



Using the Wayback Machine in Litigation

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- Over 17 Years of eDiscovery development and experience
- We help legal professionals, with limited resources, successfully handle document intensive cases
- Lexbe provides legal teams with a highly affordable, full-featured, and lightning-fast DIY proprietary cloud eDiscovery platform
- Delivers the industry's fastest ROI
- CEDS-certified eDiscovery specialists, expert consultants, and a digital forensics lab



G2 finds that Lexbe "delivers best ROI in the industry and leads in 6 key metrics."



**Legaltech
news**

"Secure, easy-to-use and a great review tool for consideration"



"Cost-effective eDiscovery"



TechnoLawyer

"A powerful litigation document management service"

Today's Speaker: Nicholas Taylor

- Expert Witness, Wayback Machine and Temporal Web Forensics
- Experience
 - 16+ years working in research libraries and technology firms
 - 9+ years working in the web archiving field
- Employment
 - Current: Los Alamos National Laboratory
 - Previous: Stanford University, Library of Congress, U.S. Supreme Court, Sun Microsystems, Google
- Education
 - Master of Library Science, University of Maryland
 - Master of Arts in Communication, Culture & Technology, Georgetown University
 - Bachelor of Arts, Media Studies and Psychology, Pomona College



Nicholas Taylor
Expert Witness
nullhandle.org

Session Agenda

Using the Wayback Machine in Litigation

Specht v. Google, Inc. (2010)

INTERNET ARCHIVE
Wayback Machine
80 captures
17 Aug 2009 - 25 Oct 2016

http://www.androiddata.com:80/

android data[®]
Bringing business into the age of e-commerce.

Android Data - Content Manager

Products
Bronze Statues
Framed Canvas Art

Edit Product
General | SKUs | Catalog Info

HOME CONTACT SUPPORT TESTIMONIALS

Content Manager Caching Server Administrator's Toolkit

Android Data[®] is a suite of software that enables the remote administration of e-commerce content.

The system is comprised of three modules:
the Caching Server, the Content Manager, and the Administrator's Toolkit.

Copyright © 2002 Android Data Corporation. All Rights Reserved.

Internet Archive: "android data"

[Specht v. Google, Inc., 758 F. Supp. 2d 570 \(N.D. Ill. Dec. 17, 2010\)](#)

http://www.openhandsetalliance.com/android_overview.html

506 captures
6 Nov 2007 - 16 Nov 2022

open handset alliance

Home | Alliance | **Android** | Developers | Press | Contact

Overview | FAQ

ANDROID

Introducing Android

Android™ will deliver a complete set of software for mobile devices: an operating system, middleware and key mobile applications. On November 12, we will release an early look at the Android Software Development Kit (SDK) to allow developers to build rich mobile applications.

Open
Android was built from the ground-up to enable developers to create compelling mobile applications that take full advantage of all a handset has to offer. It is built to be truly open. For example, an application could call upon any of the phone's core functionality such as making calls, sending text messages, or using the camera, allowing developers to create richer and more cohesive experiences for users. Android is built on the open Linux Kernel. Furthermore, it utilizes a custom virtual machine that has been designed to optimize memory and hardware resources in a mobile environment. Android will be open source; it can be liberally extended to incorporate new cutting edge technologies as they emerge. The platform will continue to evolve as the developer community works together to build innovative mobile applications.

All applications are created equal
Android does not differentiate between the phone's core applications and third-party applications. They can all be built to have equal access to a phone's capabilities providing users with a broad spectrum of applications and services. With devices built on the Android Platform, users will be able to fully tailor the phone to their interests. They can swap out the phone's homescreen, the style of the dialer, or any of the applications. They can even instruct their phones to use their favorite photo viewing application to handle the viewing of all photos.

Breaking down application boundaries
Android breaks down the barriers to building new and innovative applications. For example, a developer can combine information from the web with data on an individual's mobile phone – such as the user's contacts, calendar, or geographic location – to provide a more relevant user experience. With Android, a developer could build an application that enables users to view the location of their friends and be alerted when they are in the vicinity giving them a chance to connect.

Fast & easy application development
Android provides access to a wide range of useful libraries and tools that can be used to build rich applications. For example, Android enables developers to obtain the location of the device, and allow devices to communicate with one another enabling rich peer-to-peer social applications. In addition, Android includes a full set of tools that have been built from the ground up alongside the platform providing developers with high productivity and deep insight into their applications.

Terms of Service | Privacy Policy

Internet Archive: "Open Handset Alliance"

the web exists in space...

"Tiles" by Ole Husby under CC BY-SA 2.0





...it also exists in time

"Irregular paving" by Stephen Edmonds under CC BY-SA 2.0



two contemporary(?) websites



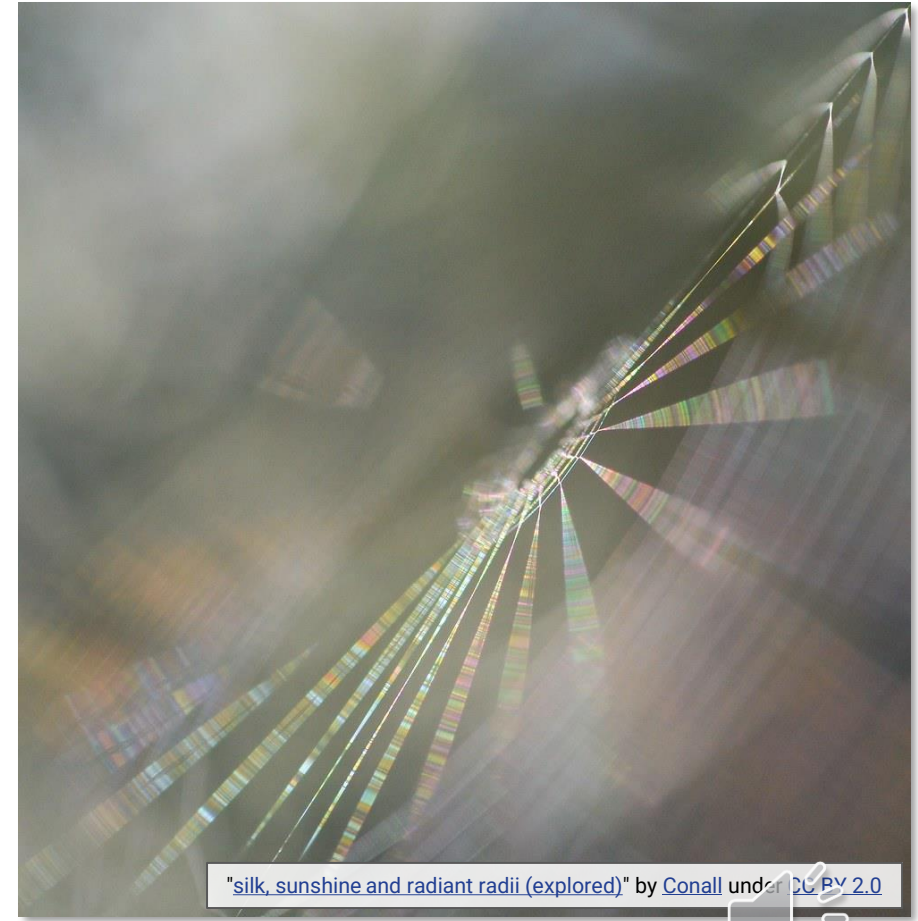
why do the temporal attributes of web content matter?

- cases may turn on when specific information was publicly available and/or discoverable on the web
 - when first published
 - when updated
 - when absent
- examples:
 - patent disclosures
 - use of marks or copyrighted materials
 - terms of service
 - advertised claims regarding products or services
 - business relationships



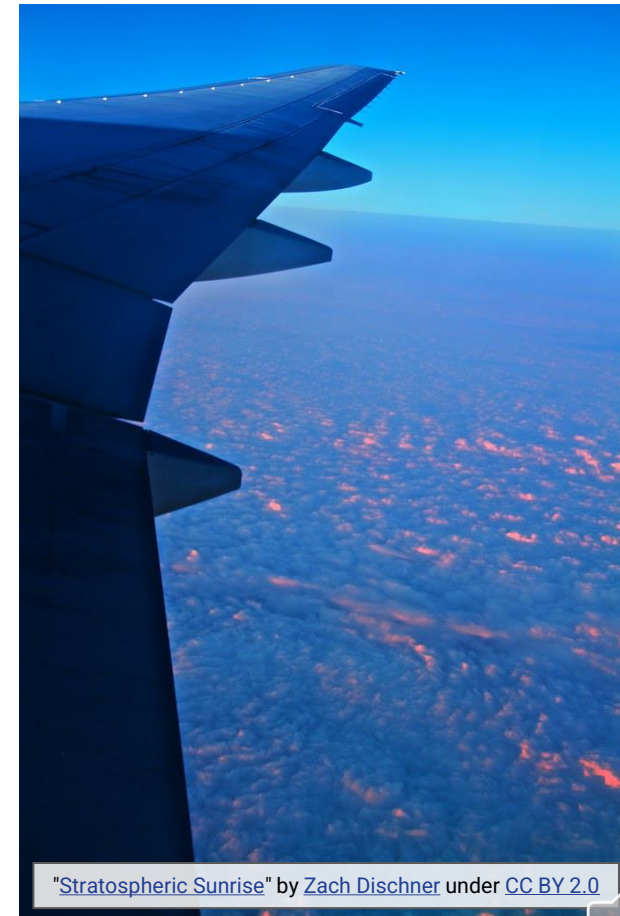
why not just rely on client's own records?

- unsystematic and/or incomplete recordkeeping
- savvy opposing counsel may check open sources for counter-indicative evidence
- material info disseminated via third-party platforms
- some questions (e.g., discoverability) can't be definitively settled w/ client records alone



overview

- background
- interface + features
- authentication + admissibility
- temporal coherence
- timestamping content changes





IAWM background

"Irregular paving" by Stephen Edmonds under CC BY-SA 2.0



Internet Archive

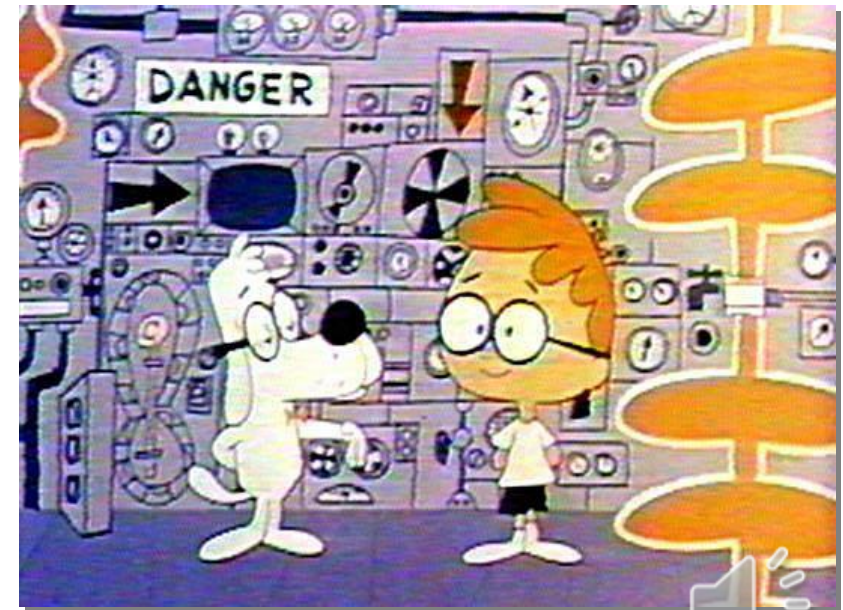
- non-profit digital library
- “universal access to all knowledge”
- provides free public access to collections of all types of digital materials



IAWM

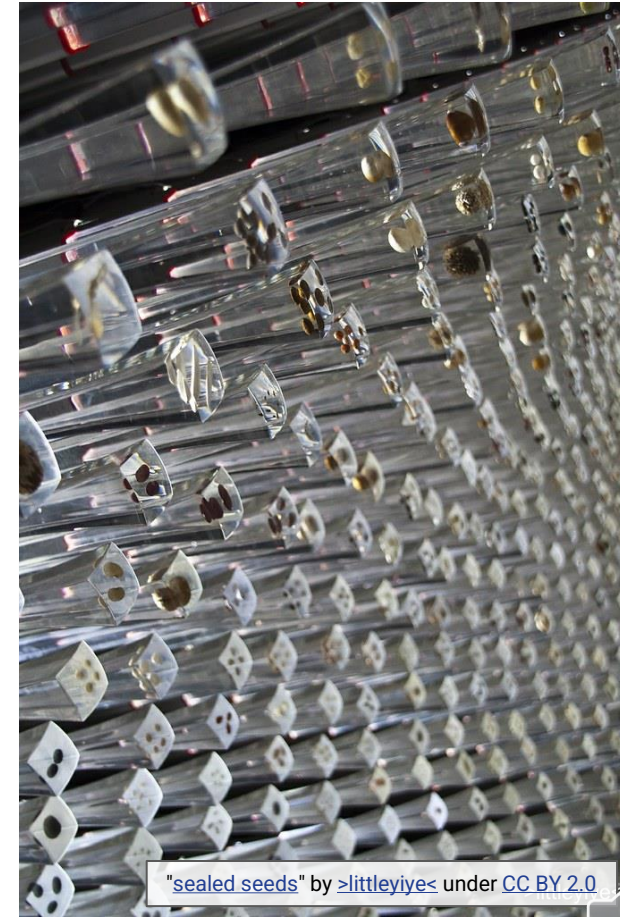
- free, open archive of websites
1996 – present
- web content is both culturally
significant + ephemeral
- IAWM referenced in:
 - [a 2002 patent application](#)
 - [a 2003 PTAB proceeding](#)
 - [a 2004 U.S. federal court case](#)

INTERNET ARCHIVE
WayBackMachine



IAWM archival coverage

- “best effort” archive
- popular + more recent content is better archived
- content of interest to cultural heritage orgs + public is increasingly better archived
- social media less well archived
- non-public web content not archived





IAWM interface + operation

"Web Design Wireframe" by David Michalczuk under [CC BY 2.0](#)



IAWM home

The screenshot shows the Internet Archive Wayback Machine homepage. At the top, there is a navigation bar with the Internet Archive logo, a '25' anniversary icon, and links for ABOUT, BLOG, PROJECTS, HELP, DONATE, CONTACT, JOBS, VOLUNTEER, and PEOPLE. On the right side of the navigation bar are links for SIGN UP, LOG IN, and UPLOAD. Below the navigation bar, the main heading reads 'INTERNET ARCHIVE Explore more than 602 billion web pages saved over time'. The 'WayBackMachine' logo is prominently displayed. A search bar contains the text 'http://' and a 'BROWSE HISTORY' button. Below the search bar, there is a 'Find the Wayback Machine useful?' section with a 'DONATE' button. A row of eight small thumbnail images shows various archived web pages. The page is divided into three main sections: 'Tools', 'Subscription Service', and 'Save Page Now'. The 'Tools' section includes links for 'Wayback Machine Availability API', 'WordPress Broken Link Checker', and '404 Handler for Webmasters'. The 'Subscription Service' section describes Archive-It and includes a link to 'Visit Archive-It to build and browse the collections'. The 'Save Page Now' section features a search bar with 'https://', a 'SAVE PAGE' button, and a description of the service. At the bottom of the page, there are links for 'FAQ', 'Contact Us', and 'Terms of Service (Dec 31, 2014)', along with a link to 'Internet Archive: "Wayback Machine"'. A speaker icon is visible in the bottom right corner of the screenshot.

IAWM home: search box

INTERNET ARCHIVE 25»

ABOUT BLOG PROJECTS HELP DONATE CONTACT JOBS VOLUNTEER PEOPLE

INTERNET ARCHIVE Explore more than 602 billion [web pages](#) saved over time

WayBackMachine [BROWSE HISTORY](#)

Find the Wayback Machine useful? [DONATE](#)

Tools
Wayback Machine Availability API
Build your own tools.
WordPress Broken Link Checker
Banish broken links from your blog.
404 Handler for Webmasters
Help users get where they were going.

Subscription Service
Archive-It enables you to capture, manage and search collections of digital content without any technical expertise or hosting facilities. [Visit Archive-It to build and browse the collections.](#)

Save Page Now

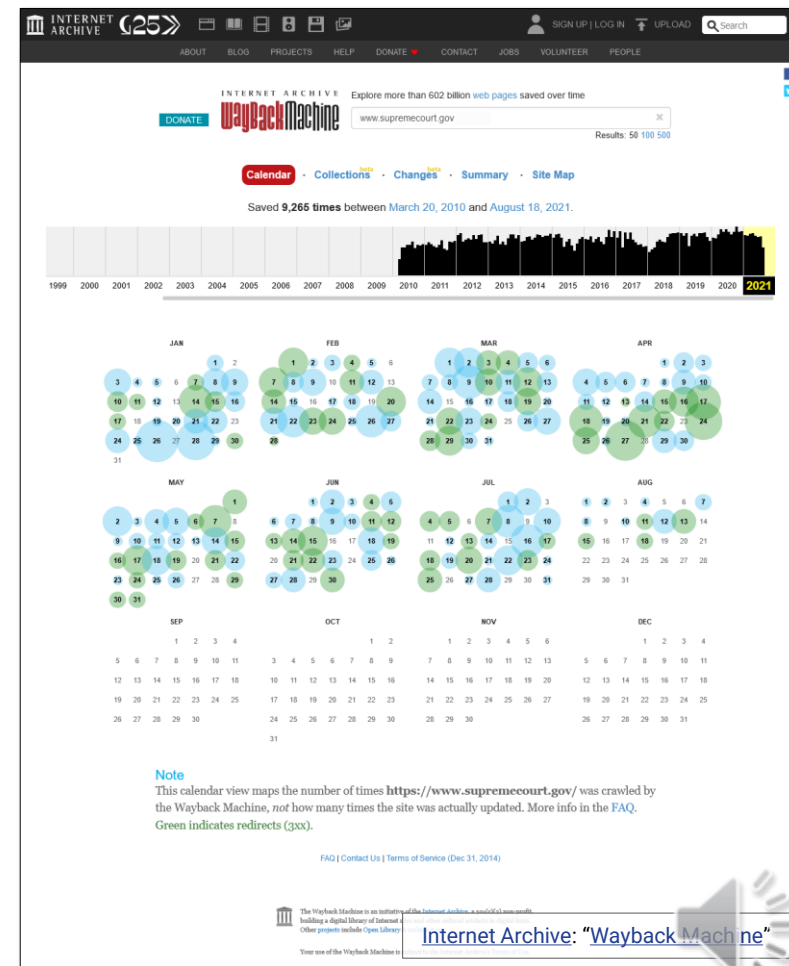
[SAVE PAGE](#)
Capture a web page as it appears now for use as a trusted citation in the future.
Only available for sites that allow crawlers.

FAQ | [Contact Us](#) | [Terms of Service \(Dec 31, 2014\)](#) [Internet Archive: "Wayback Machine"](#)



IAWM calendar page

- landing page presents archival coverage for specified web address for year selected in timeline
- bubble size indicates relative number of captures for that date
- bubble color indicates status code provided by the web server to the IA archiving agent
 - blue means [a successful retrieval](#), with no errors
 - green means [a redirect was encountered](#)



IAWM calendar page: captures by year

- click to another year in the timeline to change the calendar view below
- let's click to 2011

INTERNET ARCHIVE (25) [Navigation icons] [User: SHOW UP / LOGIN] [SEARCH]

INTERNET ARCHIVE Explore more than 602 billion web pages saved over time

DONATE WaybackMachine www.supremecourt.gov Results: 50 100 500

Calendar · Collections · Changes · Summary · Site Map

Saved 9,265 times between March 20, 2010 and August 18, 2021.

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

JAN FEB MAR APR
MAY JUN JUL AUG
SEP OCT NOV DEC

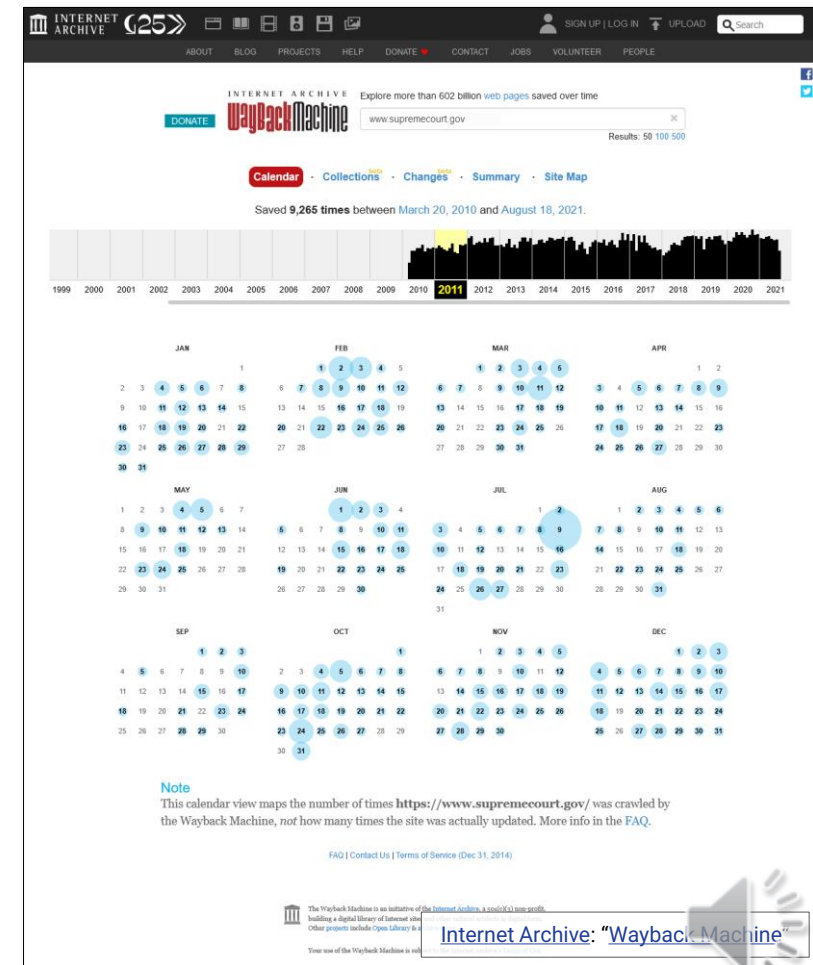
Note
This calendar view maps the number of times <https://www.supremecourt.gov/> was crawled by the Wayback Machine, not how many times the site was actually updated. More info in the FAQ.
Green indicates redirects (3xx).

FAQ | Contact Us | Terms of Service (Dec 31, 2014)

The Wayback Machine is an initiative of the Internet Archive, a non-profit digital library.
Internet Archive: "Wayback Machine"

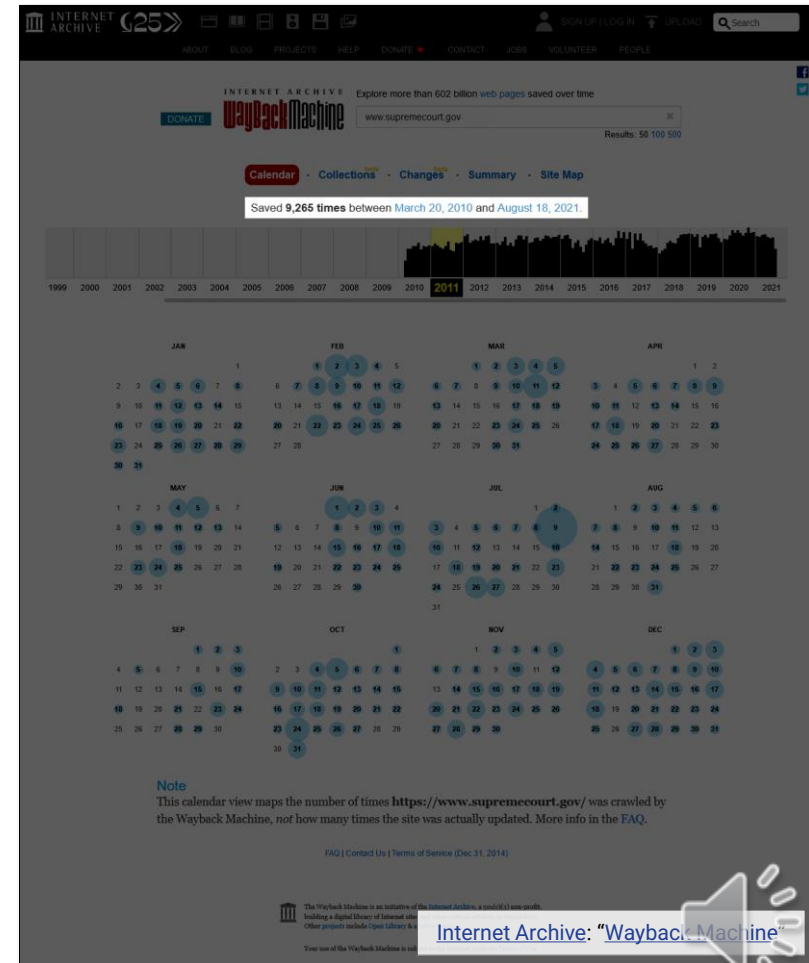
IAWM calendar page

- note that there are fewer captures in 2011, as indicated by:
 - shorter bars on the timeline histogram
 - generally smaller bubbles than in 2021
- general trend is that websites are better archived over time
- let's take a closer look at some of the other interface elements



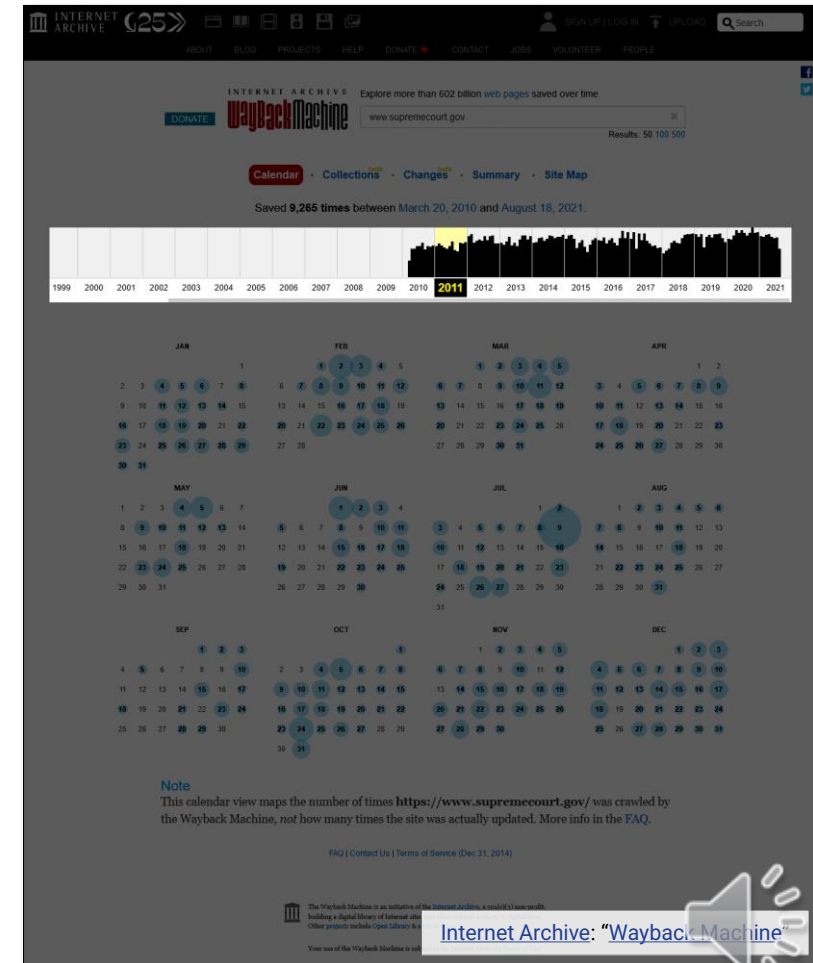
IAWM calendar page: captures range

- number of captures for the specified web address + their date range is displayed at the top
- links are provided to the first + last captures in the date range



IAWM calendar page: timeline histogram

- the timeline histogram provides a visual summary of the relative number of captures over time
- each year segment has 12 columns – one for each month
- the year displayed in detail below is highlighted in yellow in the timeline



IAWM calendar page: calendar

- archival coverage for every day of the year selected in the timeline
- this is the 2011 calendar

INTERNET ARCHIVE (25) Search

INTERNET ARCHIVE Explore more than 602 billion web pages saved over time

www.supremecourt.gov Results: 58 100 500

Calendar · Collections · Changes · Summary · Site Map

Saved 9,265 times between March 20, 2010 and August 18, 2021.

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

| JAN | FEB | MAR | APR |
|----------------------|----------------------|----------------------|----------------------|
| 1 | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 |
| 2 3 4 5 6 7 8 | 6 7 8 9 10 11 12 | 6 7 8 9 10 11 12 | 3 4 5 6 7 8 9 |
| 9 10 11 12 13 14 15 | 13 14 15 16 17 18 19 | 13 14 15 16 17 18 19 | 10 11 12 13 14 15 16 |
| 16 17 18 19 20 21 22 | 20 21 22 23 24 25 26 | 20 21 22 23 24 25 26 | 17 18 19 20 21 22 23 |
| 23 24 25 26 27 28 29 | 27 28 | 27 28 29 30 31 | 24 25 26 27 28 29 30 |
| 30 31 | | | |
| MAY | JUN | JUL | AUG |
| 1 2 3 4 5 6 7 | 1 2 3 4 | 1 2 | 1 2 3 4 5 6 |
| 8 9 10 11 12 13 14 | 5 6 7 8 9 10 11 | 3 4 5 6 7 8 9 | 7 8 9 10 11 12 13 |
| 15 16 17 18 19 20 21 | 12 13 14 15 16 17 18 | 10 11 12 13 14 15 16 | 14 15 16 17 18 19 20 |
| 22 23 24 25 26 27 28 | 19 20 21 22 23 24 25 | 17 18 19 20 21 22 23 | 21 22 23 24 25 26 27 |
| 29 30 31 | 26 27 28 29 30 | 24 25 26 27 28 29 30 | 28 29 30 31 |
| | | 31 | |
| SEP | OCT | NOV | DEC |
| 1 2 3 | 1 | 1 2 3 4 5 | 1 2 3 |
| 4 5 6 7 8 9 10 | 2 3 4 5 6 7 8 | 6 7 8 9 10 11 12 | 4 5 6 7 8 9 10 |
| 11 12 13 14 15 16 17 | 9 10 11 12 13 14 15 | 13 14 15 16 17 18 19 | 11 12 13 14 15 16 17 |
| 18 19 20 21 22 23 24 | 16 17 18 19 20 21 22 | 20 21 22 23 24 25 26 | 18 19 20 21 22 23 24 |
| 25 26 27 28 29 30 | 23 24 25 26 27 28 29 | 27 28 29 30 | 25 26 27 28 29 30 31 |
| | 30 31 | | |

Note
This calendar view maps the number of times <https://www.supremecourt.gov/> was crawled by the Wayback Machine, not how many times the site was actually updated. More info in the FAQ.

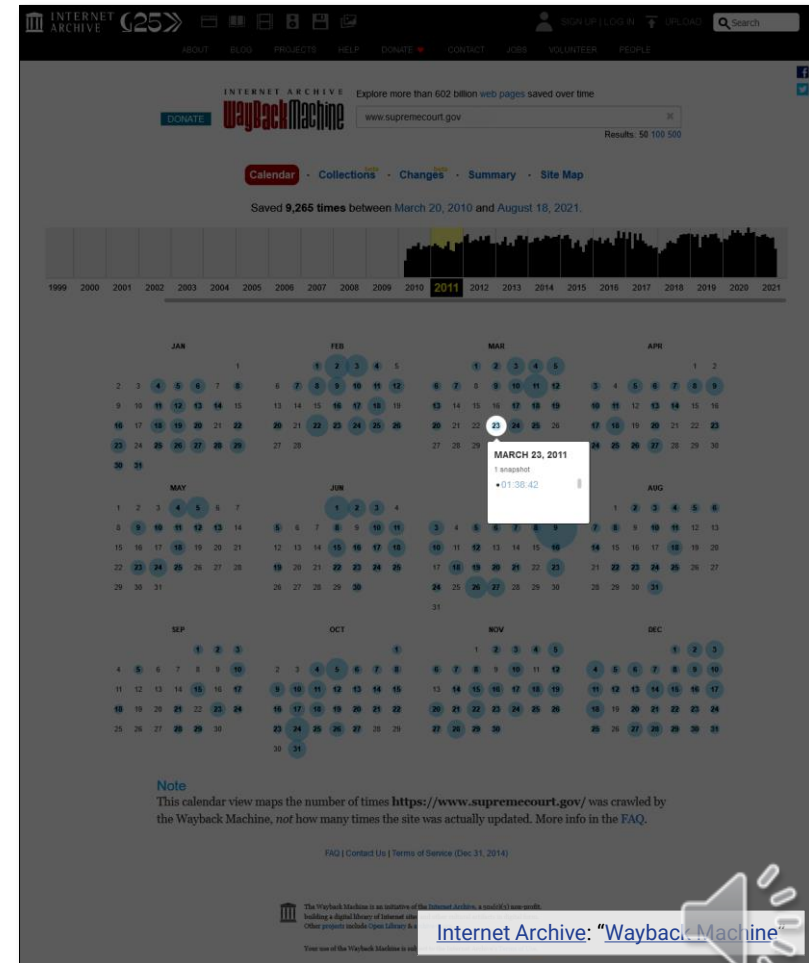
FAQ | Contact Us | Terms of Service (Dec 31, 2014)

The Wayback Machine is an initiative of the Internet Archive, a non-profit organization building a digital library of Internet sites and other preserved online content.

Internet Archive: "Wayback Machine"

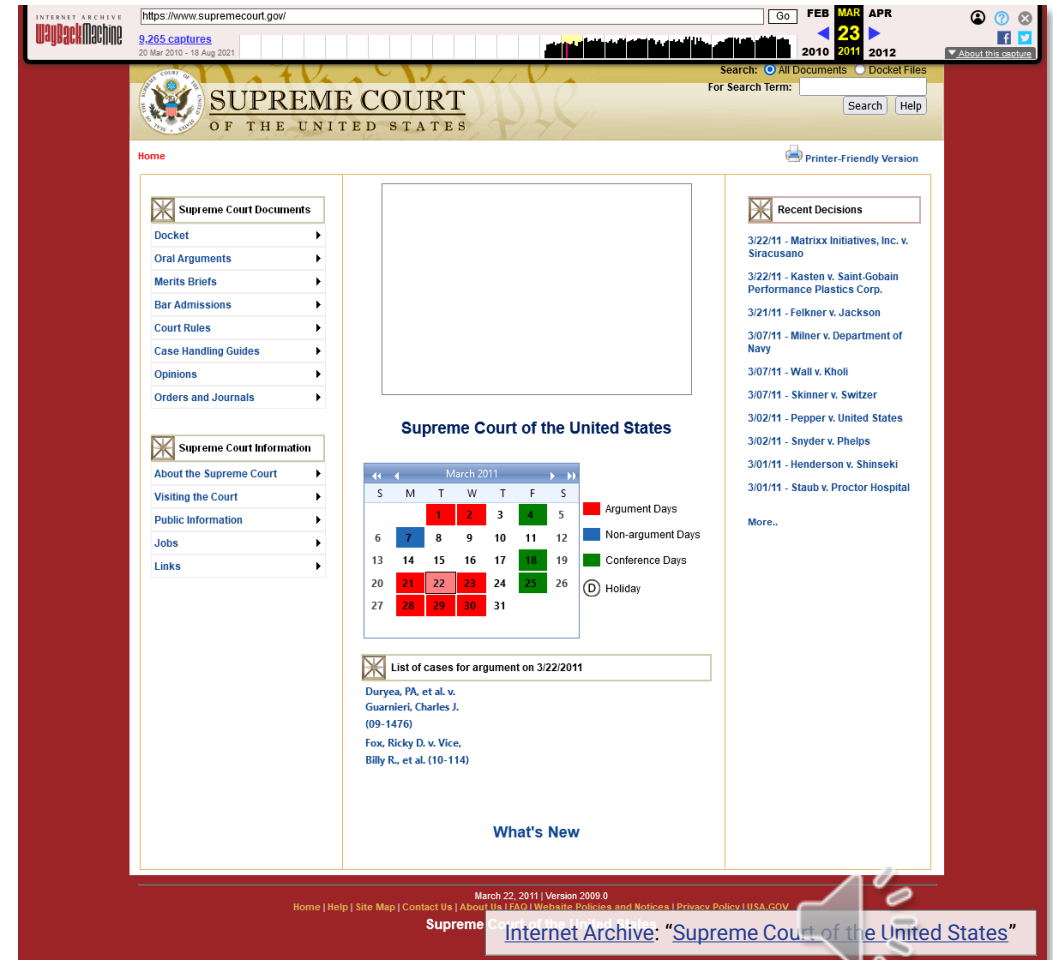
IAWM calendar page: 23 March 2011 capture

- hovering over a date for which there is at least one capture presents the number of captures + capture time(s)
- clicking on a capture time takes you to the re-representation of the resource captured on that date at that time
- let's click through



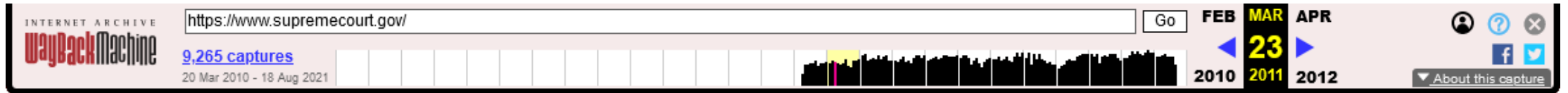
IAWM resource page

- IAWM resource page for www.supremecourt.gov for the 23 March 2011 capture
- note that archived webpages have a top-justified IAWM overlay banner to:
 - remind the user they're within the IAWM context
 - facilitate navigation
 - provide additional info about the current capture + other captures of the resource located at the same web address
- let's look at the IAWM banner



Internet Archive: "Supreme Court of the United States"

IAWM banner



- IAWM overlay banner for the resource page for the 23 March 2011 capture of www.supremecourt.gov
- offers many of the same features as the calendar page: search box, captures range, timeline histogram



IAWM banner: temporal navigation



- yellow highlighted date is the capture date of the currently accessed web resource
- to the left and right are temporal navigation links for different intervals – from top to bottom:
 - one month ago / one month ahead
 - last preceding capture / next successive capture
 - one year ago / one year ahead
- for less-frequently captured web resources, intervals may be longer than a month or year





Full-Text Search (of Home Pages)

"Typeset" by Paul Hudson under CC BY 2.0



full-text search (of home pages)

The screenshot shows the Internet Archive Wayback Machine homepage. At the top, there is a navigation bar with the Internet Archive logo, a '25' anniversary logo, and icons for various services. The main header includes the text 'INTERNET ARCHIVE Explore more than 602 billion web pages saved over time' and the 'WayBack Machine' logo. Below this is a search bar with 'http://' and a 'BROWSE HISTORY' button. A 'DONATE' button is also visible. The main content area features a row of seven thumbnail images representing different archived web pages. Below the thumbnails are three sections: 'Tools' with links to 'Wayback Machine Availability API', 'WordPress Broken Link Checker', and '404 Handler for Webmasters'; 'Subscription Service' with a description of Archive-It; and 'Save Page Now' with a search bar containing 'https://', a 'SAVE PAGE' button, and a description of the service. At the bottom, there are links for 'FAQ', 'Contact Us', and 'Terms of Service (Dec 31, 2014)', along with a link to 'Internet Archive: "Wayback Machine"'. A speaker icon is located in the bottom right corner of the screenshot.

full-text search (of home pages): enter search string

INTERNET ARCHIVE 25»

ABOUT BLOG PROJECTS HELP DONATE CONTACT JOBS VOLUNTEER PEOPLE

INTERNET ARCHIVE Explore more than 602 billion [web pages](#) saved over time

WayBackMachine [BROWSE HISTORY](#)

Find the Wayback Machine useful? [DONATE](#)

Tools
Wayback Machine Availability API
Build your own tools.
WordPress Broken Link Checker
Banish broken links from your blog.
404 Handler for Webmasters
Help users get where they were going.

Subscription Service
Archive-It enables you to capture, manage and search collections of digital content without any technical expertise or hosting facilities. [Visit Archive-It to build and browse the collections.](#)

Save Page Now

[SAVE PAGE](#)
Capture a web page as it appears now for use as a trusted citation in the future.
Only available for sites that allow crawlers.

FAQ | [Contact Us](#) | [Terms of Service \(Dec 31, 2014\)](#)

[Internet Archive: "Wayback Machine"](#)



full-text search (of home pages): search results

The screenshot shows the Internet Archive Wayback Machine search interface. At the top, there is a navigation bar with links for ABOUT, BLOG, PROJECTS, HELP, DONATE, CONTACT, JOBS, VOLUNTEER, and PEOPLE. A search bar contains the text "supreme court united states" and shows "Results: 50 100 500". Below the search bar, there are three search results:

- Result 1:** <http://supremecourtus.gov/>
supreme court
 15,448 captures, 110 images, 0 videos, 0 audio files
 115,227 capture(s) from 2000 to 2015 | Site stats
- Result 2:** <http://supremecourt.gov/>
u.s. supreme court
 12,141 captures, 1,532 images, 1,760 videos, 5 audio files
 444,249 capture(s) from 2010 to 2016 | Site stats
- Result 3:** <http://scotusblog.com/>
scotusblog
 103,093 captures, 910 images, 57 videos, 2 audio files
 1,315,924 capture(s) from 2004 to 2016 | Site stats

Below these results, the start of a fourth result is visible: <http://united-states-supreme-court.skyairline.net/> with the title *united-states-supreme-court.skyairline.net* and 1 capture from 2005 to 2005.



full-text search (of home pages): top two results

The screenshot shows the Internet Archive Wayback Machine search interface. The search query is "supreme court united states" and the results are displayed in a list. The top two results are:

- http://supremecourtus.gov/**
supreme court
15,448 captures, 110 images, 0 PDFs, 0 audio files
115,227 capture(s) from 2000 to 2015 | Site stats
- http://supremecourt.gov/**
u.s. supreme court
12,141 captures, 1,532 images, 1,760 PDFs, 5 audio files
444,249 capture(s) from 2010 to 2016 | Site stats

Other results visible include <http://scotusblog.com/> (scotusblog) and <http://united-states-supreme-court.skyairline.net/> (united-states-supreme-court.skyairline.net).



full-text search (of home pages): capture counts for top two results

The screenshot shows the Internet Archive Wayback Machine search interface. The search query is "supreme court united states", resulting in 50, 100, or 500 results. The top two results are highlighted with white boxes around their capture counts:

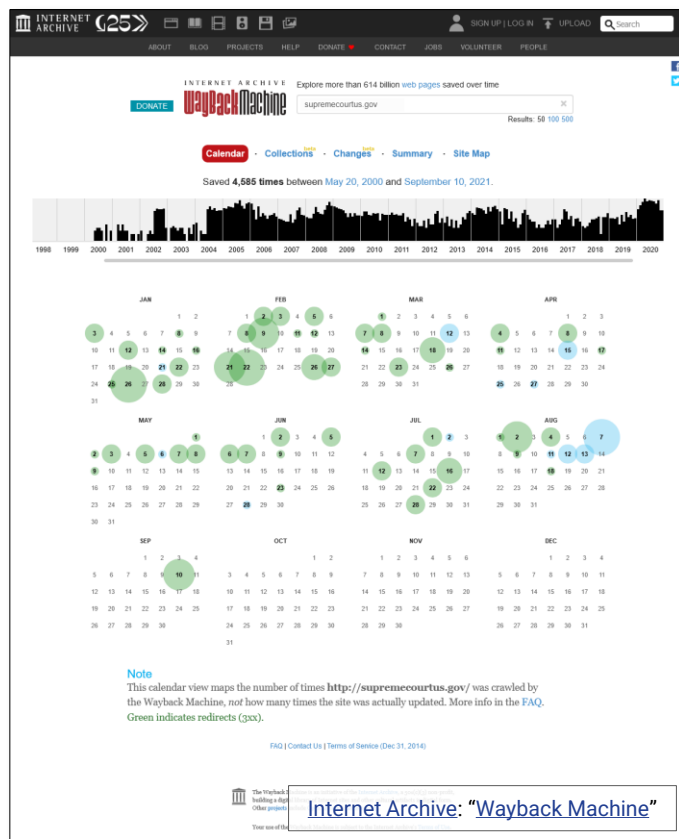
| URL | Page Title | Capture Count | Time Range |
|---|--------------------|--------------------|-------------------|
| http://supremecourtus.gov/ | supreme court | 115,227 capture(s) | from 2000 to 2015 |
| http://supremecourt.gov/ | u.s. supreme court | 444,249 capture(s) | from 2010 to 2016 |

Other results include <http://scotusblog.com/> (1,315,924 captures from 2004 to 2016) and <http://united-states-supreme-court.skyairline.net/> (1 capture from 2005 to 2005).

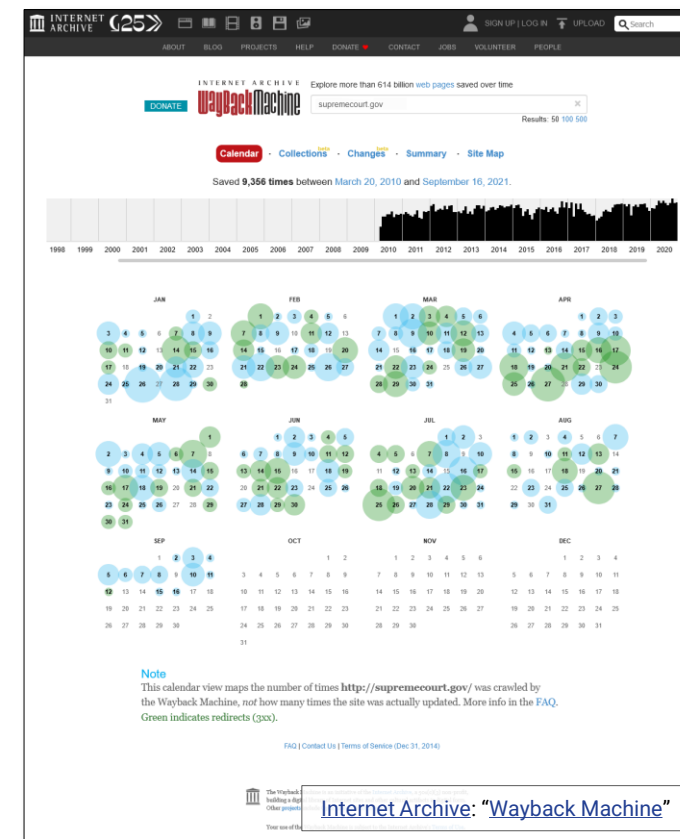


IAWM calendar pages

supremecourtus.gov

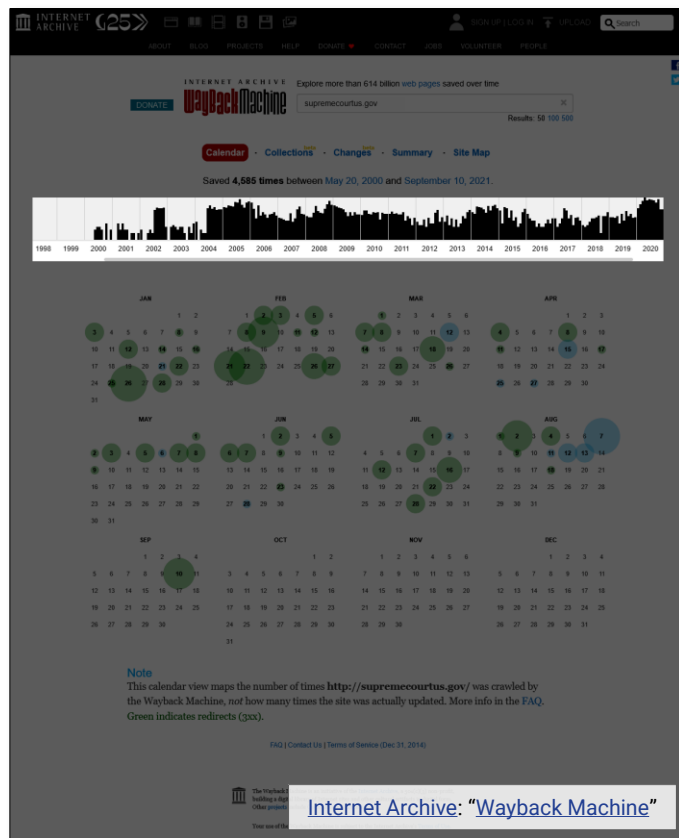


supremecourt.gov

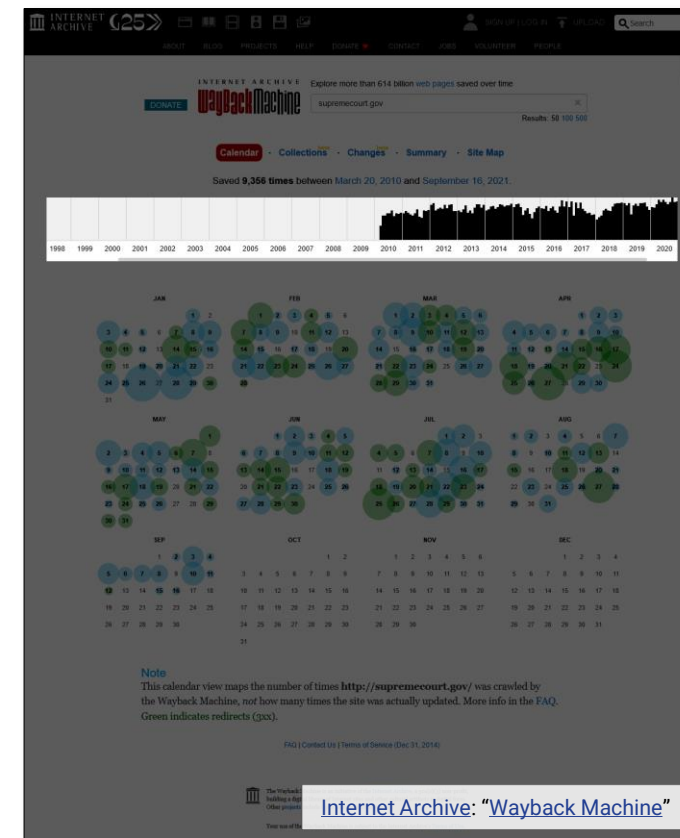


IAWM calendar pages: timeline histograms

supremecourtus.gov



supremecourt.gov



IAWM resource page

- this is the first capture for supremecourtus.gov, from 20 May 2000





Collections Tool + Full-Text Search

"Boxes in the University Archives" by University of Illinois Library under CC BY 2.0



Collections tool

- IAWM captures have diverse provenance:
 - [web-wide crawls](#)
 - [contract crawls](#)
 - [Archive-It crawls](#)
 - [Alexa donations](#)
 - [ArchiveTeam crawls](#)
 - [Save Page Now](#)
- Collections tool shows sources of captures
- why does provenance matter?
 - some sources have more focused crawls, indicating quality
 - some sources offer additional search + discovery options



IAWM calendar page

The screenshot shows the Internet Archive Wayback Machine interface. At the top, there's a navigation bar with links for ABOUT, BLOG, PROJECTS, HELP, DONATE, CONTACT, JOBS, VOLUNTEER, and PEOPLE. A search bar is on the right. Below the navigation bar, the Wayback Machine logo is prominent, along with the text "INTERNET ARCHIVE Explore more than 619 billion web pages saved over time". A search box contains the URL "www.supremecourt.gov" and shows "Results: 50 100 500". A navigation menu includes "Calendar" (highlighted in red), "Collections", "Changes", "Summary", "Site Map", and "URLs". Below this, it states "Saved 9,448 times between March 20, 2010 and October 16, 2021." A bar chart shows the frequency of saves from 1999 to 2021, with 2021 highlighted in yellow. At the bottom, there are eight calendar grids for the months of the year (JAN to AUG), with dates represented by colored circles (blue and green) indicating when the page was saved.



IAWM calendar page

The screenshot shows the Internet Archive Wayback Machine interface. At the top, there is a navigation bar with links for ABOUT, BLOG, PROJECTS, HELP, DONATE, CONTACT, JOBS, VOLUNTEER, and PEOPLE. A search bar is located on the right. Below the navigation bar, the main content area features the Internet Archive logo and the text "Explore more than 619 billion web pages saved over time". A search bar contains the URL "www.supremecourt.gov" and shows "Results: 50 100 500". Below the search bar, there are navigation tabs for "Calendar", "Collections", "Changes", "Summary", "Site Map", and "URLs". The "Calendar" tab is selected, showing a bar chart of saved pages from 1999 to 2021. The chart shows a significant increase in saves starting around 2010, peaking in 2021. Below the chart, there are eight calendar grids for the months of JAN, FEB, MAR, APR, MAY, JUN, JUL, and AUG. Each calendar grid shows the days of the month, with some days highlighted in green, indicating when the website was saved. The year 2021 is highlighted in yellow in the bar chart.



Collections tool

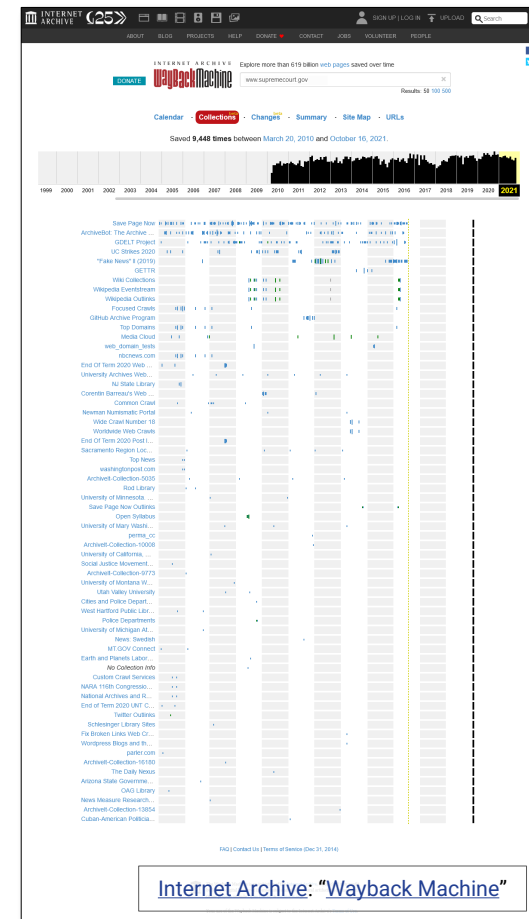
The screenshot displays the Internet Archive Wayback Machine interface. At the top, the navigation bar includes links for ABOUT, BLOG, PROJECTS, HELP, DONATE, CONTACT, JOBS, VOLUNTEER, and PEOPLE. The main header features the Internet Archive logo and the text "Explore more than 619 billion web pages saved over time". A search bar contains the URL "www.supremecourt.gov" and shows "Results: 50 100 500". Below the search bar, navigation tabs include "Calendar", "Collections" (highlighted in red), "Changes", "Summary", "Site Map", and "URLs". A text box states "Saved 9,448 times between March 20, 2010 and October 16, 2021." A bar chart shows the frequency of saves from 1999 to 2021, with 2021 highlighted in yellow. At the bottom, a table lists various collections and their save dates:

| Collection | Save Dates |
|-----------------------------|------------|
| Save Page Now | 2010-2021 |
| ArchiveBot: The Archive ... | 2010-2021 |
| GDEL Project | 2010-2021 |
| UC Strikes 2020 | 2020 |
| "Fake News" II (2019) | 2019 |
| GETTR | 2021 |
| Wiki Collections | 2010-2021 |
| Wikipedia Eventstream | 2010-2021 |
| Wikipedia Outlinks | 2010-2021 |
| Focused Crawls | 2010-2021 |
| GitHub Archive Program | 2010-2021 |
| Top Domains | 2010-2021 |
| Media Cloud | 2010-2021 |
| web_domain_tests | 2010-2021 |
| nbcnews.com | 2010-2021 |
| End Of Term 2020 Web ... | 2020 |
| University Archives Web... | 2010-2021 |
| NJ State Library | 2010-2021 |
| Corentin Barreau's Web ... | 2010-2021 |



Collections tool

- hover over individual collection names
- look for string in link target web address: *ArchiveIt-Collection*
- [Archive-It](#) is IA's subscription web archiving service
- used by 100s of orgs to run selective web crawls + curate topical collections
- has [its own discovery portal](#) w/ [full-text search](#)



Archive-It full-text search

ARCHIVE-IT

HOME EXPLORE LEARN MORE CONTACT US

The leading web archiving service for collecting and accessing cultural heritage on the web Built at the Internet Archive

Explore All Archives

Enter a search term on the right to search the text within the archived pages. Or for more search options, use the Advanced Search options below.

Enter search terms here

Advanced Search

Contains all of:

Exact phrase:

Not containing:

From the Host:
ex. www.archive-it.org

Results per host:

File format:

Capture date range:
From:
To:

[Help with Search](#)

Collecting Organizations Collections Sites Search Page Text

Please enter terms above to search for archived content.

Archive-It
Built at the Internet Archive

2014 Archive-It
The leading web archiving service for collecting and accessing cultural heritage on the web

Home Learn More Contact Us
About Archive-It
News/Press
Meet the Team
Publications

[Archive-It: "Explore Archived Content"](#)

Archive-It full-text search

The screenshot displays the Archive-It search interface. At the top, there is a navigation bar with links for HOME, EXPLORE, LEARN MORE, and CONTACT US. The main heading is "Explore All Archives". Below this, there is a search bar with the placeholder text "Enter search terms here" and a "Search" button. To the left of the search bar, there is a section for "Advanced Search" with several filters: "Contains all of:" (empty), "Exact phrase:" (with "press release" entered), "Not containing:" (empty), "From the Host:" (with "www.supremecourt.gov" entered), "Results per host:" (set to "Unlimited"), "File format:" (set to "All formats"), and "Capture date range:" (with "From:" and "To:" dropdowns). There is also a "Help with Search" link. The main search area contains a message: "Please enter terms above to search for archived content." At the bottom of the page, there is a footer with the Archive-It logo and text: "Archive-It Built at the Internet Archive. The leading web archiving service for collecting and accessing cultural heritage on the web." A white callout box at the bottom right of the screenshot contains the text: "Archive-It: 'Explore Archived Content'"

Archive-It full-text search

The screenshot displays the Archive-It search interface. At the top, there is a navigation bar with the Archive-It logo, links for HOME, EXPLORE, LEARN MORE, and CONTACT US, and a 'Login' button. Below the navigation bar, the main content area is divided into two columns. The left column contains an 'Advanced Search' section with fields for 'Contains all of:', 'Exact phrase:' (containing 'press release'), 'Not containing:', and 'From the Host:' (containing 'www.supremecourt.gov'). Below these are options for 'Results per host:' (set to 'Unlimited'), 'File format:' (set to 'All formats'), and 'Capture date range:' (with 'From:' and 'To:' dropdowns). The right column features an 'Explore All Archives' section with a search input field and a 'Search' button. Below this is a filter bar with tabs for 'Collecting Organizations', 'Collections', 'Sites', and 'Search Page Text'. The search results are displayed on 'Page 1 of 12 (231 Total Results)'. The first result is titled 'Home - Supreme Court of the United States' and includes details about the collection, URL, capture date (Apr 21, 2013), and content type (application/xhtml+xml, 78 KB). The second result is titled 'Press Release 04/29/13' and includes details about the collection, URL, capture date (May 02, 2013), and content type (application/pdf, 145 KB).



Changes Tool

"the before-after-situation" by Michael Mueller under CC BY 2.0



Changes tool

- flags differences in text b/t 2 captures of same web page
- caveats:
 - doesn't consider non-textual elements
 - doesn't account for intermediate changes
 - changes may not matter for legal issue
- use to:
 - identify when a web page changed
 - quickly visualize the text changes over time
 - establish when web page text was substantially identical



IAWM calendar page

The screenshot shows the Internet Archive Wayback Machine interface. At the top, there is a navigation bar with links for ABOUT, BLOG, PROJECTS, HELP, DONATE, CONTACT, JOBS, VOLUNTEER, and PEOPLE. A search bar is located on the right. Below the navigation bar, the Wayback Machine logo is displayed, along with a search input field containing the URL 'supremecourt.gov/about/about.aspx'. The search results show 'Results: 50 100 500'. A navigation menu includes 'Calendar', 'Collections', 'Changes', 'Summary', 'Site Map', and 'URLs'. Below this, it states 'Saved 418 times between March 23, 2010 and October 9, 2021.' A bar chart shows the frequency of captures over time, with a significant spike in 2021. Below the chart is a calendar grid for the years 1999 to 2021, with specific dates highlighted in blue circles: JAN 8, 16, 19, 22, 27; FEB 2, 9, 14, 15, 21; MAR 18, 19, 21; APR 1, 2, 14, 15, 22; MAY 1, 3, 5, 7; JUN 2, 3, 9, 24; JUL 1, 2, 3; and AUG 11, 14. The year 2021 is highlighted in yellow.



IAWM calendar page

INTERNET ARCHIVE 25»

ABOUT BLOG PROJECTS HELP DONATE CONTACT JOBS VOLUNTEER PEOPLE

INTERNET ARCHIVE Explore more than 618 billion web pages saved over time

DONATE WayBack Machine

supremecourt.gov/about/about.aspx Results: 50 100 500

Calendar - Collections - Changes - Summary - Site Map - URLs

Saved 418 times between March 23, 2010 and October 9, 2021.

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

| Month | Day | Snapshot Count |
|-------|-----|----------------|
| JAN | 8 | 1 |
| JAN | 16 | 1 |
| JAN | 19 | 1 |
| JAN | 22 | 1 |
| JAN | 27 | 1 |
| MAY | 1 | 1 |
| MAY | 3 | 1 |
| MAY | 5 | 1 |
| MAY | 7 | 1 |
| JUN | 2 | 1 |
| JUN | 3 | 1 |
| JUN | 9 | 1 |
| JUN | 24 | 1 |
| MAR | 18 | 1 |
| MAR | 19 | 1 |
| MAR | 21 | 1 |
| APR | 14 | 1 |
| APR | 15 | 1 |
| APR | 22 | 1 |
| AUG | 11 | 1 |
| AUG | 14 | 1 |



Changes tool

INTERNET ARCHIVE 25

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WayBack Machine

supremecourt.gov/about/about.aspx Results: 50 100 500

Calendar · Collections ^{beta} · **Changes** ^{beta} · Summary · Site Map · URLs

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Compare

2021

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Dec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Jul | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jun | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Variation: Low Hi

2020



Changes tool: choose 28 September 2021 capture

INTERNET ARCHIVE 25»

ABOUT BLOG PROJECTS HELP DONATE CONTACT JOBS VOLUNTEER PEOPLE

INTERNET ARCHIVE Explore more than 618 billion web pages saved over time

WayBackMachine

supremecourt.gov/about/about.aspx Results: 50 100 500

Calendar · Collections^{beta} · **Changes^{beta}** · Summary · Site Map · URLs

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Tue, 28 Sep 2021 02:12:27 GMT Compare

2021

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
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Distance: Close Far

2020



Changes tool: degree of difference key

INTERNET ARCHIVE 25

ABOUT BLOG PROJECTS HELP DONATE CONTACT JOBS VOLUNTEER PEOPLE

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supremecourt.gov/about/about.aspx Results: 50 100 500

Calendar · Collections · **Changes** · Summary · Site Map · URLs

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2021

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|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Dec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Sep | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Jan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Distance: Close Far

2020



Changes tool: degree of difference key

INTERNET ARCHIVE 25

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WayBack Machine

supremecourt.gov/about/about.aspx Results: 50 100 500

Calendar · Collections · **Changes** · Summary · Site Map · URLs

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Distance: Close [gradient bar] Far

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

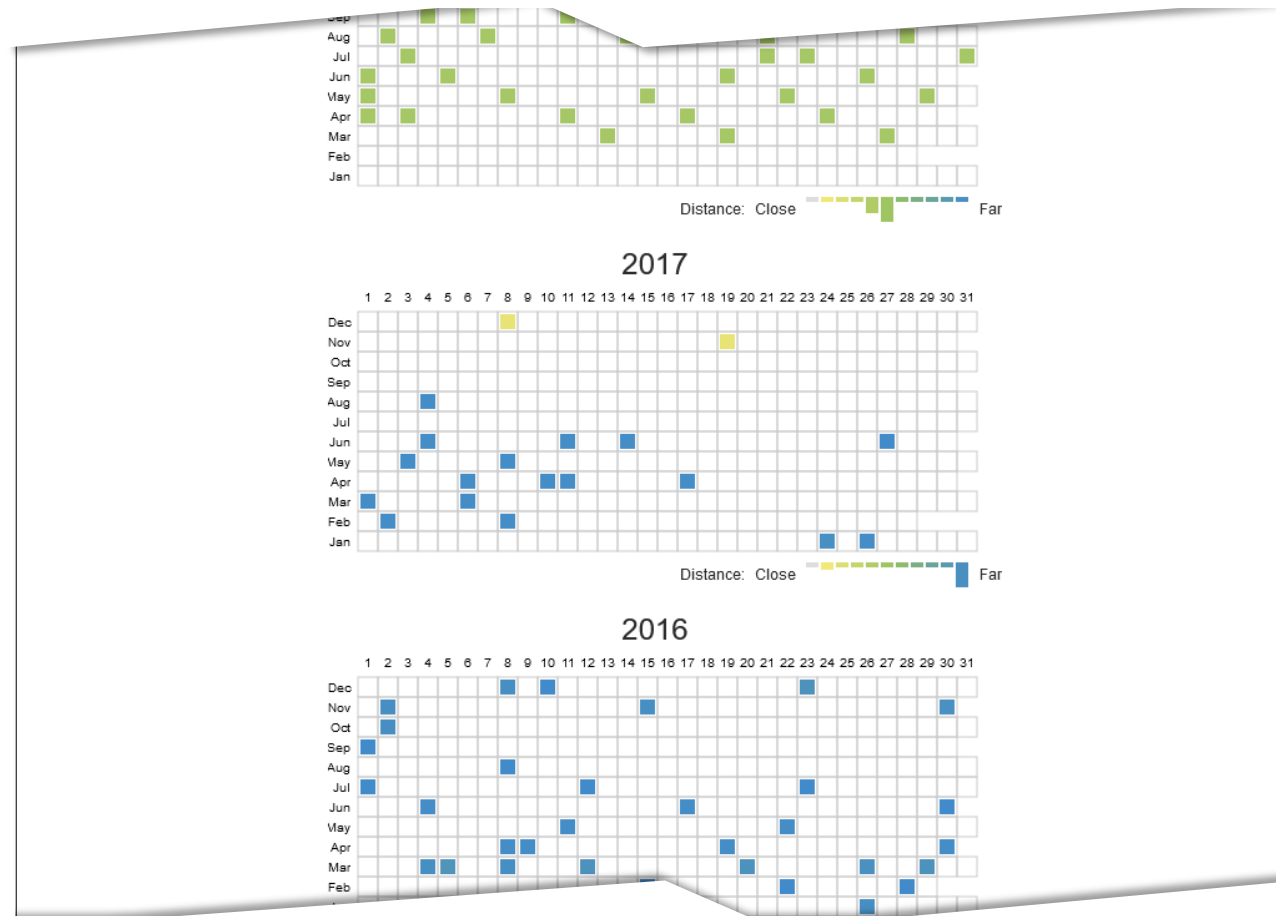
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan

2020

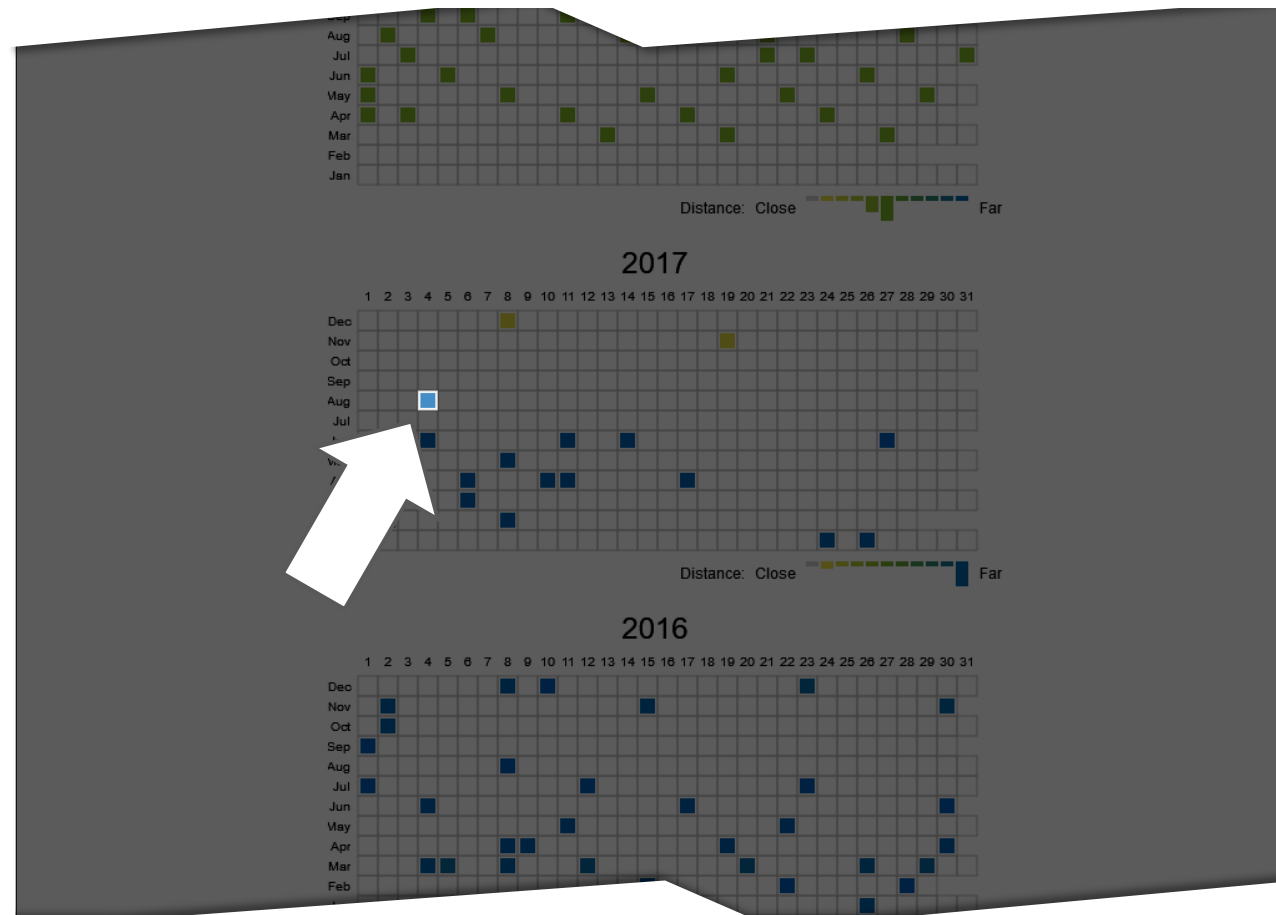
Distance: Close [gradient bar] Far



Changes tool: difference from 2017 captures



Changes tool: compare w/ 4 August 2017 capture



Changes tool: two captures selected

INTERNET ARCHIVE 25» SIGN UP | LOG IN UPLOAD Search

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supremecourt.gov/about/about.aspx Results: 50 100 500

Calendar · Collections^{beta} · **Changes^{beta}** · Summary · Site Map · URLs

"Changes" is a tool you can use to identify, and display, changes in the content of archives of URLs. First you can select two different archives for a URL, based on an interface that shows the degree of relative change from one archive to another. Then you can see the replay of the two URLs you select, side-by-side, with changes highlighted in Blue and Yellow.

Tue, 28 Sep 2021 02:12:27 GMT Compare Fri, 04 Aug 2017 23:39:27 GMT

2021

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Dec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Jul | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jun | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Distance: Close Far

2020



Changes tool: two captures selected

INTERNET ARCHIVE 25

ABOUT BLOG PROJECTS HELP DONATE CONTACT JOBS VOLUNTEER PEOPLE

INTERNET ARCHIVE Explore more than 618 billion web pages saved over time

WayBack Machine

supremecourt.gov/about/about.aspx Results: 50 100 500

Calendar · Collections · **Changes** · Summary · Site Map · URLs

"Changes" is a tool you can use to identify, and display, changes in the content of archives of URLs. First you can select two different archives for a URL, based on an interface that shows the degree of relative change from one archive to another. Then you can see the replay of the two URLs you select, side-by-side, with changes highlighted in Blue and Yellow.

Tue, 28 Sep 2021 02:12:27 GMT Compare Fri, 04 Aug 2017 23:39:27 GMT

2021

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Dec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Jan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Distance: Close Far

2020



Changes tool: click *Compare*

INTERNET ARCHIVE 25

ABOUT BLOG PROJECTS HELP DONATE CONTACT JOBS VOLUNTEER PEOPLE

INTERNET ARCHIVE Explore more than 618 billion web pages saved over time

WayBack Machine

supremecourt.gov/about/about.aspx Results: 50 100 500

Calendar · Collections · **Changes** · Summary · Site Map · URLs

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Tue, 28 Sep 2021 02:12:27 GMT × **Compare** × Fri, 04 Aug 2017 23:39:27 GMT ×

2021

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| Dec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Jan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Distance: Close Far

2020



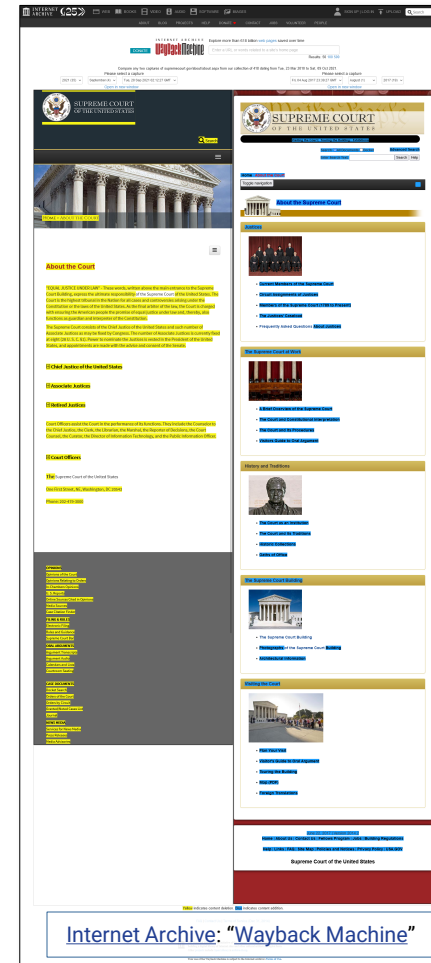
Changes tool: compare 28 Sep. 2011 + 4 Aug. 2017 captures

The screenshot displays the Internet Archive Wayback Machine interface. At the top, there is a navigation bar with links for ABOUT, BLOG, PROJECTS, HELP, DONATE, CONTACT, JOBS, VOLUNTEER, and PEOPLE. Below this is a search bar and a 'Please select a capture' section with dropdown menus for year (2011) and date (September 28, 2011). The main content area is split into two panels: the left panel shows the 2011 capture of the Supreme Court website, and the right panel shows the 2017 capture. The 2017 capture shows a more modern design with a search bar and a list of links for 'Current Members of the Supreme Court', 'Circuit Assignments of Justices', 'Members of the Supreme Court (1789 to Present)', 'The Justices' Caseload', and 'Frequently Asked Questions About Justices'.



Changes tool: comparing captures

- yellow highlighted text was deleted
- blue highlighted text was added
- note that the website design has changed significantly, but this isn't specifically detected by the Changes tool
- however, major text changes often accompany major website design changes



Changes tool: choose 28 September 2021 capture

INTERNET ARCHIVE 25» SIGN UP | LOG IN UPLOAD Search

ABOUT BLOG PROJECTS HELP DONATE CONTACT JOBS VOLUNTEER PEOPLE

INTERNET ARCHIVE Explore more than 618 billion web pages saved over time

DONATE WayBackMachine supremecourt.gov/about/about.aspx Results: 50 100 500

Calendar · Collections^{beta} · **Changes^{beta}** · Summary · Site Map · URLs

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Tue, 28 Sep 2021 02:12:27 GMT Compare

2021

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Dec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Mar | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Jan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Distance: Close Far

2020



Changes tool: compare w/ 2 February 2021 capture

INTERNET ARCHIVE 25

ABOUT BLOG PROJECTS HELP DONATE CONTACT JOBS VOLUNTEER PEOPLE

INTERNET ARCHIVE Explore more than 618 billion web pages saved over time

DONATE WayBackMachine

supremecourt.gov/about/about.aspx Results: 50 100 500

Calendar · Collections · **Changes** · Summary · Site Map · URLs

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2021

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan

Distance: Close Far

2020



Changes tool: two captures selected

INTERNET ARCHIVE 25

ABOUT BLOG PROJECTS HELP DONATE CONTACT JOBS VOLUNTEER PEOPLE

INTERNET ARCHIVE Explore more than 618 billion web pages saved over time

WayBack Machine

supremecourt.gov/about/about.aspx Results: 50 100 500

Calendar · Collections · **Changes** · Summary · Site Map · URLs

"Changes" is a tool you can use to identify, and display, changes in the content of archives of URLs. First you can select two different archives for a URL, based on an interface that shows the degree of relative change from one archive to another. Then you can see the replay of the two URLs you select, side-by-side, with changes highlighted in Blue and Yellow.

Tue, 28 Sep 2021 02:12:27 GMT Compare Tue, 02 Feb 2021 19:04:56 GMT

2021

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Dec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nov | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oct | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sep | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aug | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jul | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jun | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Distance: Close Far

2020



Changes tool: click *Compare*

The screenshot displays the Internet Archive Wayback Machine interface. At the top, there is a navigation bar with links for ABOUT, BLOG, PROJECTS, HELP, DONATE, CONTACT, JOBS, VOLUNTEER, and PEOPLE. A search bar is located on the right. The main content area features the Wayback Machine logo and a search input field containing 'supremecourt.gov/about/about.aspx'. Below the search bar, there are navigation tabs for Calendar, Collections, Changes (highlighted), Summary, Site Map, and URLs. A descriptive paragraph explains the 'Changes' tool. Two date selectors are visible: 'Tue, 28 Sep 2021 02:12:27 GMT' and 'Tue, 02 Feb 2021 19:04:56 GMT'. A 'Compare' button is highlighted with a white box. Below the button is a calendar grid for 2021 and 2020, with a 'Distance' slider set to 'Close'.



Changes tool: compare 28 Sep. 2021 + 2 Feb. 2021 captures

Chief Justice of the United States

Associate Justices

Retired Justices

Court Officers assist the Court in the performance of its functions. They include the Counselor to the Chief Justice, the Clerk, the Librarian, the Marshal, the Reporter of Decisions, the Court Counsel, the Curator, the Director of Information Technology, and the Public Information Officer.

Court Officers

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The Supreme Court of the United States

One First Street, NE, Washington, DC 20543

Phone: 202-479-3000

OPINIONS
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| Marshal | Vacant |
| Reporter Of Decisions | Vacant |
| Court Counsel | Ethan V. Torrey |
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Authentication + Admissibility

"Quality control" by [Lars Plougmann](#) under [CC BY-SA 2.0](#)



authentication + admissibility overview

- IAWM cited in 300+ U.S. federal court cases
- harder to authenticate than other web content
- strategies include:
 - judicial notice
 - IA affidavit
 - witness w/ personal knowledge
 - expert witness
 - mutual stipulation



"Dollar" by Images Money under CC BY 2.0

judicial notice (FRE 201)

Wikipedia

*“Judicial notice is a rule in the law of evidence that allows a fact to be introduced into evidence if the truth of that fact is so notorious or well known, or so authoritatively attested, that it **cannot reasonably be doubted**...Facts and materials admitted under judicial notice are accepted without being formally introduced by a witness or other rule of evidence”*

[Wikipedia: "Judicial notice"](#)

FRE 201

Judicial Notice of Adjudicative Facts

- b. Kinds of Facts That May Be Judicially Noticed. The court may judicially notice a fact that is not subject to reasonable dispute because it:
 - 2. can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned.

[Legal Information Institute: "Rule 201. Judicial Notice of Adjudicative Facts | Federal Rules of Evidence"](#)

authentication via judicial notice

- efficient but inconsistent + jurisdiction-sensitive
- vital to research a given court's disposition towards IAWM evidence
- judges may themselves introduce IAWM evidence
- more likely to prevail in absence of specific assertions of unreliability



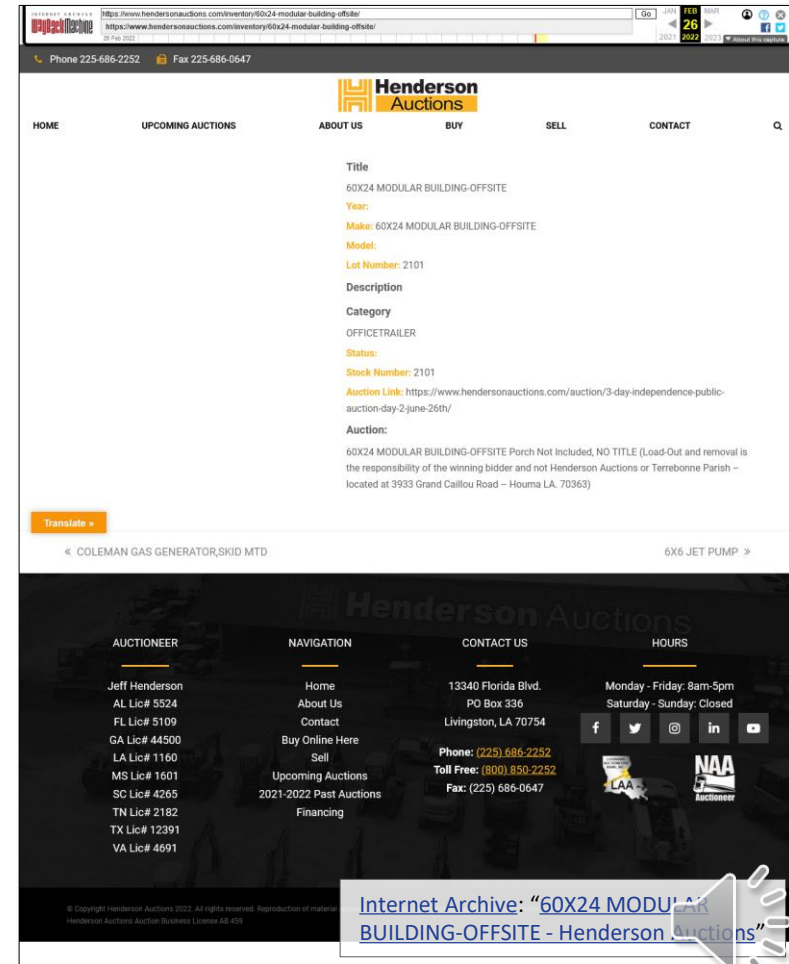
"Earthrise" by Bill Anders under Public Domain

Weinhoffer v. Davie Shoring, Inc. (2022)

- IAWM used to show online auction terms of sale
- district court's admission of IAWM evidence via judicial notice reversed

*“Here, there was no testimony to authenticate the archived webpage. Our sister circuits' decisions that the Wayback Machine is not self-authenticating are persuasive in the context of judicial notice. In sum, **the district court erred in taking judicial notice of the terms because a private internet archive falls short of being a source whose accuracy cannot reasonably be questioned as required by Rule 201.**”*

[Weinhoffer v. Davie Shoring, Inc., No. 20-30568, at *7 \(5th Cir. Jan. 20, 2022\)](#)



Internet Archive: [“60X24 MODULAR BUILDING-OFFSITE - Henderson Auctions”](#)

authentication via IA affidavit

- reliable + efficient
- incorrect application explains most of its authentication failures
- works best for simple cases
- but less ideal when conclusions require interpretation



"Paperwork" by Damian Gadal under CC BY 2.0



IA affidavit guidance

Do I really need an affidavit from the Internet Archive?

No. Please consider alternatives to an affidavit from the Internet Archive. Judicial notice and stipulation to a document's authenticity are two typical and straightforward options that might be used instead of an affidavit. Since our resources are limited, we urge you to pursue these alternatives before coming to us with authentication requests.

Does the Internet Archive's affidavit mean that the printout was actually the page posted on the Web at the recorded time?

The Internet Archive's affidavit only affirms that the printed document is a true and correct copy of our records. It remains your burden to convince the finder of fact what pages were up when.

[Internet Archive: "Legal FAQ"](#)



Telewizja Polska USA, Inc. v. Echostar Satellite Corp. (2004)

- IAWM used to show advertisement of partner business service after contract expiration
- IAWM evidence admitted

“...Plaintiff has presented no evidence that the Internet Archive is unreliable or biased. And Plaintiff has neither denied that the exhibit represents the contents of its website on the dates in question, nor come forward with its own evidence challenging the veracity of the exhibit. Under these circumstances, the Court is of the opinion that [the IA affidavit] is sufficient to satisfy Rule 901's threshold requirement for admissibility. Plaintiff is free to raise its concerns regarding reliability with the jury.”

[Telewizja Polska USA, Inc. v. Echostar Satellite Corp., 02 C 3293, at *14 \(N.D. Ill., Jun. 3 2004\)](#)

http://www.tvpolonia.com/main1.html

33 captures
23 Aug 2000 - 2 Feb 2012

APR JUN AUG
02
2000 2001 2002

15:46:21

Home Repertuar TVP S.A. Linki Archiwum

Welcome

TVPOLONIA is a Polish satellite television program produced by TVP S.A., the largest television station in Poland. Programming content of **TVPOLONIA** focuses on providing the best of Polish television production to Polish speaking audience living abroad. It features up-to-date news, movies, sports, soap operas, documentaries, mini-series and masterpiece theater.

Polish Television USA, Inc. is an exclusive partner of TVP S.A. in North America and the world exclusive provider of TV Polonia content on the Internet. In 1997 Polish Television USA, Inc. launched TV Polonia on Dish Network satellite Echostar III which makes this program available to several millions of Poles living on the North - American continent.

Satellite systems
Polish Package
American Packages
Local dealer-installer
Programming schedule (in Polish)

>>>continue in Polish

ADVERTISE IN TVPOLONIA.COM

Home | O nas | USA | Kanada | Ogladaj | Linki | Kontakt

© 2001 Telewizja Polska USA, INC. 1350 Remington Road Schaumburg, IL
Wszelkie uwagi dotyczące zawartości stron WWW proszę kierować do: [webmaster@tvpolonia.com](#)

Internet Archive: "TV Polonia -- home"

witness w/ personal knowledge – FRE 901(b)(1)

Authenticating or Identifying Evidence

b) Examples. The following are examples only – not a complete list – of evidence that satisfies the requirement:

- 1) Testimony of a Witness with Knowledge. Testimony that an item is what it is claimed to be.



authentication via witness w/ personal knowledge

- more effective when leveraging witness w/ personal knowledge of historical web content
- less effective when instrumentally entering into record a comparison performed by a random person



"One year + of journals" by Pain Chaud under CC BY-ND 2.0

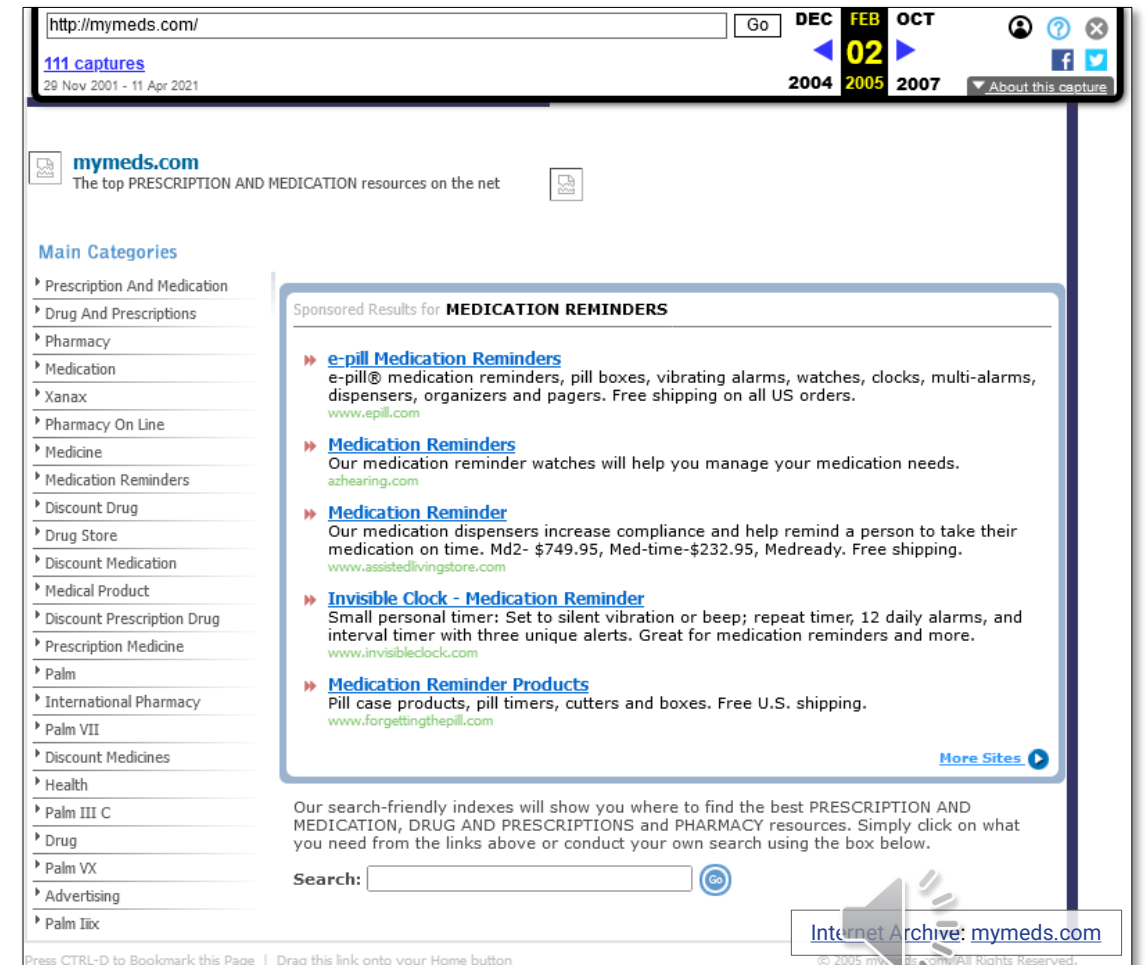


United States v. Bansal (2011)

- IAWM used to show operation of an online pharmacy
- IAWM evidence admitted

*“To authenticate that the screen-shot was what it purported to be, the government called a witness to testify about how the Wayback Machine website works and how reliable its contents are. **The witness also compared the screenshots with previously authenticated and admitted images from Bansal's website and concluded, based upon her personal knowledge, that the screenshots were authentic. This was evidence ‘sufficient to support a finding’ that the screenshots were ‘what they purport[ed] to be,’ rendering them admissible under Rule 901(b)(1). Accordingly, we will affirm the District Court.”***

United States v. Bansal, 663 F.3d 634, 652, at *667-668 (3d Cir.2011)



expert witnesses – FRE 702

Testimony by Expert Witnesses

- a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- b) the testimony is based on sufficient facts or data;
- c) the testimony is the product of reliable principles and methods; and
- d) the expert has reliably applied the principles and methods to the facts of the case.



authentication via expert witness

- reliable but more involved + less-used mechanism
- use when interpretation, explanation, or qualification needed
- expert witnesses have included:
 - digital forensics specialists
 - patent examiners
 - web archiving professional(s)



"Test tubes and other recipients in chemistry lab" by Old Photo Profile under CC BY 2.0

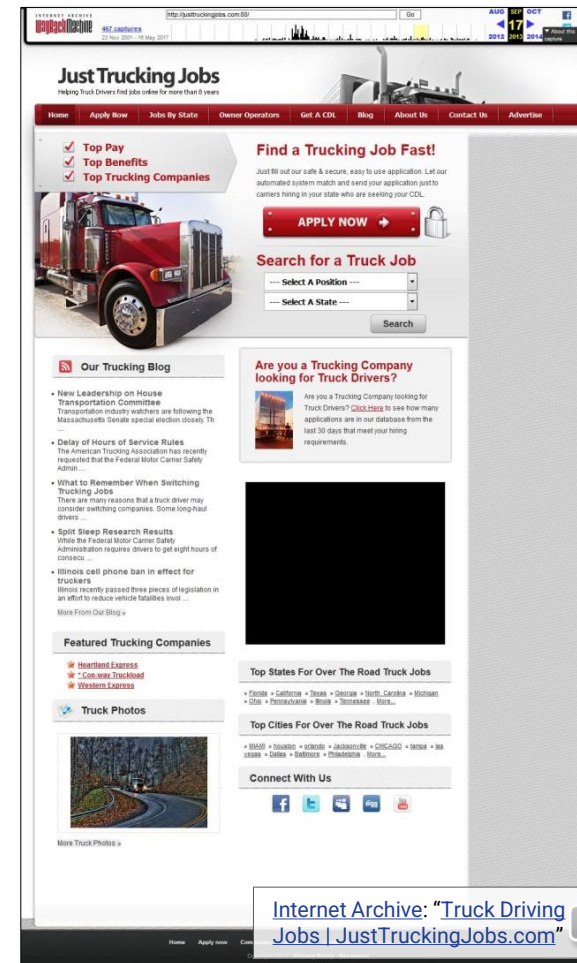
Marten Transport, Ltd. v. PlattForm Advertising, Inc. (2016)

- IAWM used to show ongoing use of mark over period of time
- IAWM evidence admitted

“PlattForm argues that Mr. Fischer, in opining that certain websites referenced Marten in the past as shown by the Wayback Machine, improperly acts as a surrogate for the experts who created the Internet Archive.

The Court rejects this challenge. **PlattForm relies on Khoday v. Symantec Corp.**, 93 F.Supp.3d 1067 (D.Minn.2015), but in that case, the court rejected an argument that the expert was not qualified because he had not worked at the Internet Archive to design the Wayback Machine archives or the web crawler that it used...PlattForm notes that the expert in Khoday at least had experience creating web archives, but **the court in that case did not suggest that such archiving experience was required...**In this case, Mr. Fischer has experience using tools to recover electronic data, **including the use of the Wayback Machine**, and the Court finds such experience to be **sufficient to withstand a Daubert challenge.**”

[Marten Transp., Ltd. v PlattForm Advertising, Inc., 184 F. Supp. 3d 1006, at *1009 \(D. Kan. 2016\)](#)



Frye + Daubert standards

Frye standard

- established in [*Frye v. United States*, 293 F. 1013 \(D.C. Cir. 1923\)](#)
- *“...the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.”*

Legal Information Institute: “Frye Standard”

Daubert standard

- established in [*Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 \(1993\)](#)
- *“...the trial judge...must make a preliminary assessment of whether the testimony's underlying reasoning or methodology is scientifically valid and properly can be applied to the facts at issue.”*

Legal Information Institute: “Daubert Standard”

admissibility trends summary – U.S. federal courts

| admitted? | judicial notice | | IA standard affidavit | | witness w/ personal knowledge | | expert witness | |
|---------------------|-----------------|----|-----------------------|----|-------------------------------|----|----------------|----|
| | yes | no | yes | no | yes | no | yes | no |
| U.S. district court | 51 | 13 | 15 | 3 | 6 | 4 | 7 | 0 |
| U.S. circuit court | 1 | 2 | 2 | 0 | 3 | 1 | 2 | 0 |

- based on analysis of ~300 U.S. federal court cases mentioning IAWM
- affidavit + expert witness succeed most consistently
- examples of all strategies succeeding at circuit court level, but [recent ruling](#) will likely make judicial notice less successful going forward





Temporal (In)coherence

"clock composition" by Lisa Ann Yount under CC0 1.0



temporal (in)coherence

INTERNET ARCHIVE
waybackmachine
34 captures
27 Oct 2002 - 10 Jun 2017

http://www.wunderground.com/cgi-bin/findweather/getForecast?query=50593

Go **AUG** **DEC** **MAR**
09
2003 2004 2006

Find the Weather for any City, State or ZIP Code, or Airport Code or Country

Member Benefits:
No Ads
Weather Email
\$5 a year
Signup Here

Email
taylor@gmail.com
Password

Login

Print This Page

Maps
Temperature
Heat Index
Windchill
Humidity
Dew Point
Wind
Visibility
Visible Satellite
Fronts
Snow Depth
Jet Stream
Flight Rules

Health Maps
UV Forecast
Air Quality
Peak Air Quality Index

International
United States
Canada
Mexico
Central America
South America
Northern Asia

Features: Wunder Photos, NEXRAD radar, Regional Radar, NEW Zoom Satellite, Maps, Trip Planner
Tropical / Hurricanes, Marina, Severe, Astronomy, Ski, Education, Favorites, Personal Weather Stations

Varina, Iowa
Local Time: 1:09 PM CST Set My Timezone
Lat/Lon: 42.6° N 94.8° W | MSN Map

Updated: 12:55 PM CST on December 09, 2004
Observed at Storm Lake, Iowa (History)
Elevation: 1486 ft / 453 m

41 °F / 5 °C
Light Drizzle
Windchill: 37 °F / 3 °C
Humidity: 100%
Dew Point: 41 °F / 5 °C
Wind: 6 mph / 9 km/h from the South
Pressure: 29.56 in / 1001 hPa
Visibility: 5.0 miles / 8.0 kilometers
UV: 1 out of 12
Clouds: Overcast 6500 ft / 1981 m
Show full METARS (help)

Local Radar
Regional Radar
Local Satellite
Ski Conditions
Trip Planner
Personal Weather Stations

5-Day Forecast for ZIP Code 50593

| Thu | Fri | Sat | Sun | Mon |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 43° 29° | 36° 22° | 47° 34° | 41° 15° | 31° 15° |
| Chance of Rain | Mostly Cloudy | Mostly Cloudy | Partly Cloudy | Partly Cloudy |
| Detail | Detail | Detail | Detail | Detail |

Click **Detail** for hourly wind, temperature, humidity and UV forecasts.
Alternate Computer Forecast: [AVN MOS Weather Graph](#) | [Local Allergy Info from Pollen.com](#)

Meet Locals
read their Hotel Tips and Travel Guides for Varina, IA
Unbiased reviews and advice for Varina hotels and other cities
Best Rates GUARANTEED Discount Hotels
Wunder Photos
Show Varina or Iowa

Nowcast as of 11:42 am CST on December 9, 2004
Now
Dense fog will persist along and west of Highway 169 through the early afternoon. Locations from Algona to Estherville can expect visibilities to remain around a quarter mile or less with localized areas in low lying spots under one eighth of a mile.

Forecast for Pocahontas County
Updated: 11:20 am CST on December 9, 2004
No Active Advisories (US Severe Weather)

This Afternoon
Cloudy with a chance of light rain showers. High in the lower 40s. West wind 10 to 15 mph. Chance of rain 30 percent.
[Detail](#)

Tonight
Light rain likely through the evening. Light snow likely after midnight. Little or no snow around 30. Northwest wind 15 to 20 mph. Chance of rain 30 percent.

Conditions Nearby

| City | Temp | Conditions | Updated |
|------------|--------------|---------------|--------------|
| Storm Lake | 41 °F / 5 °C | Light Drizzle | 12:55 PM CST |
| Fort Dodge | 41 °F / 5 °C | Partly Cloudy | 12:55 PM CST |

STATE FARM
INSURANCE
Talk to State Farm agents near you:

temporal (in)coherence

The screenshot shows the weather website for Varina, Iowa, as it appeared on December 9, 2004. The page is accessed via the Wayback Machine, with the URL <http://www.wunderground.com/cgi-bin/findweather/getForecast?query=50593>. The current conditions are 41°F / 5°C with light drizzle. The 5-day forecast shows temperatures ranging from 31°F to 47°F. A nowcast for December 9, 2004, at 11:42 am CST, reports dense fog. An advertisement for State Farm insurance is highlighted with a red box.



temporal (in)coherence

The screenshot shows a weather website interface from the Wayback Machine. The URL is <http://www.wunderground.com/cgi-bin/findweather/getForecast?query=50593>. The page is for Varina, Iowa (ZIP Code 50593). The current conditions are 41°F / 5°C with light drizzle. The 5-day forecast shows temperatures ranging from 31°F to 47°F. A white arrow points to the date '09' in the top navigation bar, indicating the specific date of the archived page.

temporal (in)coherence

INTERNET ARCHIVE <http://www.wunderground.com/cgi-bin/findweather/getForecast?query=50593> Go **AUG DEC MAR** **09** **2003 2004 2006**

wayBackMachine 34 captures 27 Oct 2002 - 10 Jun 2017

COLLECTED BY **Alexa** Organization: **Alexa Crawls** Collection: **Alexa Crawls EA**
 Starting in 1996, Alexa Internet has been donating their crawl data to the Internet Archive. Flowing in every day, these data are added to the Wayback Machine after an embargo period. Crawl data donated by Alexa Internet. This data is currently not publicly accessible.

TIMESTAMPS

5-Day Forecast for ZIP Code 50593

| Thu | Fri | Sat | Sun | Mon |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 43° 29° | 36° 22° | 47° 34° | 41° 15° | 31° 15° |
| Chance of Rain | Mostly Cloudy | Mostly Cloudy | Partly Cloudy | Partly Cloudy |
| Detail | Detail | Detail | Detail | Detail |

Current Conditions:

- Windchill: 37 °F / 3 °C
- Humidity: 100%
- Dew Point: 41 °F / 5 °C
- Wind: 6 mph / 9 km/h from the South
- Pressure: 29.56 in / 1001 hPa
- Visibility: 5.0 miles / 8.0 kilometers
- UV: 1 out of 12
- Clouds: Overcast 6500 ft / 1981 m

Conditions Nearby

| City | Temp | Conditions | Updated |
|------------|--------------|---------------|--------------|
| Storm Lake | 41 °F / 5 °C | Light Drizzle | 12:55 PM CST |
| Fort Dodge | 41 °F / 5 °C | Partly Cloudy | 12:55 PM CST |

Advertisement: **Talk to State Farm agents near you:**

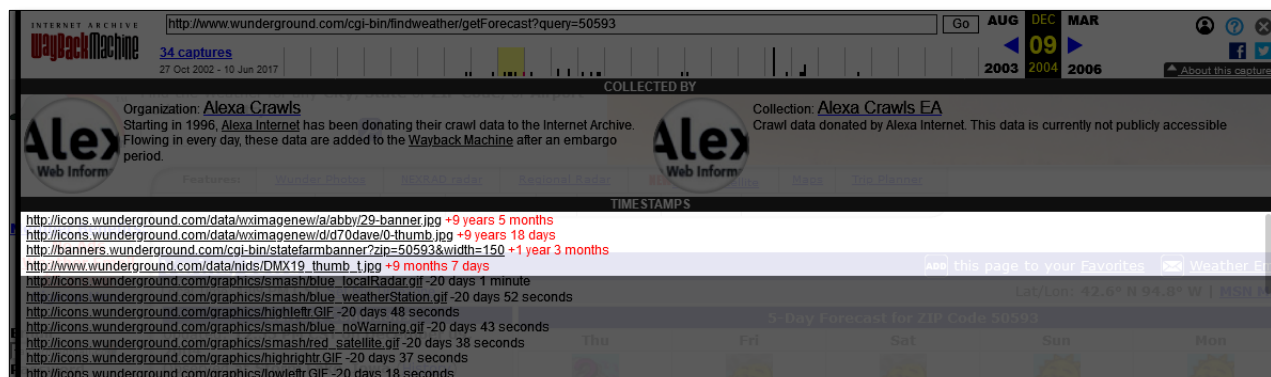


temporal (in)coherence

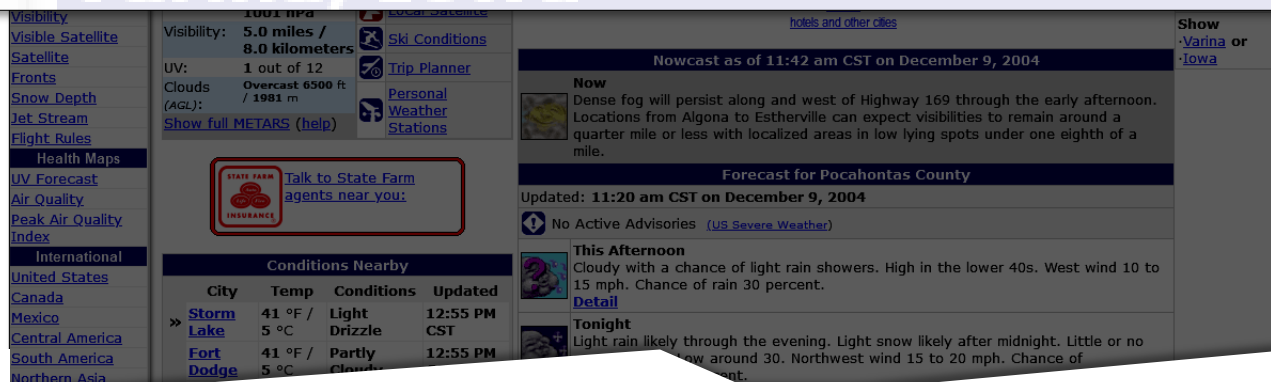
The screenshot shows a Wayback Machine interface for the URL <http://www.wunderground.com/cgi-bin/findweather/getForecast?query=50593>. The page is dated December 9, 2004, at 11:42 am CST. The main content area displays a 5-day forecast for ZIP Code 50593, with a 'Nowcast' section for December 9, 2004, and a 'Forecast for Pocahontas County' section. A red box highlights an advertisement for 'Talk to State Farm agents near you:'.



temporal (in)coherence



<http://icons.wunderground.com/data/wximagenew/a/abby/29-banner.jpg> +9 years 5 months
<http://icons.wunderground.com/data/wximagenew/d/d70dave/0-thumb.jpg> +9 years 18 days
<http://banners.wunderground.com/cgi-bin/statefarmbanner?zip=50593&width=150> +1 year 3 months
http://www.wunderground.com/data/nids/DMX19_thumb_t.jpg +9 months 7 days



temporal (in)coherence

Wayback Machine: 34 captures, 27 Oct 2002 - 10 Jun 2017

URL: http://www.wunderground.com/cgi-bin/findweather/getForecast?query=50593

Calendar: AUG DEC MAR, 09, 2003 2004 2006

Find the Weather for any City, State or ZIP Code, or Airport Code or Country

Member Benefits: No Ads, Weather Email \$5 a year, Signup Here

Email: taylorn@gmail.com, Password: *****

Print This Page

Maps: Temperature, Heat Index, Windchill, Humidity, Radar, Dew Point, Wind, Visibility, Visible Satellite, Fronts, Snow Depth, Jet Stream, Flight Rules, Health Maps, UV Forecast, Air Quality, Peak Air Quality Index, International, United States, Canada, Mexico, Central America, South America, Northern Asia

Varina, Iowa
Local Time: 1:09 PM CST [Set My Timezone](#)
Lat/Lon: 42.6° N 94.8° W | [MSN Map](#)

Current Conditions
Updated: 12:55 PM CST on December 09, 2004
Observed at Storm Lake, Iowa ([History](#))
Elevation: 1486 ft / 453 m

41 °F / 5 °C
Light Drizzle

Windchill: 37 °F / 3 °C
Humidity: 100%
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UV: 1 out of 12
Clouds: Overcast 6500 ft / 1981 m
[Show full METARS \(help\)](#)

[Local Radar](#)
[Regional Radar](#)
[Local Satellite](#)
[Ski Conditions](#)
[Trip Planner](#)
[Personal Weather Stations](#)

5-Day Forecast for ZIP Code 50593

| Thu | Fri | Sat | Sun | Mon |
|------------------------|------------------------|------------------------|------------------------|------------------------|
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| Detail | Detail | Detail | Detail | Detail |

Click [Detail](#) for hourly wind, temperature, humidity and UV forecasts.
Alternate Computer Forecast: [AVN MOS Weather Graph](#) | [Local Allergy Info from Pollen.com](#)

[Meet Locals](#) in [Varina](#)
[read their Hotel Tips and Travel Guides for Varina, IA](#)
[Unbiased reviews and advice for Varina hotels and other cities](#)
[Best Rates GUARANTEED Discount Hotels](#)

Nowcast as of 11:42 am CST on December 9, 2004

Now
Dense fog will persist along and west of Highway 169 through the early afternoon. Locations from Algona to Estherville can expect visibilities to remain around a quarter mile or less with localized areas in low lying spots under one eighth of a mile.

Forecast for Pocahontas County
Updated: 11:20 am CST on December 9, 2004
No Active Advisories ([US Severe Weather](#))

This Afternoon
Cloudy with a chance of light rain showers. High in the lower 40s. West wind 10 to 15 mph. Chance of rain 30 percent.
[Detail](#)

Tonight
Light rain likely through the evening. Light snow likely after midnight. Little or no snow around 30. Northwest wind 15 to 20 mph. Chance of rain 30 percent.

[Wunder Photos](#)
[Show Varina or Iowa](#)

Advertisement: Talk to State Farm agents near you:

Conditions Nearby

| City | Temp | Conditions | Updated |
|------------|--------------|---------------|--------------|
| Storm Lake | 41 °F / 5 °C | Light Drizzle | 12:55 PM CST |
| Fort Dodge | 41 °F / 5 °C | Partly Cloudy | 12:55 PM CST |



temporal (in)coherence

Wayback Machine: 34 captures, 27 Oct 2002 - 10 Jun 2017

http://www.wunderground.com/cgi-bin/findweather/getForecast?query=50593

Go: AUG DEC MAR 09 2003 2004 2006

Find the Weather for any City, State or ZIP Code, or Airport Code or Country

Webpage was captured on 9 December 2004 at 1:09p CST.

Member Benefits: No Ads, Weather Email \$5 a year, Signup Here

Email: taylorn@gmail.com, Password: *****

Print This Page

Maps: Temperature, Heat Index, Windchill, Humidity, Radar, Dew Point, Wind, Visibility, Visible Satellite, Fronts, Snow Depth, Jet Stream, Flight Rules, Health Maps, UV Forecast, Air Quality, Peak Air Quality Index, International, United States, Canada, Mexico, Central America, South America, Northern Asia

Varina, Iowa
Local Time: 1:09 PM CST [Set My Timezone](#)
Lat/Lon: 42.6° N 94.8° W | [MSN Map](#)

Current Conditions
Updated: 12:55 PM CST on December 09, 2004
Observed at Storm Lake, Iowa ([History](#))
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41 °F / 5 °C
Light Drizzle

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Dew Point: 41 °F / 5 °C
Wind: 6 mph / 9 km/h from the South
Pressure: 29.56 in / 1001 hPa
Visibility: 5.0 miles / 8.0 kilometers
UV: 1 out of 12
Clouds: Overcast 6500 ft / 1981 m
[Show full METARS \(help\)](#)

Local Radar, Regional Radar, Local Satellite, Ski Conditions, Trip Planner, Personal Weather Stations

5-Day Forecast for ZIP Code 50593

| Thu | Fri | Sat | Sun | Mon |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 43° 29° | 36° 22° | 47° 34° | 41° 15° | 31° 15° |
| Chance of Rain | Mostly Cloudy | Mostly Cloudy | Partly Cloudy | Partly Cloudy |
| Detail | Detail | Detail | Detail | Detail |

Click **Detail** for hourly wind, temperature, humidity and UV forecasts.
Alternate Computer Forecast: [AVN MOS Weather Graph](#) | [Local Allergy Info from Pollen.com](#)

Nowcast as of 11:42 am CST on December 9, 2004

Now
Dense fog will persist along and west of Highway 169 through the early afternoon. Locations from Algona to Estherville can expect visibilities to remain around a quarter mile or less with localized areas in low lying spots under one eighth of a mile.

Forecast for Pocahontas County
Updated: 11:20 am CST on December 9, 2004
No Active Advisories ([US Severe Weather](#))

This Afternoon
Cloudy with a chance of light rain showers. High in the lower 40s. West wind 10 to 15 mph. Chance of rain 30 percent.
[Detail](#)

Tonight
Light rain likely through the evening. Light snow likely after midnight. Little or no snow around 30. Northwest wind 15 to 20 mph. Chance of rain 30 percent.

Conditions Nearby

| City | Temp | Conditions | Updated |
|------------|--------------|---------------|--------------|
| Storm Lake | 41 °F / 5 °C | Light Drizzle | 12:55 PM CST |
| Fort Dodge | 41 °F / 5 °C | Partly Cloudy | 12:55 PM CST |

[Talk to State Farm agents near you:](#)



temporal (in)coherence

Wayback Machine: 34 captures, 27 Oct 2002 - 10 Jun 2017

http://www.wunderground.com/cgi-bin/findweather/getForecast?query=50593

Go **AUG** **DEC** **MAR**
2003 **2004** 2006

Find the Weather for any City, State or ZIP Code, or Airport Code or Country

Webpage was captured on 9 December 2004 at 1:09p CST.

Member Benefits: No Ads, Weather Email \$5 a year, Signup Here

Email: taylorn@gmail.com, Password: *****

Print This Page

Maps: Temperature, Heat Index, Windchill, Humidity, Radar, Dew Point, Wind, Visibility, Visible Satellite, Fronts, Snow Depth, Jet Stream, Flight Rules, Health Maps, UV Forecast, Air Quality, Peak Air Quality Index, International, United States, Canada, Mexico, Central America, South America, Northern Asia

Varina, Iowa
Local Time: 1:09 PM CST [Set My Timezone](#)

Current Conditions
Updated: 12:55 PM CST on December 09, 2004
Observed at Storm Lake, Iowa ([History](#))
Elevation: 1486 ft / 453 m

41 °F / 5 °C
Light Drizzle

Windchill: 37 °F / 3 °C
Humidity: 100%
Dew Point: 41 °F / 5 °C
Wind: 6 mph / 9 km/h from the South
Pressure: 29.56 in / 1001 hPa
Visibility: 5.0 miles / 8.0 kilometers
UV: 1 out of 12
Clouds: Overcast 6500 ft / 1981 m
[Show full METARS \(help\)](#)

[Local Radar](#)
[Regional Radar](#)
[Local Satellite](#)
[Ski Conditions](#)
[Trip Planner](#)
[Personal Weather Stations](#)

Forecast for Pocahontas County
Updated: 11:20 am CST on December 9, 2004
No Active Advisories ([US Severe Weather](#))

| Thu | Fri | Sat | Sun | Mon |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| 43° 29° | 36° 22° | 47° 34° | 41° 15° | 31° 15° |
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STATE FARM [Talk to State Farm agents near you:](#)

Internet Archive: "Weather Underground: Varina, Iowa Forecast"



temporal (in)coherence

The screenshot shows a weather website for Varina, Iowa, archived on the Wayback Machine. The page is dated December 9, 2004, at 1:09 PM CST. The current conditions are 41°F / 5°C with light drizzle. The 5-day forecast shows temperatures ranging from 31°F to 47°F. A detailed nowcast for December 9, 2004, at 11:42 AM CST, describes dense fog and rain showers. A red box highlights an advertisement for State Farm Insurance.

Webpage was captured on 9 December 2004 at 1:09p CST.

Timestamp in text on webpage corroborates time of capture (i.e., 9 December 2004 at 1:09p CST).

Text on webpage and associated infographic indicate current conditions as raining. Infographic captured on 12 December 2004 at 8:54a CST.



temporal (in)coherence

Wayback Machine: 34 captures, 27 Oct 2002 - 10 Jun 2017

Go: AUG DEC MAR, 09, 2003 2004 2006

Find the Weather for any City, State or ZIP Code, or Airport Code or Country

Webpage was captured on 9 December 2004 at 1:09p CST.

Member Benefits: No Ads, Weather Email \$5 a year, Signup Here

Email: taylorn@gmail.com, Password: *****

Print This Page, Maps, Temperature

Varina, Iowa
Local Time: 1:09 PM CST Set My Timezone

Current Conditions
Updated: 12:55 PM CST on December 09, 2004
Observed at Storm Lake, Iowa (History)
Elevation: 1486 ft / 453 m

41 °F / 5 °C
Light Drizzle

Windchill: 37 °F / 3 °C

Local Radar, Regional Radar, Local Satellite, Ski Conditions, Trip Planner, Personal Weather Stations

Forecast for Pocahontas County
Updated: 11:20 am CST on December 9, 2004
No Active Advisories (US Severe Weather)

This Afternoon: Cloudy with a chance of light rain showers. High in the lower 40s. West wind 10 to 15 mph. Chance of rain 30 percent.

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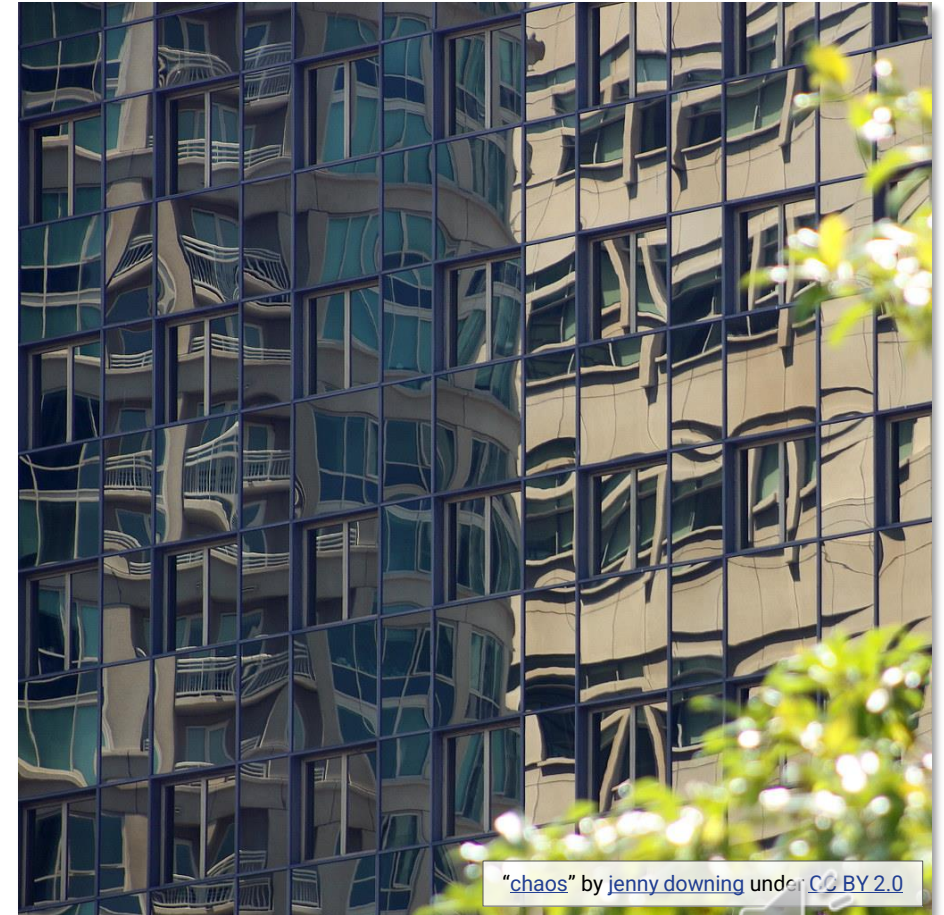
Text on webpage and associated infographic indicate current conditions as raining. Infographic captured on 12 December 2004 at 8:54a CST.

Radar graphic reflects weather conditions (clear) at the time of its capture: 12 September 2005 at 5:34p CDT.



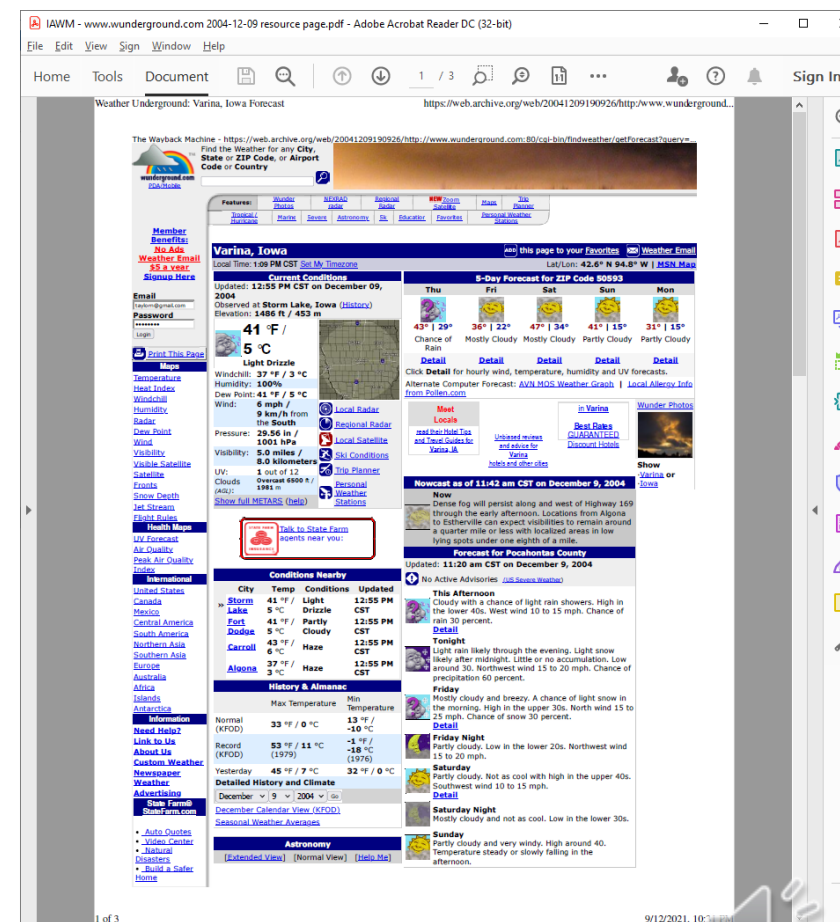
what's going on here?

- archiving of web resources is time-staggered
- IAWM reconstitutes archived webpage w/ most temporally proximate elements
- IAWM may therefore represent fictitious web pages
- examine capture dates + assess materiality of temporal incoherence



problems w/ PDF

- IAWM evidence submitted as PDF screenshots
- temporal variations no longer apparent
- if temporal coherence is an issue, provide supplementary info



how to have admitted

- IA will still provide an affidavit
- however, this IAWM evidence is more easily contested
- or viewed as less credible by judge
- consider an expert witness



"Door Ajar" by Jenn Turner under CC BY 2.0



Timestamping Content Changes



"Annual_rings" by Lige Eglite under CC BY 2.0



sources of temporal information

conspicuous

- (system-generated) datetime string in webpage text
- IAWM capture timestamp

less obvious

- (system-generated) datetime string in webpage source code
- Google [before: operator](#)
- Twitter [until: operator](#)
- IAWM capture datetime of webpage w/ inlinks
- web server \rightleftarrows client network headers (e.g., X-Archive-Origin-last-modified)
- timestamps in embedded image metadata (e.g., [Exif](#), [XMP](#))



timestamping content changes

when first published

- easier when there are many traces + via diverse services
- more typical to be working w/ fragments
- key limitations on assertions:
 - generally only establish *no later than*
 - don't necessarily establish *the moment when*

when continuously available

- use similar techniques to document availability across successive short intervals
- continuous intermediate availability more reasonable to assume than up-down-up
- can get complicated for content situated deep in a website across redesigns or platform changes
 - content may persist, but specific web address may change





“Editing” IAWM Contents

[“What lies behind the walls - Desert X 2021”](#) by [Ted Drake](#) under [CC BY-ND 2.0](#)



can IAWM contents be edited?

- not as such; archive is append-only
- missing content may be captured later
- content can be excluded from access
- IA has made no public claims that content is ever deleted
- individual webpages or web resources can be manually archived



"Stone engraving" by Jinx McCombs under CC BY-ND 2.0

exclusion requests + crawler directives

exclusion requests

- domain owner can request exclusion of their content from IAWM
- criteria unclear, but IA exercises discretion
- if granted, IAWM access to content will be disabled + IA archiving will cease

crawler directives

- domain owner can [configure a robots.txt file to ward off IA archiving agents](#)
- again, [IA exercises discretion](#)
- updates to robots.txt directives can restore access

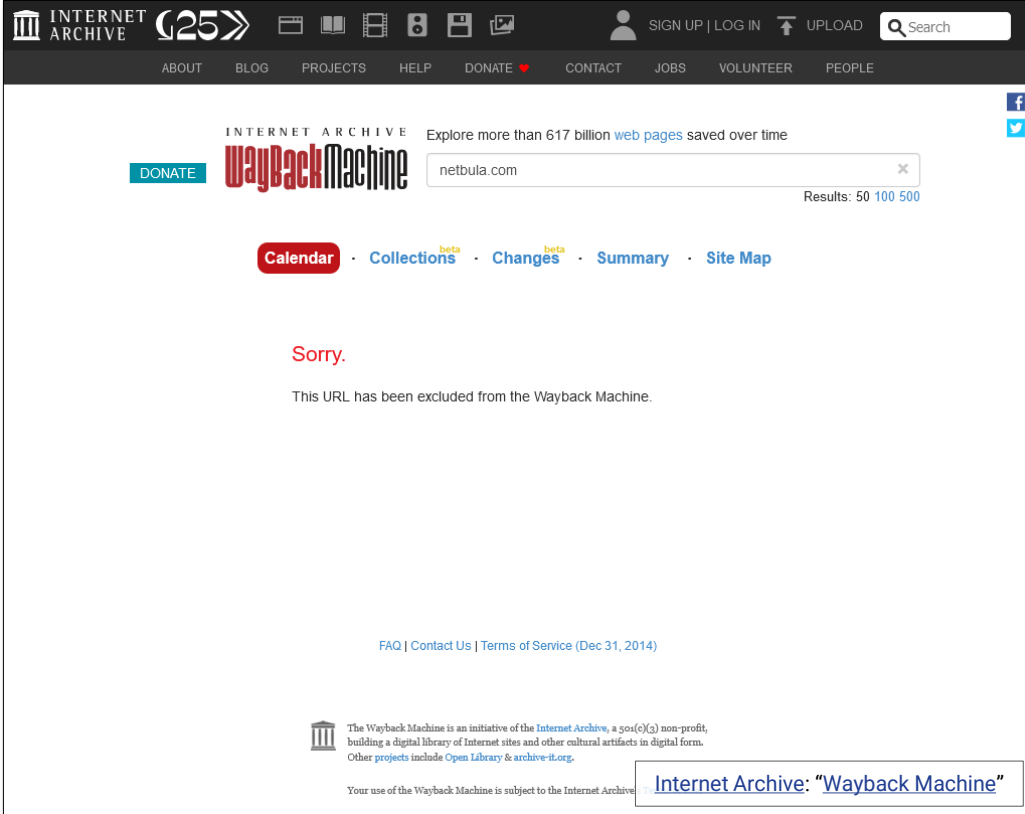


Netbula, LLC v. Chordiant Software, Inc. (2009)

- IAWM (would be) used to show expressed or implied licenses for copyrighted software

*“[P]laintiffs oppose defendants' motion for an order compelling them to temporarily disable the robot.txt file so that access to the archived records may be had...Here, plaintiffs argue that they do not have exclusive contractual or statutory rights to control the Internet Archive's 'archiving activities.'...**The issue, however, is not control over 'archiving activities,' but control over access to the archived Netbula web pages. There can be no serious dispute that plaintiffs control that information. Indeed, they have unilaterally blocked access to the same.**”*

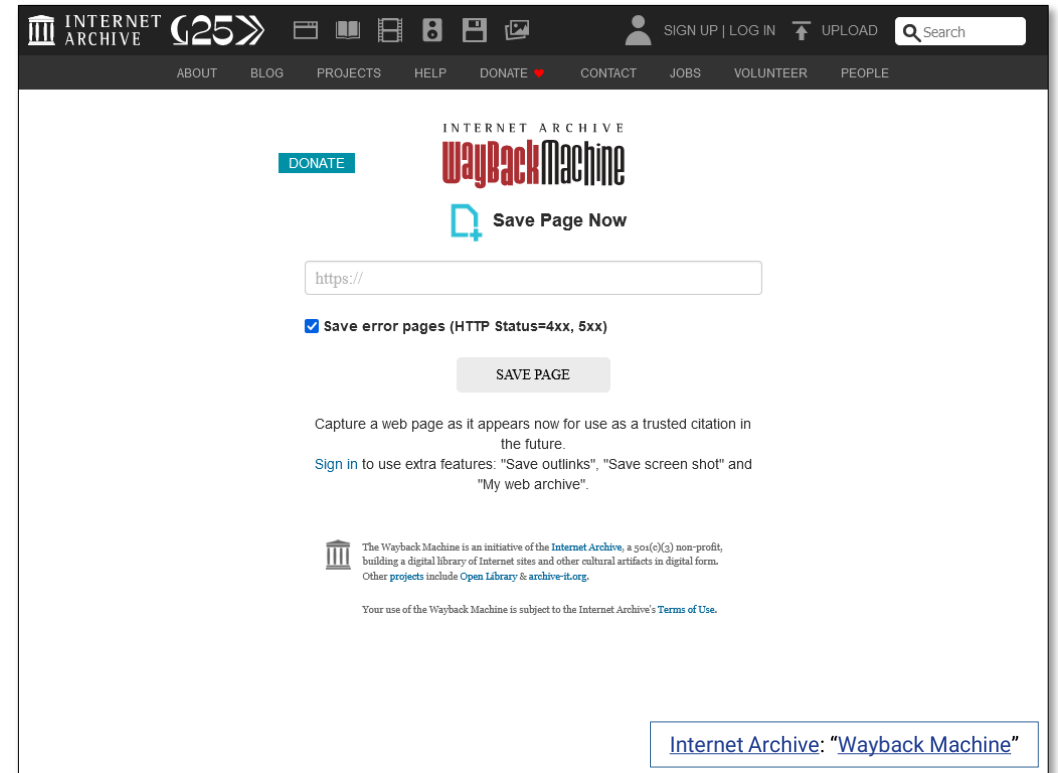
[Netbula, LLC v. Chordiant Software, Inc., Case No. 08-cv-00019, 2009 WL 3352588, at *1 \(N.D. Cal. Oct. 15, 2009\)](#)



The screenshot shows the Wayback Machine interface. At the top, there's a navigation bar with links for ABOUT, BLOG, PROJECTS, HELP, DONATE, CONTACT, JOBS, VOLUNTEER, and PEOPLE. A search bar contains 'netbula.com' and shows 'Results: 50 100 500'. Below the search bar, there are links for 'Calendar', 'Collections', 'Changes', 'Summary', and 'Site Map'. A red 'Sorry' message is displayed, stating 'This URL has been excluded from the Wayback Machine.' At the bottom, there's a footer with links for 'FAQ | Contact Us | Terms of Service (Dec 31, 2014)' and a small icon of a building. A text box at the bottom right of the screenshot contains the text 'Internet Archive: "Wayback Machine"'.

IAWM Save Page Now feature

- manually archive to IAWM a real-time webpage snapshot
- good habit when relying on live web evidence
- works for error pages (i.e., document absence)
- when signed in, can archive current webpage + 1 hop out





Takeaways

"Party Favors" by Carlos Saldivia under CC BY 2.0



takeaways

- temporal attributes of web content can matter (a lot)
- IAWM is a powerful tool for surfacing historical web info
- don't take archived webpages at face value
- there are multiple ways to timestamp web content
- employ strategies for authentication of IAWM evidence
 - IA affidavit
 - witness
 - judicial notice
- for any strategy, don't neglect to provide foundation for admission





"Thank You" by Brian Crawford under CC BY-SA 2.0



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