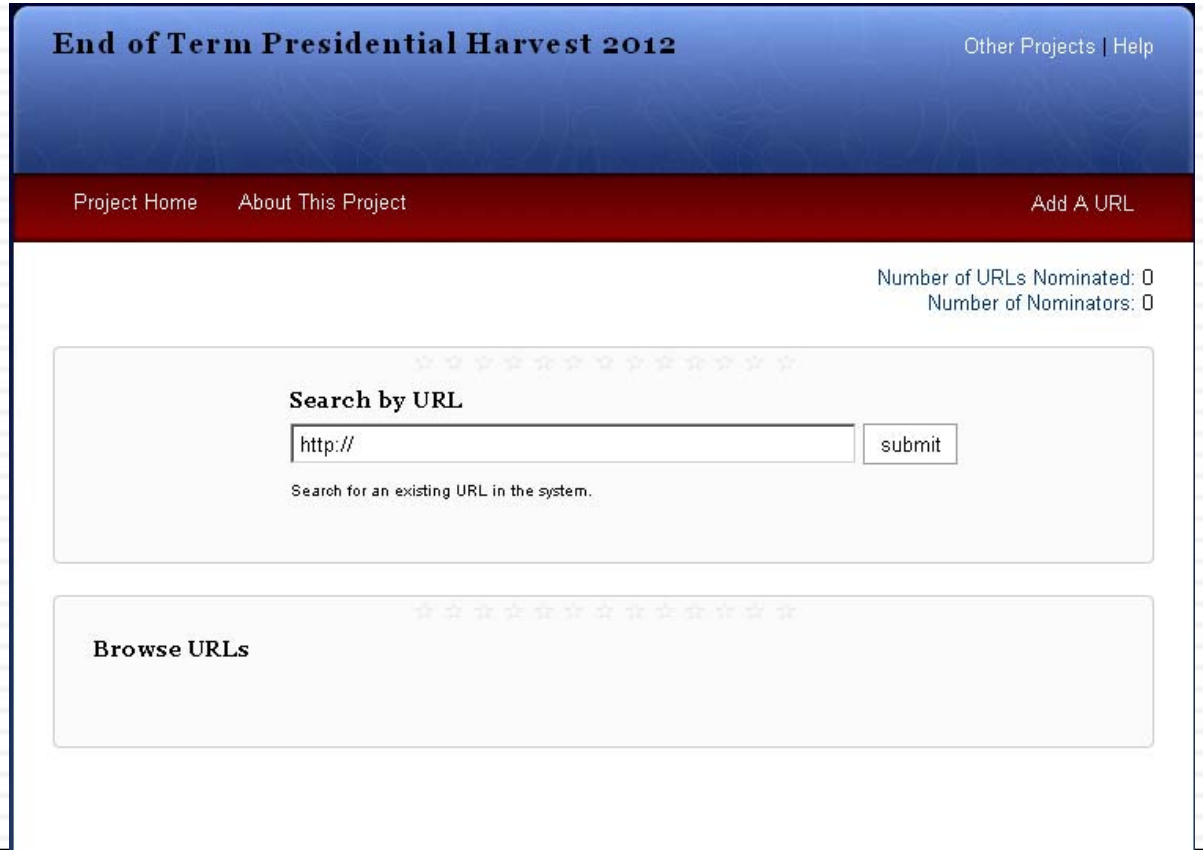
EOTCD Project Accomplishments

- Selection of Materials in Web Archives
  - PROBLEM:
    - Absence of descriptive metadata or classification schemes thwarts discovery & access; URL must be known
  - RESULT:
    - Cluster analysis holds promise for organizing Web archives into topically related groupings
    - Involving SMEs in limited-scope classification activities may generate meaningful descriptive metadata for resources in focused Web archives

What's Next

- Using the Web graph
  - How do we leverage the graph for identifying content?
- Describing the collection
  - How can we engage faculty with our Web archives?
- Identifying change
  - How is the .gov Web changing over time?
- Full-text search
  - What other improvements to Web archive search can be made?

Building the 2012 Archive



Timeframe for 2012 project

2012

- **Summer 2012**: Recruitment of curators/nominators to help identify additional websites for prioritized crawling.
- **July/August 2012**: Bookend (baseline) crawl of government web domains begins.
- **Summer/Fall 2012**: Partners will crawl various aspects of government domains at varying frequencies, depending on selection polices/interests. Team will determine strategy for crawling prioritized websites.
- **November – February 2012-13**: Crawl of prioritized websites.

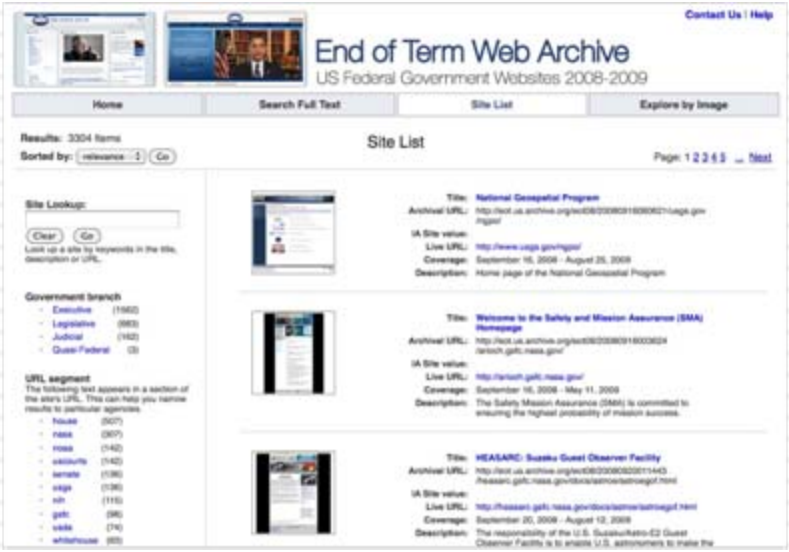
2013

- **January 2013**: Depending on the outcome of the election, focused crawls will be conducted as needed during this period.
- **Spring or Summer 2013**: Bookend crawl, plus additional crawl of prioritized websites as determined by team.

What You Can Do to Help

- Help nominate URLs for 2012:
  - Any nominations welcome, any amount of time you can contribute
  - Need particular help with:
    - Judicial Branch websites
    - Important content or subdomains on very large websites (such as NASA.gov) that might be related to current Presidential policies
    - Government content on non-government domains (.com, .edu, etc.)
  - **Contact eotproject@loc.gov to sign up**

Questions?



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http://eotarchive.cdlib.org/