

Research the Past Web using Web archives

Daniel.Gomes@fccn.pt



of web pages change their content or disappear within 1 year

Archives are also require to preserve information published online

Preserve the Press







Preserve the Web





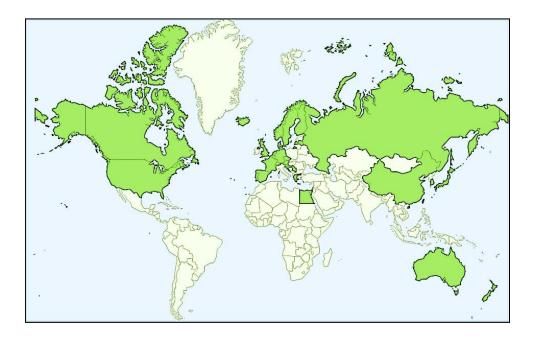


Archive.org: the first web archive



Brewster Kahle founded the **Internet Archive** in 1996, a non-profit organization to provide "Universal access to all knowledge".

93 web archiving initiatives around the World (2020)



List of Web archiving initiatives, Wikipedia



☆ > PROJECTS > COLLABORATIVE COLLECTIONS

Collaborative collections

IIPC members are collaborating to build public web archive collections based on themes or events that align with the following criteria:

- of high interest to IIPC members
- broader than any one member's responsibility or mandate
- of higher value to research due to broader perspective provided by multiple institutions
- transnational in scope.

The project is administered by the IIPC Content Development Group. More information about the project is available on their page.

Collections

Novel Coronavirus (Covid-19) (2020)
Climate change (2019)
Online News Around the World (2018)
Olympics/Paralympics collections (2010-2018)
European Refugee Crisis (2015-2016)
World War One Commemoration (2015-)
Intergovernmental Organizations (2015-)

56 members, <u>netpreserve.org</u> Interesting thematic collections

I work at the **Arquivo.pt web archive**

Research infrastructure provided by Foundation for Science and Technology (Portugal)

Preserves **publicly accessible** information related with:

- Portugal
- **Research** and **Education** (international)

Free online services to research the Past Web



Arquivo.pt is used word-wide



Country	Users % Users
1. 🔤 Portugal	87,532 47.69%
2. 🔤 United States	34,784 🚺 18.95%
3. 💽 Brazil	6,991 3.81%
4. 💽 Japan	5,306 2.89%
5. 🏭 United Kingdom	4,996 2.72%
6. 🚃 Russia	3,227 1.76%
7. 📑 Germany	2,649 1.44%
8. 💽 Canada	2,475 1.35%
9. 📩 Spain	2,385 1.30%
10 🔤 India	2,086 1.14%

52% of our users were international in 2019

User Interfaces and documentation also in English

Combined with Google Translate enables **cross-lingual access** to preserved content

The Past Web

Examples of international web-archived pages and collections

Historical web pages: Tim Berners Lee personal page and W3C in the 90s

Tim Berners-Lee

Bio

Tim Berners-Lee is the inventor of the World Wide Web, an internet-based hypermedia initiative for global information sharing. He wrote the first Web clients and server and defined the URL, HTTP and HTML specifications on which the web depends while working at <u>CERN</u>, the European Particle Physics Laboratory, in late 1990.

Tim is now the Director of the W3 Consortium, an open forum of compa mission to realize the full potential of the Web. He is a Principal Research Computer Science (LCS) at the Massachusetts Institute of Technology (N

Before going to CERN, Tim was a founding director of Image Computer \$ The World Wide Web is the universe of network-accessible information. The World Wide Web consultant in hardware and software system design, real-time communication processing; and a principal engineer with Plessey Telecommunications, in of Oxford University.

Tim is married to Nancy Carlson. They have two children, born 1991 and

www.w3.org/pub/WWW/People/Berners-Lee/, 1996 @Arguivo.pt

www.w3.org, 1996 @Arquivo.pt

The World Wide Web Consortium

Consortium exists to realize the full potential of the Web.

W3C works with the global community to produce specifications and reference software. W3C is funded by industrial members but its products are freely available to all. The Consortium is run by MIT LCS and by INRIA, in collaboration with CERN where the web originated. Please see the list of members to learn about individual members and visit their World Wide Web sites.

- W3C Activity areas and directions
- How to contact W3C
- Frequently Asked Questions about W3C
- W3C meetings, newsletter, mailing lists [W3C Members only]

• Help

In this document:

- <u>News and Updates</u>
- Web Specifications and Development Areas
- W3C Software
- The World Wide Web and the Web Community
- Getting involved with the W3C



Websites that document R&D projects funded by the European Union

arcemem

ABOUT ARCOMEM T TECH DEMOS SYSTEM DEMOS TRAINING OPEN SOURCE VIDEOS PUBLICATIONS & EVENTS RELATED PROJECTS

PUBLICATIONS

Articles submitted for publication

 "Analysis of Named Entity Recognition and Linking for Tweets". Leon Derczynski, Diana Maynard, Giuseppe Rizzo, Niraj Aswani, Marieke van Erp, Raphaël Troncy, Kalina Bontcheva. Submitted to Journal of Information Processing & Management, 2014.

 Natural Language Processing. Diana Maynard, Kalina Bontcheva. In J. Lehmann and J. Voelker editors, Perspectives of Ontology Learning. IOS Press, 2013 (to appear)

Published book chapters

 Documenting Contemporary Society by Preserving Relevant Information from Twitter; Thomas Risse, Wim Peters, Pierre Senellart, Diana Maynard; In: Twitter and Society (Eds. Axel Bruns, Jean Burgess, Katrin Weller, Merja Mahrt, Cornelius Puschmann); Peter Lang Publishing, New York, 2013 (to appear)

Journal articles

 On the applicability of word sense discrimination on 201 years of modern english: Nina Tahmasebi, Kai Niklas, Gideon Zenz, and Thomas Risse. International Journal on Digital Libraries; Springer; DOI: 10.1007/s00799-013-0105-8 (2013)

 <u>Topic-aware Social Influence Propagation Models</u>; Nicola Barbieri, Francesco Bonchi, Giuseppe Manco. In International Journal of Knowledge and Information Systems; Springer; DOIE: 10.1007/s10115-013-0646-6

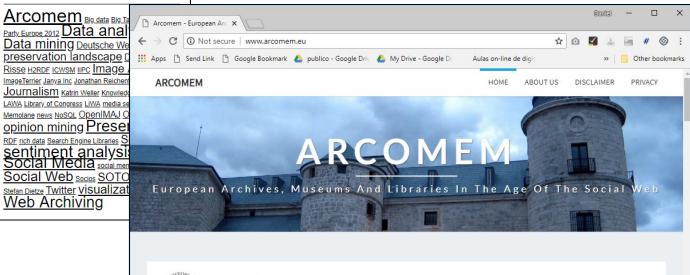
 <u>Towards mobile language evolution exploitation</u> Gideon Zenz, Nina Tahmasebi, Thomas Risse. In: Multimedia Tools and Applications – Special Issue on Semantic Ambient Media Experience. Springer, Netherlands;

arcomem.eu, 2014 @Internet Archive

ARCOMEM ON TWITTER

Tweets von @arcomem

TAG CLOUD





Find and book Europe's best historic and luxury hotels. Stay in ancient treasures, from fairytale castles to romantic manors...

BOOK NOW

Cross-lingual collaborative web collections (e.g. European Elections 2019)

Ħ	Keywords - Post-European Elections 2019 - Palavras-chave Pós-Eleições Europeias 2019								
۱¢۲	C つ 音 〒 100% ▼ £ % .0 123▼ Arial ▼ 10 ▼ B I S A ◆ 田 E ▼ Ξ ▼ Ε ▼ ↓ ▼ トゥ ▼ G ■ II ▼ ▼ Σ ▼								
fx	PT - Portuguese								
	A	В	С	D					
1	Sheet description								
2	Given the set of expressions in Portuguese - the same we tried in the Crawl 1 before elections - we translated it to all other 23 EU languages, using the GOOGLETRANSLATE formula on google sheets. Example: GOOGLETRANSLATE(A7, "pt", "bg"). But we only use 12 expressions. So, we've used 288 expressions in 24 languages. Using Bing Web API, we collected 10 top results, and we got about 2880 seeds. Then we've ran the Crawl 2 . Results were good. So we did the same again using all research the expressions on Bing and we've got more than 9000 seeds. So we've done the Crawl 3 .								
3	Language codes reference: http://publication	ns.europa.eu/code/en/en-5000800.htm							
4									
5									
6	PT - Portuguese	BG - Bulgarian	HR - Croatian	CS - Czech					
7	eleições parlamento europeu 2019	изборите за Европейски парламент 2019	izbori za Europski parlament 2019. godine	Volby do Evropského parlamentu 2019					
8	eleições europeias 2019	Европейски избори 2019	Europski izbori 2019	Volby do Evropského parlamentu 2019					
9	abstenção europeias 2019	Европейската въздържал се през 2019 г.	Europska apstinencija u 2019	Evropská zdržení v roce 2019					
10	resultados eleitorais 2019	резултатите от изборите 2019	Rezultati izbora 2019	Výsledky voleb 2019					
11	vencedores europeias 2019	Европейските победители 2019	Europski pobjednici 2019	Evropští vítězové 2019					
12	brexit eleições europeias 2019	brexit европейските избори 2019	brexit europski izbori 2019.	Volby brexit evropští 2019					

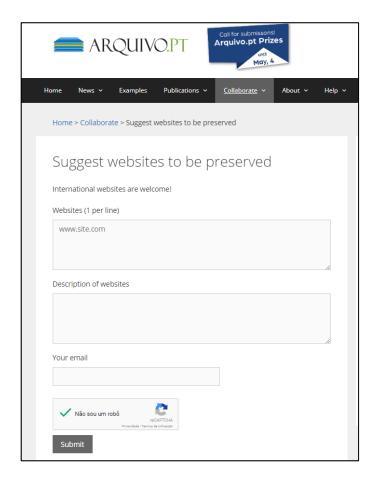
Suggest **any website** before it vanishes and you miss it!

Any domain

Any language

Broad interest for research and education

Save your research outputs!





Use cases for a web archive

Fix citations to broken links that jeopardize Science in all areas

Data sets and tools applied in experiments are online.

When cited resources disappear, experiments cannot be reproduced

> Not Reproducible, Not Science.

Web archives preserve online scientific information.



Communication Technology, Vol. 9, No. 2, July 1, 2013

Management: documentation/audit of finished project

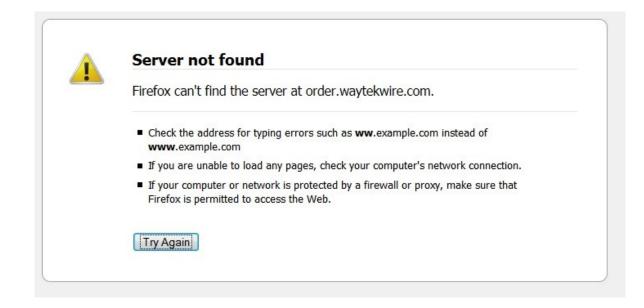


"Everything was on the website"

Linguateca	Publications on the computational processing of portuguese
Linguateca Structure Team Overview Access to resources Evaluation contests Catalogue of resources Catalogue of tools Catalogue of tools Catalogue of tools Catalogue of publications Publication search Publication addition SUPeRB Interesting information FAQ Gramateca Português	Publications on the computational processing of portuguese Linguateca Our goal is to gather a collection of bibliographic references on the computational Processing of portuguese in this pages. We appreciate any contribution that you as an author or reader can give us, by providing us with additional information or to direct us to pages with relevant content. To look for publications we suggest the use of our search interface. To contribute with new references you can use this form. To use SUPeRB as your publications manager see here. We currently list 2375 references under the following categories: • Publications, in journals (184 ordered alphabetically, by date; In BibTeX: ordered alfaphabetically, by date) • Books (1 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) • Books (1 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) • Book (Author) (57 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) • Book (Compiliation) (53 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) • Book (Compiliation) (53 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) • Book (Compiliation) (53 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) • Book (Compiliation) (54 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date)
Norsk Comments and suggestions Please use the navigation options on the left handside frame (clicking on the link: on the right handside does not update the left handside).	 teshis (152 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) Articles in international conferences (1134 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) Reports and monographies (192 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) Other academical work (3 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) Publications only available on the web (95 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) Publications only available on the web (95 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) Presentations (297 publications, orderer alphabetically, by date; In BibTeX: orderer alphabetically, by date) Publications inserted last month. Last update 30 November 2015. Comments e suggestions

Maintain Portfolio/CV

"My best work was a website that no longer exists..." 60% of the websites disappear just after 2 years.



Search the Past Web

Anyone can do it.

URL Search: Internet Archive Wayback Machine

INTERNET ARCHIVE

28 29

31

http://nytimes.com/ × DONATE Archive.org Saved 189,548 times between November 12, 1996 and August 13, 2018. Summary of nytimes.com · Site Map of nytimes.com World wide content **URL** search Fri, 01 Mar 2013 01:20:45 GMT (why: focused crawls, elpais.com.uy, top news) JAN FEB MAR 2 3 12 13 9 10 19 20 16 17 25 26 27 21 22 23 24 22 23 24

Explore more than 335 billion web pages saved over time

25 26

27 28

25 26 27 28 29 30 31

New York Times news on February 14th, 2009



New York Times on 9/11, 2001

The New York Times on the Web	
UPDATED TUESDAY, SEPTEMBER 11, 2001 4:43 PM ET Personalize Your Weather	
Search Past 30 Days	<u>Sign Up</u> Log In
World Trade Center Toppled in Attack Attack Descent Peared Dead in New Contant Spanney By Ames Barron In what appeared to be coordinated attacks, hijacked jetimers crashed into both towers of the World Trade Center and the Pentagon Tuesday morning. Goto Attace Image: Side Show: Destruction in New York Image: Side Show: Destruction in New York Image: Side Show: Destruction in New York Image: Side Show: Destruction defense both tower aircraft crashed into the Pentagon to the American defense bothouter aircraft crashed to the Pentagon to the American defense bothout	TECHNOLOGY Dell on Top Everyone is feeling the slump, but Michael Dell says his company can tolerate it better than most. Q&A Ottawa, Canada susz99 asks: Does anyone have any suggestions for things to do in Ottawa for a group of about 20? answer the question More News From Reuters More News From AP

New York Times on the early days of the Web, 1996



URL search across several web archives

Memento Time Travel Portal

<u>TimeTravel.mementoweb.org</u>

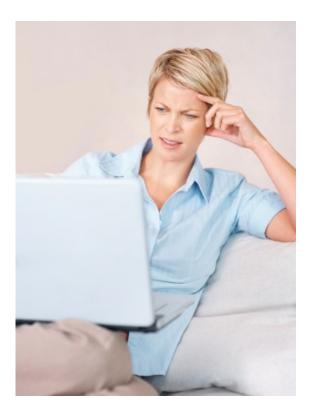
http://nytimes.com		
2011-09-11	15:48:01 Find Reconstruct	11 Sep 2011 16:13:07 GMT
Mementos closest to th	e requested date 11 Sep 2011 15:48:01 GMT	
Internet Archive Me	mento, 1 hour after Embed	experience web time trave
https://web.archive.org/web/2	0110911161307/http://www.nytimes.com/ <1 hour from requested date]	
Previous Memento	Next Memento	
data not provided	data not provided	install Memento for Chrome
First Memento	Last Memento	
data not provided	data not provided	enable web time travel
Portuguese Archive	Nemente d'hour hefere	[()]
	Memento, 1 hour before Embed 10911151946/http://www.nytimes.com/	MEDIAWIKI
11 Sep 2011 15:19:46 GMT	[<1 hour from requested date]	install Memento for MediaW
Previous Memento	Next Memento	
data not provided	data not provided	say no to "404 Not Found"
First Memento	Last Memento	
data not provided	data not provided	Robust Links
		use links that refuse to die
	Irina Web Archive Memento, 3 hours after Embed	
	:80/web/20110911191236/http://nytimes.com	

Limitation of URL search

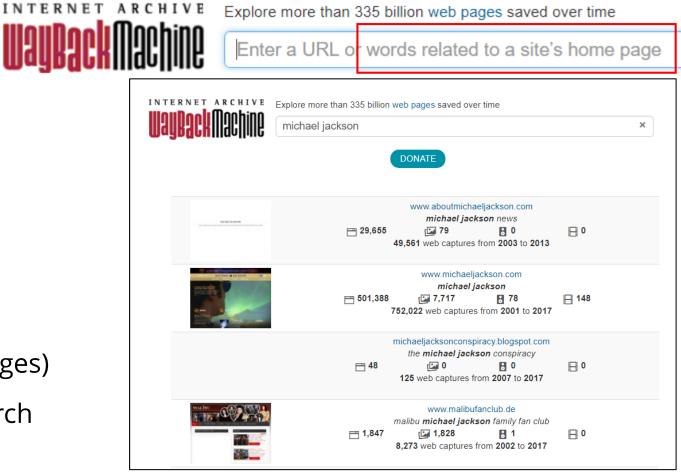
Users **do not know** the **exact URL** of the **web page of the Past** that contained the information that they search for.

Search for: Michael Jackson concert before 1998.

Which **was** the address of the web page?



Keyword search related to **home pages** of websites



Archive.org

Keywords from the links to the homepages of websites.

Search results **do not include**:

- Home pages that do not receive links
- Internal webpages (not home pages)
- Cannot define time span for search

×

Full-text search over all pages with Arquivo.pt

	michael jackson concert								×	Search
ARQUIVO.PT	between: 01/01/1996 and: 31/12/1998								N	Advanced search
	S		ceml	ber 🔻	' 19 We	98 Th	Fr	0 Sa		
1				1	2	3	4	5	from 24	
		6	7	8	9	10	11	12		
		13	14	15	16	17	18	19		
			21	22	23	24	25	26	1	
		27	28	29	30	31			60	
	RTUovru Thu Oct 24 16:09 1996 WIRE 3 256 Malaysia's Mahathir defend (Reuter) - Prime Minister Mahathir Mohamad said on Thursday he had all http://rorty.ist.utl.pt/news/malasia2.html	ок				(Can	cel	Dct 24	

Not site home page "Untitled"

There was a controversial Michael Jackson concert in Malaysia in 1996. 🛑 ARQUIVO.PT

ASSUNTO NÚMERO DIST DATA/HORA DE CHEGADA STATUS LINHAS

BC-Malaysia-Jackson REU1960 RTUovru Thu Oct 24 16:09 1996 WIRE 3 256

Malaysia's Mahathir defends Jackson concert

KUALA LUMPUR, Oct 24 (Reuter) - Prime Minister Mahathir Mohamad said on Thursday he had allowed a Michael Jackson concert in Kuala Lumpur to give Malaysians the chance to watch a "star in action", the national Bernama news agency reported.

Advanced search:

did Michael Jackson ever came to Portugal?



Advanced Search

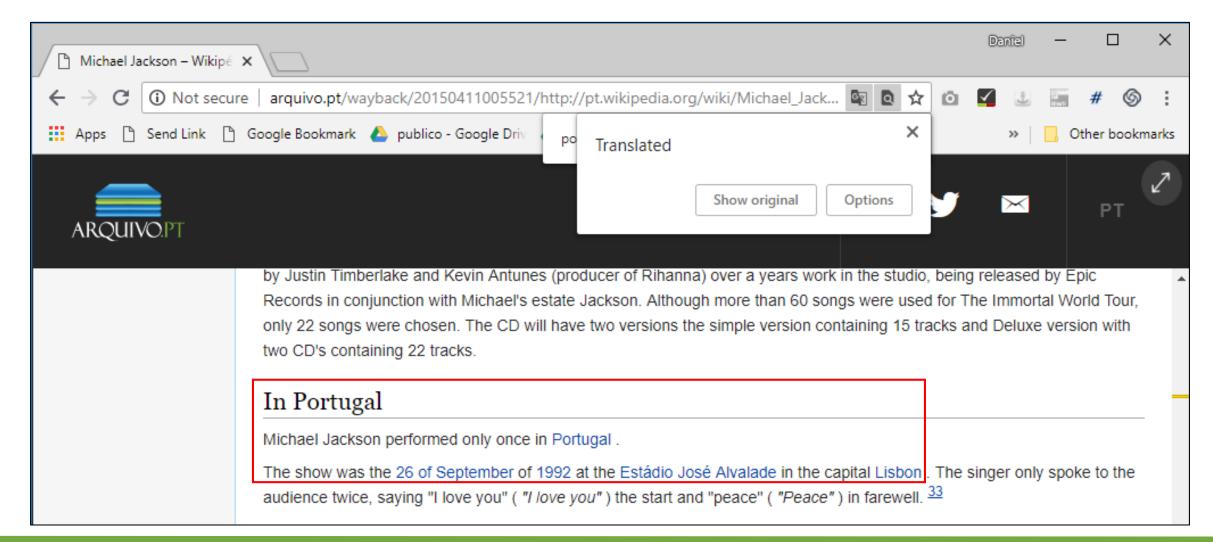
Refine the details of your search using the options bellow.

Search pages by:	Search
Words	
With these words:	Portugal ex.: group draw
With this phrase:	michael jackson ex.: euro 2004
Without any of these words:	albums ex.: rugby
Date	
Between	01/01/1996 and 01/12/2017
Sort by:	All formats Adobe PDF (.pdf) Adobe PostScript (.ps)
Format	HTML (.htm, .html) Microsoft Excel (.xls)
Show the pages in the format:	Microsoft PowerPoint (.ppt) Microsoft Word (.doc) Rich Text Format (.rtf) All formats

Results in Portuguese can be automatically translated to answer our question.

ARQUIVO.PT	Portugal "michael jackson" -albums between: 01/01/1996 and: 01/12/2017	X Search Advanced search				
		🗋 Michael Jackson – Wikipé 🗙				Daniel — 🗆 🗙
	Revista TIME Michael Jackson - Abitureiras (Santarém) - Livr	← → C ③ Not secure arquivo.pt/wa	yback/20150411005521/http://pt.wikipedia.or	rg/wiki/Michael_Jackson		2 🖾 # 🎯 :
	10 April, 2015 - List versions Rochas Ornamentais Portuguesas - 3 Volumes » Fotos: Fotos de Revista TIME Michael J Abitureiras > Revista TIME Michael Jackson Classificados grátis - Portugal Copyright © 2	🗰 Apps 🗋 Send Link 🗋 Google Bookmark	🝐 publico - Google Driv 🕴 portugal	2/3 🔨 🗸	/ ×	»
	TIME Michael Jackson - Abitureiras (Santarém) - Livros - Revistas Revista TIME Michael http://abitureiras.ok.pt/revista-time-michael-jackson-lid-460216091 <u>Michael Jackson — Wikipédia, a enciclopédia livre</u> 11 April, 2015 - List versions Michael Jackson — Wikipédia, a enciclopédia livre Michael Jackson Origem: Wikipédia, a	ARQUIVO.PT		ð 0	f y	PT PT
	navegação, pesquisa Nota: Para outros significados, veja Michael Jackson, livros e a Michael Jackson durante performance ao vivo de Wanna Be http://pt.wikipedia.org/wiki/Michael Jackson	originais de Mi	chael foram remixadas por Justin Timberlake	e Kevin Antunes (produtor	r de Rihanna) ao	longo de um trabalho 🔺
	ntp.npt.mikipedia.org/wikimiendel_odekson		údio, sendo liberados pela Epic Records em rem usadas para a Tha Immedal World Tour			. Apesar de mais de D terá duas versões a
			rem usadas para a The Immortal World Tour, contendo 15 faixas e versão Deluxe com do		Alt+Left Arrow It+Right Arrow	J tera duas versões a
				Reload	Ctrl+R	
		Em Portu	gal	Save as	Ctrl+S	
		Michael Jackso	on actuou apenas uma vez em <mark>Portugal</mark> .	Print	Ctrl+P	
		O espectáculo	foi a 26 de Setembro de 1992 no Estádio Jo	Cast		ó falou com a plateia
		duas vezes, di	zendo "I love you" (<i>"amo vocês"</i>) a começar (Translate to English		
		No Brasil		Show Anchors	•	
			três vezes no Brasil ²⁶ .	View page source View frame source	Ctrl+U	
			em que Jackson veio ao Brasil foi em setem 5, durante uma turnê pela América Latina. N	Reload frame		irmãos no então tando-se em São
			, Porto Alegre, Salvador, Rio de Janeiro e Be	Inspect Io Honzonte , alem de se	Ctrl+Shitt+I	

Did Michael Jackson ever came to Portugal? **Yes**, in 1992.

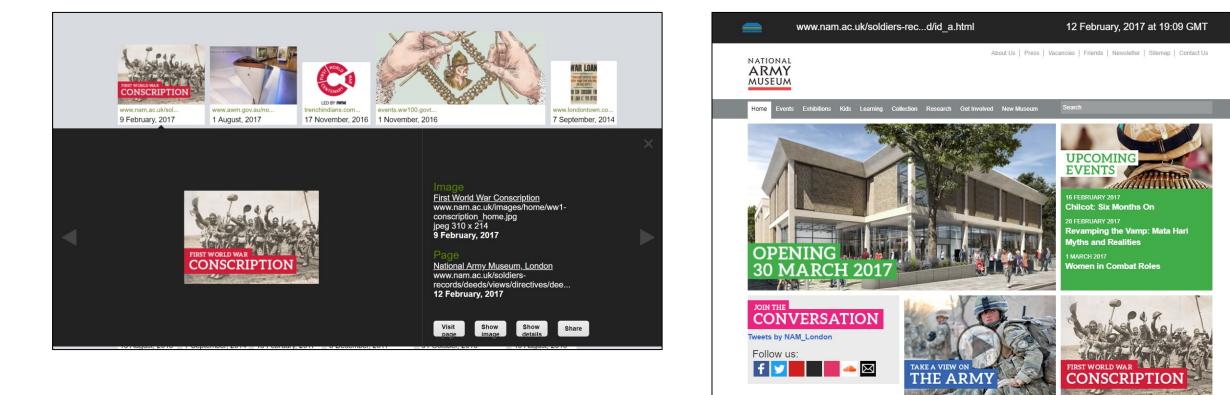


Search **images** from the past

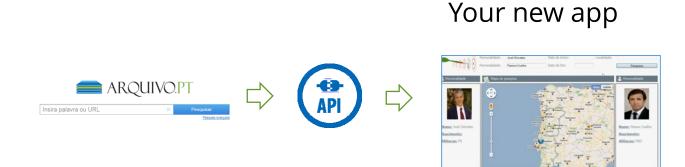
ARQUIVO.PT	first world war between: 01/01/1990	6) 🛅 and 31/12	2/2018	×	Search Advanced image	<u>ge search</u>
	Pages Images			Option	S 	
www.netsurf.pt/si 7 June, 2010		The War Effort New Zealand www.nzhistory.net 3 August, 2015	www.nzhistory.net 13 August, 2015	www.nzhistory.net 13 August, 2015	www.nzhistory.net 13 August, 2015	www.nzhistory.net 13 August, 2015

29

Image **source** and details



Application Programing Interfaces to develop new applications



Arquivo.pt APIs

📮 arquivo	/ pwa-techno	logies					
<> Code	(!) Issues (48)	រ៉ា Pull requests 0	Projects 0				
APIs Fernando-Me	lo edited this pag	e 38 minutes ago · 9 rev	visions				
URL search: CDX-server APIURL search: Memento Timetravel API							
	· · · · · ·	earch based Arquivc er development)	o.pt API				

arquivo.pt/api

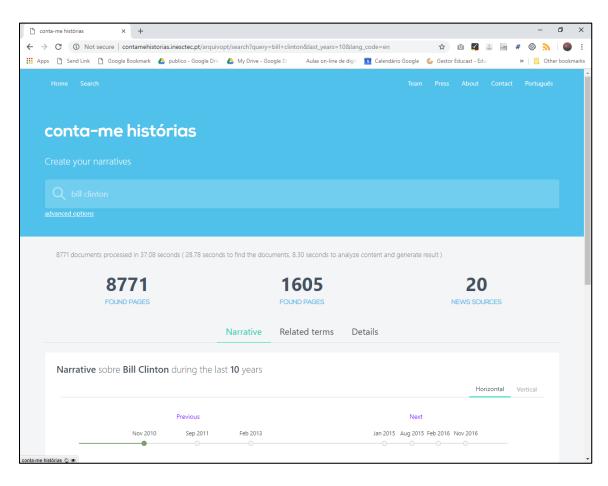
Custom search engine through "collection" API parameter over 3 crawls of .EU domain (2015-16-17)

RESEARCH		european elections collection:EAWP6 collection:EAWF	Search
Insert keyword or URL	ARQUIVO.PT	between: 01/01/1996 💼 and 31/12/2019 💼	Advanced search
Search pages from the past Meet the service		Pages Images European elections 2014	
arquivo.pt/resawdev/		22 November, 2014 - List versions European elections 2014 Main menu (press 'Enter') Access to page content (press 'Enter') Direct access to list of other websites (press 'Enter') European Parliament / European Elections (22-25 May content Secondary navigation European elections 2014 Latest products Court of Auditors: pushing http://www.elections2014.eu/en	
		301 Moved Permanently 8 January, 2016 - List versions 301 Moved Permanently Moved Permanently The document has moved here http://www.elections2014.eu/en	
		European Elections 2014: anger or disenchantment? - The Euro 1 December, 2014 - List versions European Elections 2014: anger or disenchantment? - The Euros News feed 19/11 EUROSBLOG FSE: €2 Europa dell'era digitale 8/07 The Euros European Elections 2014: anger or disenchantment? 8/07 Gli Euros Special files Members EUROSBLOGS Les Euros Services European Elections 2014: anger or http://www.theeuros.eu/European-Elections-2014-Anger-or,6150.html	

Innovative service based on Arquivo.pt API: "Tell Me Stories"

Automatically generates narratives about any subject based on online news from the Past.

Winners of the Arquivo.pt Award 2018.



<u>ContaMeHistorias.pt</u> (with English UI) <u>TellMeStories.pt</u>



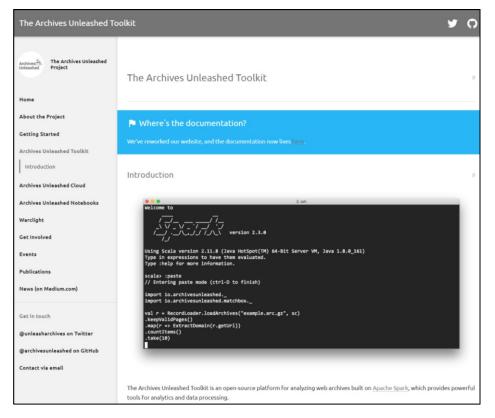
• Any subject

- Arquivo.pt as main source of information
- Submissions in Portuguese
- <u>arquivo.pt/awards</u>

Arquivo.pt Award 2020 Apply until May 4th

1st place: 10 000 €
2nd place: 3 000 €
3rd place: 2 000 €

ArchivesUnleashed.org: automatic processing and analytics



Cloud or Toolkit

Sign in with: 🕑 🌔 📃 Archives Unleashed Cloud Using the Archives Unleashed Cloud **Derivative Files** One of the main features of the Archives Unleashed Cloud is the creation of derivative files. These are datasets that provide information about your web archives and can be used by researchers in place of the original WARC files. Once analytics have been run on a collection, as discussed in the documentation, you will be able to view and access a series of four derivative files. Network Full Text Gephi Domains

Generates derived results

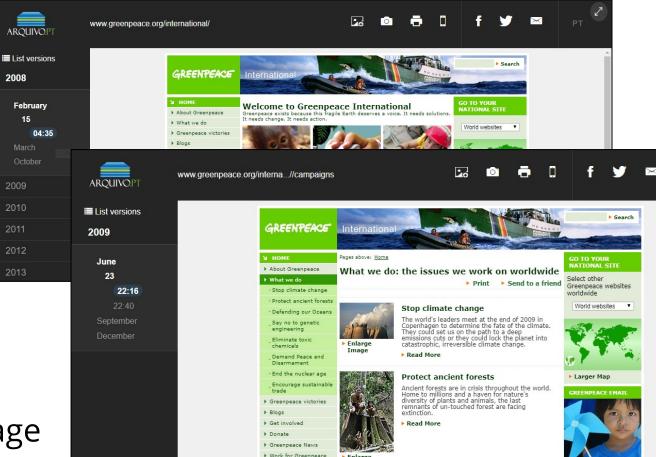
Access the Past Web

Access web pages from the Past

Navigate along **past versions**

Browse links across pages

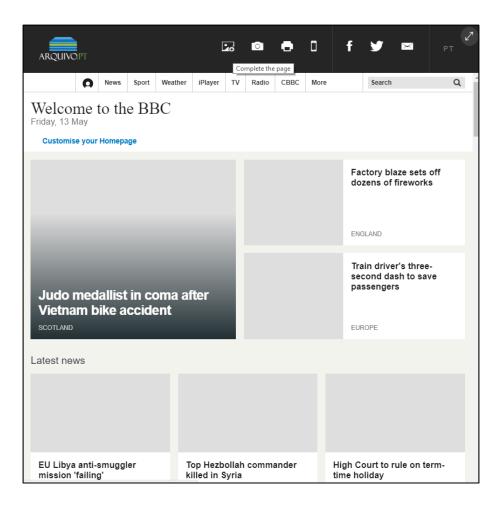
 Destiny version with the closest date to the origin page

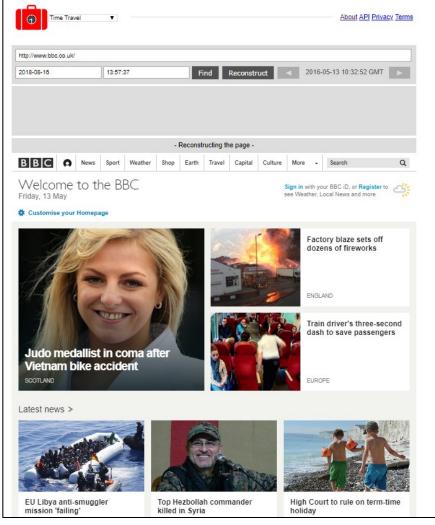


Navigate **between web archives**



Complete page with resources from external web archives





Powered by: <u>TimeTravel.memento.org</u>

Save **full page** instead of partial "Print Screen"

Embed in documentation (e.g. thesis, papers) Keep local copies





Access to **technical details**

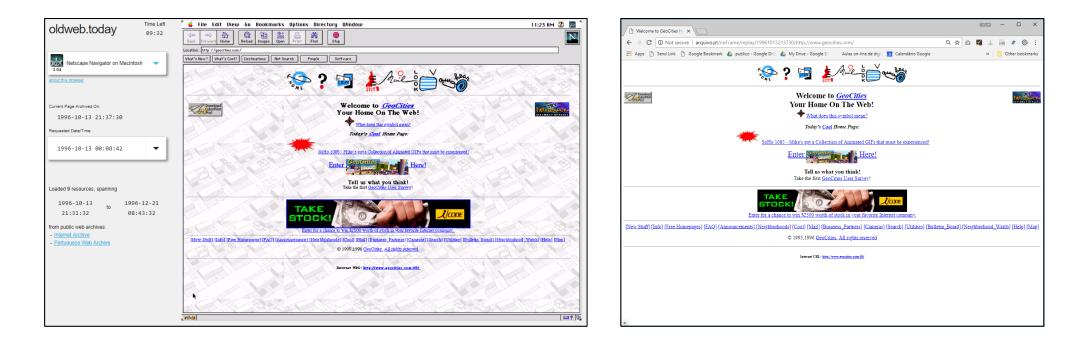
News CPED	- preserved by Arqu × +
$\leftarrow \ \ \rightarrow \ \ G$	🔒 https://arquivo.pt/wayback/20180511140618/http://empregabilidadedigi 🛧 🔯 🌠 🕹 📰 # 🌀 💦 🗹 🗾 🕘 🗄
ARQUIM	Technical details (field description)
C C C C C C C C C C C C C C C C C C C	originalURL: http://empregabilidadedigital.pt/en/news IinkToArchive: https://arquivo.pt/wayback/20180511140618/http://empregabilidadedigital.pt/en/news tstamp: 20180511140618
	contentLength: 6700 MeMore Contractor Bubblenes Forms bootments News Members Briteractif/E MAP
News	mimeType: text/html linkToScreenshot: <u>https://arquivo.pt/screenshot/?</u> url=https%3A%2F%2Farquivo.pt%2FnoFrame%2Freplay%2F20180511140618%2Fhttp%3A%2F%2Fempregabilidadedigital. pt%2Fen%2Fnews
Home	date: 1526047578 linkToNoFrame: <u>https://arquivo.pt/noFrame/replay/20180511140618/http://empregabilidadedigital.pt/en/news</u>
02 <u>NOV</u> 2016	status: 200 linkToMetadata: https://arquivo.pt/textsearch? metadata=http%3A%2F%2Fempregabilidadedigital.pt%2Fen%2Fnews%2F20180511140618 filename: raq-empregabilidade-20180511135833179-00000-w68normz.warc.gz
	offset: 17686742 linkToOriginalFile: https://arquivo.pt/noFrame/replay/20180511140618id_/http://empregabilidadedigital.pt/en/news

Useful for debug Advanced users – E.g. researchers

<u>Oldweb.today</u>: geocities.com, 1996

1997 browser: Netscape Navigator v.3.04, Macintosh

Modern browser: Google Chrome, Windows 10



Training and research

Training courses on web preservation and research

New ways of searching the past (module A)

– Any Internet user

Publishing preservable information on the web (B)

– Web authors

Automatic processing of information preserved from the Web (C)

– Developers, **Researchers**

Do-it-yourself web archiving (D)

– Researchers, Librarians, Archivists



arquivo.pt/training

Investiga XXI (Research XXI)

Communication Studies

Transformations of the Websites of Portuguese Newspapers



Short link to this page: arquivo.pt/newspapers

Information Science

FCSH on the Web: virtual exhibition



Short link to this page: arquivo.pt/fcshontheweb

Social Sciences

Straight-Edge in the Lisbon metropolitan area



Short link to this page: arquivo.pt/straightedgeen

All videos, presentations, reports at: arquivo.pt/research

Web archives sinergies with CLEOPATRA

ESR 1. Fact extraction and cross-lingual alignment:

cross-lingual collections (e.g. IIPC Olympics/Paralympics collections, Arquivo.pt EU Elections 2019).

ESR 3. Crowd quality and training in hybrid multilingual information processing and analytics: generate test collections and evaluate quality of web archive tools.

<u>ESR 5. Fact validation across multilingual text corpora</u>: web archives as additional source of historical information for fact checking.

ESR 7. Relations of textual and visual information & ESR 8. Contextualisation of images in multilingual sources: web archive image search.

ESR 9. National and transnational media coverage of European parliamentary elections, 2004-2014: Arquivo.pt EU Elections 2019.

ESR 10. Nationalism, internationalism and sporting identity: the London and Rio Olympics/Paralympics: IIPC Olympics/Paralympics collections, Arquivo.pt daily crawls of online news.

ESR 11. Information propagation with barriers:

study how information propagates across time on the Web, IIPC European Refugee Crisis.

ESR 12. Cross-lingual news reporting bias: IIPC Online News Around the World collection.

ESR 13. Multilingual Wikipedia as 'first draft of history': final layout of Wikipedia pages along time (not database dump).

<u>ESR 14. NLP for under-resourced languages</u> & <u>ESR 15 Cross-lingual sentiment detection</u>: under-resourced languages in web archives.

Search and Access the Past Web

Search the Present -> Web Search Engines

Search the Past -> Web Archives!

Useful research tools

- -<u>Archive.org</u>: URL search
- -<u>TimeTravel.mementoweb.org</u>: search across web archives
- -<u>Arquivo.pt</u>: full text search
- -<u>ArchivesUnleashed.org</u>: data analytics
- -<u>Oldweb.today</u>: access using old browsers

Keep in touch!

Subscribe our channels:

- arquivo.pt/subscribe: mailing list in English
- arquivo.pt/inscrever: mailing list in Portuguese
- arquivo.pt/news: social networks and videos