Enabling Access to Old Wu-Tang Clan Fan Sites

Facilitating Interdisciplinary Web Archive Collaboration



Nick Ruest (@ruebot) Ian Milligan (@ianmilligan1)



Why should we even care about web archives?

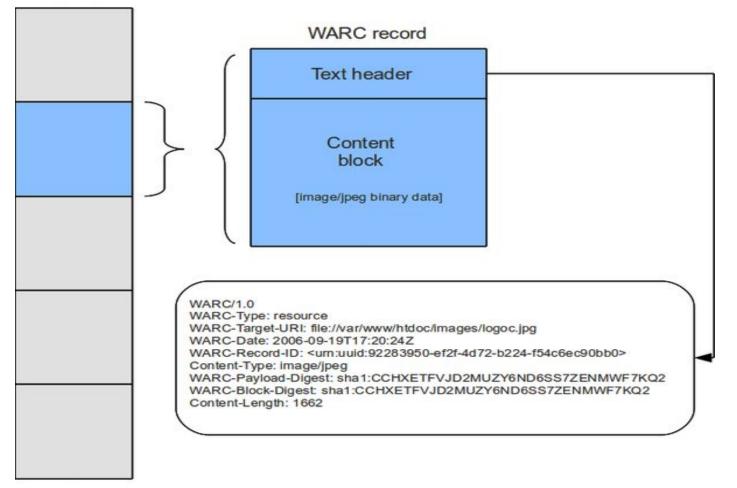
First, more data than ever before is being preserved...

Second, it'll be saved and delivered to us in very different ways

archive

WARC (ISO 28500:2009)







Farmers Join Occupy Wall Street, Calling for Food Justice

Posted 5 hours ago on Dec. 2, 2011, 6:21 p.m. EST by OccupyWallSt



As Wall Street's corrupt influence on the economy has grown, the corporate ownership of our food system has hurt the health and livelihood's of some of our most vulnerable communities. This *Sunday, December 4th* food justice activists and occupiers will be traveling from as far as Colorado, Iowa, Maine and Upstate New York to join together for the Occupy Wall Street FARMERS' MARCH.Through a day of dialogue, musical performances, and a march, farmers and their urban allies working for food justice in their communities will form alliances to fight and expose corporate control of the food supply.

Events throughout the day will call and inspire participants to fight against the corporate manipulation of the agriculture system. An industry that is responsible for using chemical toxins tied to soaring obesity rates, heart disease and diabetes and limiting access to affordable, wholesome food to the country's poorest citizens.

Read More

30 Comments

Occupy Wall Street Goes Home Posted 1 day ago on Dec. 1, 2011, 3:04 p.m. EST by OccupyWallSt



On December 6th Occupy Wall Street will join in solidarity with a Brooklyn community to reoccupy a foreclosed home. The day of action marks a national kick-off for a new frontier for the

General Inquiries: general@occupywallst.org Press Inquiries: press@occupywallst.org Press Phone: +1 (347) 292-1444 Heip & Directions: +1 (516) 708-4777 Watch: The world were building Read: This call to action Liberty Square Eviction Defense: Text "@occupyalert" to 23559 to receive alerts in the event of imminent emergency.

Occupy Wall Street is leaderless resistance movement with people of many colors, genders and political persuasions. The one thing we all have in common is that We Are The 99% that will no longer tolerate the greed and comptoin of the 1%. We are using the revolutionary Arab Spring tactic to achieve our ends and encourage the use of nonviolence to maximize the safety of all participants.

This #ows movement empowers real people to create real change from the bottom up. We want to see a general assembly in every backyard, on every street corner because we don't need Wall Street and we don't need politicians to build a better society.

the only solution is WorldRevolution

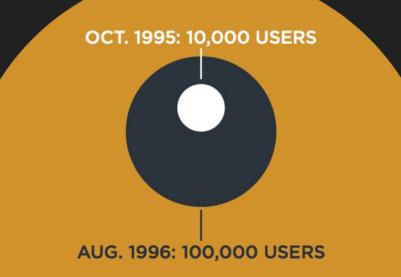
Click here for NYCGA committee meeting times.



Scarcity

Abundance

GEOCITIES USERS:

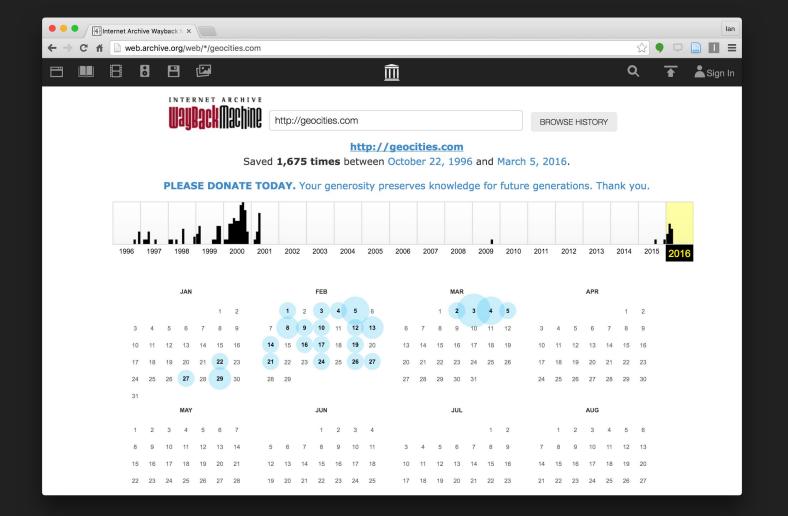


OCT. 1997: 1,000,000 USERS

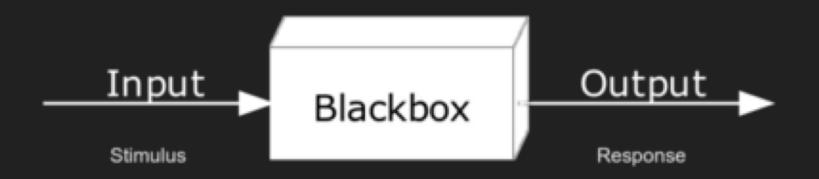
Could one study the 1990s or **beyond without** web archives?

And the 1990s are history (as painful as it is to say..)

But right now you have to use the Wayback Machine requiring you know the URL







We need interdisciplinary collaboration to tackle this problem!



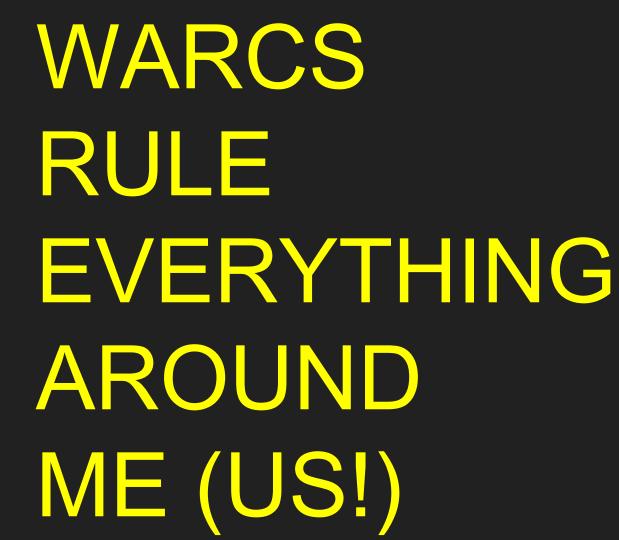
Social Sciences and Humanities Research Council of Canada Conseil de recherches en sciences humaines du Canada

Canada

compute | calcul canada | canada

Team(s)

We form like Voltron



lan Milligan

History Faculty Member

Jimmy Lin

Computer Science Faculty Member

Jeremy Wiebe History PhD Candidate

Alice Zhou

Computer Science Undergraduate

Nick Ruest

Digital Assets Librarian

Collaboration

My beats travel like a vortex, through your spine to the top of your cerebrum cortex

#Slack & GitHub

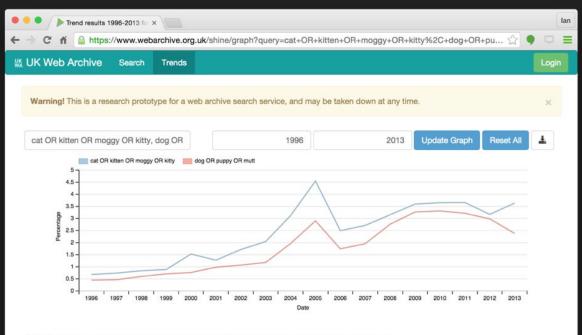
Platforms

Every time the horn blows, the Wu's signal's back on Transform, pack form a whole another platform

Shine

https://github.com/ukwa/shine/

Shine



Click on a point on the graph to show a random sample of the matching records from that year...

webarchives.ca

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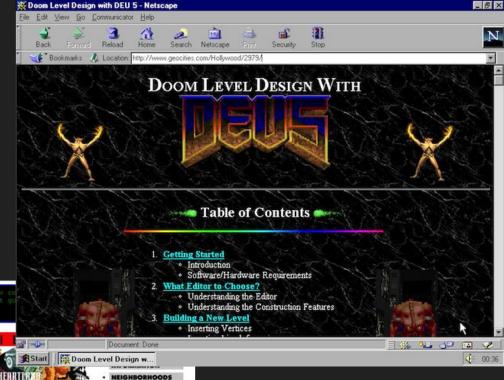
CLI tools

awk, sed, grep, parallel, sort, uniq, wc, jq

Geocities







Our communities are home to the most popular collection of FREE HOME PAGES & E-MAIL on the web Please join or visit one of our 29 neighborhoods today.



FREELOAD

* Free Home Pages & Free Member Email **Today's Cool Homestead** malweb



WHAT'S NEW

WHAT'S COOL

• WHAT IS GEOCITIES?

Advertiser Information

GeoCities Daily Audio Update

HotSprings 1837

So you hit the snooze bar ten times every morning. You might be lazy. But then again, you might have a sleep disorder. Find out here.

GeoStore

GeoCities News of the Day - 10/22/96

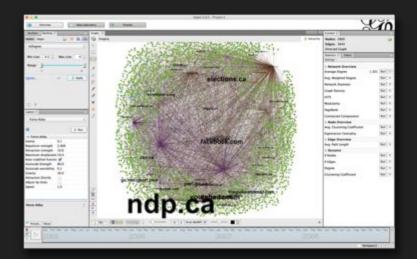
Warcbase

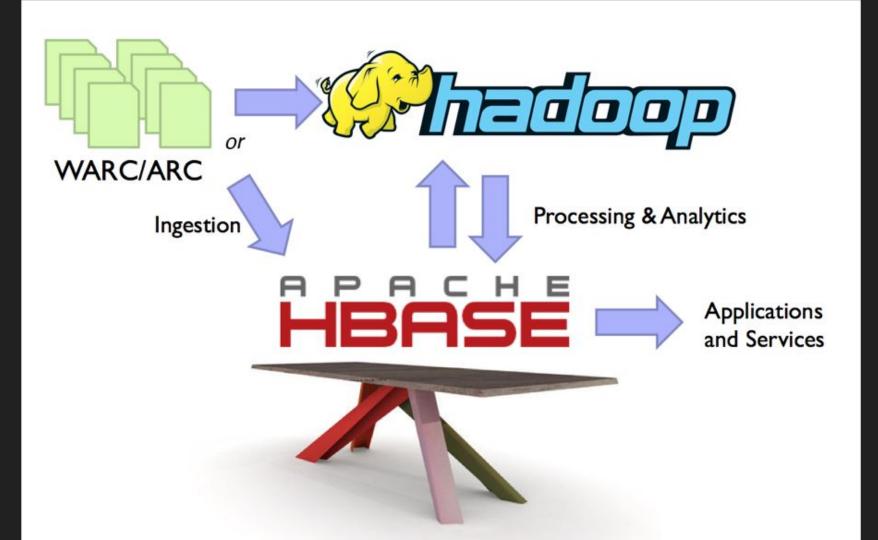
Warcbase

• An open-source platform for managing web archives

- Two main components
 - A flexible data store: your own
 Wayback Machine
 - Scriptable analytics and data processing







Warcbase

- Scalable
 - From Raspberry Pi to Desktop

Computer to Server to Cluster, all with same scripts and commands

- Potentially very powerful
 - Trantor: 1.2PB of disk, 25 compute nodes (each w/ 128GB memory, 2×6core Intel Xeon E5 v3 = 3.2TB memory and 300 current-generation Intel cores)
- In active development, led by Jimmy Lin, collaborator with Web Archives Historical Research Group





You can Warcbase Too! (...and Twarcbase soon!)

** moortwareo	ase: Warcbas (×									
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Warcbase

Warcbase is an open-source platform for managing web archives built on Hadoop and HBase. The platform provides a flexible data model for storing and managing raw content as well as metadata and extracted knowledge. Tight integration with Hadoop provides powerful tools for analytics and data processing via Spark.

There are two main ways of using Warcbase:

. The first and most common is to analyze web archives using Spark.

Warchase Documentation × ← → C fi Intool.github.io/warcbase-docs/ ☆ • □ = # Warcbase Documentation O Edit on GitHub Docs + Introduction + Summary Warcbase is an open-source platform for managing web archives built on Hadoop and HBase. The platform provides a flexible data model for storing and managing raw content as well as metadata and Summary extracted knowledge. Tight integration with Hadoop provides powerful tools for analytics and data processing via Spark. For more information on the project and the team behind it, visit our about page. Getting Started with Wardbase! For an example of what's possible, see the in-browser Spark notebook demo below: Installing and Running Spark under OS X Installing Spark Notebook on a Cloud TTOW - Spark Notebook Walkthrough Analyzing Web Archives with Spark Collection Analytics Named Entity Recognition Gephi: Converting Site Link Structure inte Dynamic Visualization You can download Warcbase here. The easiest way would be to follow our Getting Started tutorial. Shine: Installing Shine Frontend on OS X Use Warcbase to unleash your web archives! These documents will show you how... Note: many of these tutorials currently assume a working knowledge of a Unix command line environment. For a concentual and practical introduction, please see Ian Millioan and James Baker's "Introduction to the Bash Command Line" at the Programming Historian. Warcbase Wayback Integration Warcbase Java Tools If you've just arrived, you're probably interested in using Spark to analyze your web archive collections: gathering collection statistics, textual analysis, network analysis, etc. If you want to explore web archives using other means, we have walkthroughs to use the SHINE front OGitHub Next end on Solr indexes generated using Warcbase. See this SHINE walkthrough and this building Lucene

warcbase.org

docs.warcbase.org

Let's do a quick walkthrough of how we've used it on GeoCities



	1. i2millig@rho:	/mnt/vol1/data	_sets/geocities/warcs	(ssh)
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bash

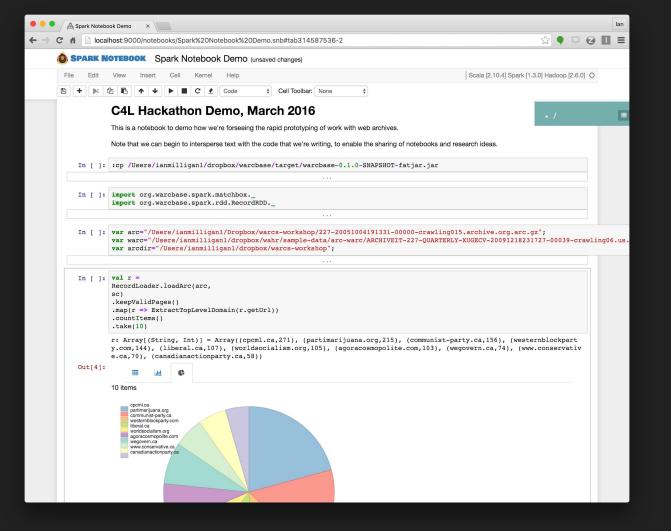
|--|

i2millig@rho: /mnt/vol1/data...

GEOCITIES-20091029114236-00191-ia400110.us.archive.org.warc.gz GEOCITIES-20091029115416-00171-crawling08.us.archive.org.warc.gz GEOCITIES-20091029123034-00172-crawling08.us.archive.org.warc.gz GEOCITIES-20091029130439-00173-crawling08.us.archive.org.warc.gz GEOCITIES-20091029134536-00174-crawling08.us.archive.org.warc.gz GEOCITIES-20091029140344-00192-ia400110.us.archive.org.warc.gz GEOCITIES-20091029141553-00193-ia400110.us.archive.org.warc.gz GEOCITIES-20091029141726-00175-crawling08.us.archive.org.warc.gz GEOCITIES-20091029144445-00176-crawling08.us.archive.org.warc.gz GEOCITIES-20091029152151-00177-crawling08.us.archive.org.warc.gz GEOCITIES-20091029160824-00178-crawling08.us.archive.org.warc.gz GEOCITIES-20091029164941-00179-crawling08.us.archive.org.warc.gz GEOCITIES-20091029165037-00194-ia400110.us.archive.org.warc.gz GEOCITIES-20091029170431-00195-ia400110.us.archive.org.warc.gz GEOCITIES-20091029171605-00180-crawling08.us.archive.org.warc.gz GEOCITIES-20091029174154-00181-crawling08.us.archive.org.warc.gz GEOCITIES-20091029180818-00182-crawling08.us.archive.org.warc.gz GEOCITIES-20091029182725-00183-crawling08.us.archive.org.warc.gz GEOCITIES-20091029185858-00184-crawling08.us.archive.org.warc.gz GEOCITIES-20091029193728-00185-crawling08.us.archive.org.warc.gz GEOCITIES-20091029194541-00196-ia400110.us.archive.org.warc.gz GEOCITIES-20091029195911-00197-ia400110.us.archive.org.warc.gz GEOCITIES-20091029202041-00186-crawling08.us.archive.org.warc.gz GEOCITIES-20091029221340-00198-ia400110.us.archive.org.warc.gz GEOCITIES-20091029222459-00199-ia400110.us.archive.org.warc.gz GEOCITIES-20091030021147-00197-ia400103.us.archive.org.warc.gz GEOCITIES-20091030021444-00198-ia400103.us.archive.org.warc.gz GEOCITIES-20091030022413-00171-ia400104.us.archive.org.warc.gz i2millig@rho:/mnt/vol1/data sets/geocities/warcs\$ du -h 4.1T

i2millig@rho:/mnt/vol1/data_sets/geocities/warcs\$

```
2. ssh
ianmilligan1@Ians-MacBook-Pro:~$ rho
i2millig@rho.library.yorku.ca's password:
Welcome to Ubuntu 14.04.2 LTS (GNU/Linux 3.13.0-32-generic x86 64)
 * Documentation: https://help.ubuntu.com/
 System information as of Mon Mar 7 13:43:20 EST 2016
 System load: 0.99
                                  Users logged in:
 Usage of /: 34.7% of 744.67GB IP address for em1:
                                                        130.63.180.18
 Memory usage: 16%
                                  IP address for em2: 10.0.0.18
 Swap usage: 6%
                                  IP address for docker0: 172.17.0.1
 Processes: 359
 Graph this data and manage this system at:
   https://landscape.canonical.com/
242 packages can be updated.
130 updates are security updates.
Last login: Mon Mar 7 13:43:21 2016 from 38.123.136.254
i2millig@rho:~$ ./spark-1.5.1/bin/spark-shell --jars ~/warcbase/target/warcbase-0.1.0-SNAPSHOT-fatjar.jar
WARN NativeCodeLoader - Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Welcome to
    /__/ .__/\_,_/_/ \_\ version 1.5.1
Using Scala version 2.10.4 (Java HotSpot(TM) 64-Bit Server VM, Java 1.8.0_45)
Type in expressions to have them evaluated.
Type :help for more information.
WARN MetricsSystem - Using default name DAGScheduler for source because spark.app.id is not set.
Spark context available as sc.
SQL context available as sqlContext.
scala> :paste
// Entering paste mode (ctrl-D to finish)
import org.warcbase.spark.matchbox._
import org.warcbase.spark.rdd.RecordRDD.
val r =
RecordLoader.loadWarc("/mnt/vol1/data_sets/geocities/warcs/GEOCITIES-20090808133634-04399-crawling08.us.archive.org.warc.gz", sc)
.keepValidPages()
.map(r => ExtractTopLevelDomain(r.getUrl))
.countItems()
.take(10)
// Exiting paste mode, now interpreting.
INFO WacWarcInputFormat - Loading file:/mnt/vol1/data_sets/geocities/warcs/GEOCITIES-20090808133634-04399-crawling08.us.archive.org.warc.g
import org.warcbase.spark.matchbox.
import org.warcbase.spark.rdd.RecordRDD._
r: Array[(String, Int)] = Array((geocities.com,3748), (www.geocities.com,240), (www.myfilehut.com,12), (asiarooms.com,7), (us.geocities.com
,6), (www.theginge.com,3), (www.angelfire.com,3), (images.quizilla.com,3), (pub28.bravenet.com,3), (ss.webring.yahoo.com,2))
scala>
```



Extracting all URLs

```
1 import org.warcbase.spark.matchbox._
2 import org.warcbase.spark.rdd.RecordRDD._
3
4 val r = RecordLoader.loadWarc("/mnt/vol1/data_sets/geocities/
warcs", sc)
```

5 .keepValidPages()

7

- 6 .map(r => r.getUrl)
 - .saveAsTextFile("/mnt/vol1/derivative_data/geocities/url-list")

Results = 186,761,346 URLs, 9.9GB text file

Extracting a Link Graph

- 1 import org.warcbase.spark.matchbox.{ExtractTopLevelDomain, ExtractLinks, RecordLoader}
- 2 import org.warcbase.spark.rdd.RecordRDD._
- 4 RecordLoader.loadArc("/mnt/vol1/data_sets/geocities/warcs/*", sc)
- 5 .keepValidPages()

3

- 6 .map(r => (r.getCrawldate, ExtractLinks(r.getUrl, r. getContentString)))
- 8 .filter(r => r._2 != "" && r._3 != "")
- 9 .countItems()
- 10 .filter(r => r._2 > 5)

Results

- 1 ((20090903,http://geocities.com/saganaki2000/ADSLGR/adslgr.htm, http://www.adslgr.com),15337)
- 2 ((20091026,http://geocities.com/saganaki2000/ADSLGR/adslgr.htm, http://www.adslgr.com),15337)
- 3 ((20091027,http://geocities.com/spankbank69hard/,http://pg.photos .yahoo.com/ph/spankbank69hard/my_photos/),9807)
- 4 ((20090903,http://geocities.com/spankbank69hard/index.html,http:/ /pg.photos.yahoo.com/ph/spankbank69hard/my_photos/),9807)
- 5 ((20091027,http://geocities.com/CollegePark/Locker/8187/,http:// www.comercialuruapan.com),8056)
- 6 ((20090903,http://geocities.com/CollegePark/Locker/8187/,http:// www.comercialuruapan.com),8056)

Creating Entities

403GB of link graph data.

- http://www.geocities.com/EnchantedForest/Grove/1234/index.html
- http://www.geocities.com/EnchantedForest/Grove/1234/pets/cats.html
- http://www.geocities.com/EnchantedForest/Grove/1234/pets/dogs.html
- http://www.geocities.com/EnchantedForest/Grove/1234/pets/rabbits.html

Bash-Fu

Find all four digit numbers:

sed 's/[()]*//g; s/^[^,]*,//; s/\([0-9]\{4\}\)[^,]*/\1/g'
enchantedforest-links.txt > enchantedforest-entities-cleaned1.txt

Then find internal:

grep -P '(.*/[0-9]{4}){2}' enchantedforest-entities-cleaned1.txt >
enchantedforest-entities-internal.txt

Link Structure

- 1 Source, Target, Weight
- 2 http://www.geocities.com/EnchantedForest/Meadow/1134,http://www. geocities.com/EnchantedForest/1004,83
- 3 http://www.geocities.com/EnchantedForest/Meadow/1134,http://www. geocities.com/EnchantedForest/1004,83
- 4 http://www.geocities.com/Area51/Stargate/1357,http://www. geocities.com/Area51/EnchantedForest/4213,33
- 5 http://www.geocities.com/Area51/Stargate/1357,http://www. geocities.com/Area51/EnchantedForest/4213,33
- 6 http://www.geocities.com/Eureka/1309,http://www.geocities.com/ EnchantedForest/Tower/7555,27
- 7 http://www.geocities.com/Eureka/1309,http://www.geocities.com/ EnchantedForest/Tower/7555,27

wooshieldhis/6470 http://geocities.com/WestHollywood/6036 sotties.com/WestHollywood/7510 p.//geocities.com/West foil y=pool Heights/8170 Hollywood 4809 wood/heights/1067 http://tiencilia htp://geocties.com/vieal/solywood/twichts/5894 Hollywood/3676 Macabaocilia tHollywood/2753 http://geocities.co the Conception com California Californi 4620 intellywood/Magar1425 recodit leights 5090 and the loom of http://geocilies.com/West-toitywood/Park/238 http://geocities.com/W http://geooties.com/WestHollywood/Cite/sea/8553 ttp://geocities.com/Westhollywood/Cate/1986 http://geocities.com/WestHallywood/Heights/4250 http://geodiles.com 1Hollywood 20190 dollar d Hollywood/3075 http://geociaes. Its / second as cont West for wood? Inchts 8158 Holywood/6347 http://geocities.com///est-loflywood/1459 worker com/Westhollywood/454 pligeopties.com/W vond Stonewalk 6751

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http://peocifies.com/Vischig/ywood/Vilage/9414

http://geodities.com/WestHollywood/1401

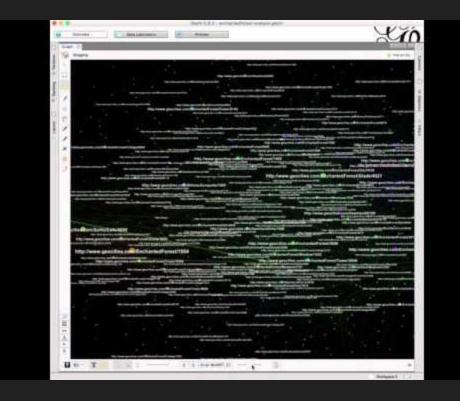
http://geputes.com/mail.com/wood/6310

http://geooldies.com/

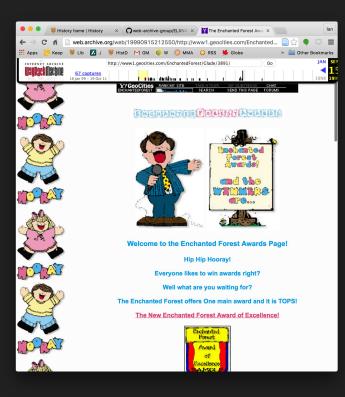
http://geocifies.com/

http://geocities.com/WestHolly

ollywood/Park/8021



EnchantedForest/Glade/3891



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INTERNET ARCHIVE		http://www.geocities	.com/EnchantedFores	it/Glade/3891	Go	FEB OC
WayBackillachine	67 captures 16 Jan 99 - 19 Oct 11	1.04	dmildi	<mark>.</mark>		2006 200

Yahoo got rid of us! Sorry but we do not exist anymore. We haven't in a long time now. Yahoo doesn't care about the kids anymore. Pedophiles and porno sickos can now run rampid and there's nothing anyone at Yahoo is gonna do! They just don't care about the safety of children. All they care about is numbers and money! May God have mercy on them all!

Waiting for web.archive.org.

Historical Uses

- The prevalence of awards pages and awards hubs within this neighbourhood;
- A protest movement that may have emerged when Yahoo! decided to shut down the neighbourhood;
- We can begin to follow links from this awards page, by highlighting it in Gephi, to find pages that hosted awards in connection with it;

We could do Shine indexing, but metadata might be the best way forward.

Also lets us share datasets!

Datasets

🗄 Apps 👩 Keep 👼 Lib 💋 / 🦉 Histid M GM 🍥 W 🥎 MMA 📿 RSS 🗰 Giobe 🗅 Global Online Enrolin 🔹 Historical Statistics 19 Web Archives for Historical Research - Canadian Politics Search Trends About Datasets

Welcome to the Web Archives for Historical Research political parties portal. Before diving in, we encourage you to visit our about page

Datasets

We are making several datasets available for users. They will be available through our Scholars Portal Dataverse entry. We currently have available:

 All Links within the Collection, 2005-2015: Available as a GraphML file, this dataset will allow you to reconstruct the link visualiza the collection. A walkthrough for working with this material is available here.

More datasets will be available over the coming months and years. If you have any questions, please contact lan Milligan at i2millig@uwa

How should I cite this data

Please note that you are using derivative datasets generated by the Web Archives for Historical Research Group (with a URL to our Datav additional citation to the original dataset:

- Milligan, Ian; Ruest, Nick; Lin, Jimmy, "Derivative data for the Canadian Political Parties and Interest Groups collection", http://hdl.handle.net/10864/11301 V7 [Version].
- University of Toronto Libraries, Canadian Political Parties and Interest Groups, Archive-It Collection 227, https://archive-it.org/collection/a

Why are we releasing data?

Along with our funding council, the Social Sciences and Humanities Research Council of Canada, we are committed to making our derive freely available. SSHRC's Research Data Archiving Policy notes that 'SSHRC is committed to the principle that the various forms of resei collected with public funds belong in the public domain." We couldn't agree more.

Web Archives for Historical Research Group Dataverse

SP Dataverse Network >

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The Web Archives for Historical Research (WAHR) group has the goal of linking history and big data to give historians the tools required to find and interpret digital sources from web archives.

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Links!

- https://uwaterloo.ca/web-archive-group/
- https://github.com/web-archive-group/
- https://github.com/ianmilligan1/
- <u>https://github.com/ruebot</u>
- http://dataverse.scholarsportal.info/dvn/dv/wahr



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