

Preserving Websites Of Research & Development Projects

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Research Project: ARchive COmmunities MEMories



ABOUT ARCOMEM *

TECH DEMOS

SYSTEM DEMOS

TRAINING

OPEN SOURCE

VIDEOS

PUBLICATIONS

ABOUT ARCOMEM

ARCOMEM is about memory institutions like archives, museums, and libraries in the age of the Social Web. Memory institutions are more important now than ever: as we face greater economic and environmental challenges we need our understanding of the past to help us navigate to a sustainable future. This is a core function of democracies, but this

http://www.arcomem.eu/

Information about scientific events



Dissemination and training materials



ABOUT ARCOMEM *

TECH DEMOS SYSTEM DEMOS

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To explain the ARCOMEM project to detail we have created online training material so that the end-users of the ARCOMEM system can train themselves in understanding and using the AROMEM system.

ARCOMEM MADE EASY

As a beginner you can start with having a look at the "ARCOMEM made Easy" presentation. This presentation shows you a general overview on how the ARCOMEM system has been set up. If you want to dig deeper you can follow the links to the Powerpoint presentations on the different modules of the ARCOMEM system.

The ARCOMEM system

Demonstrations about the project



ABOUT ARCOMEM ▼

TECH DEMOS

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SYSTEM DEMOS

Memory institutions like archives, museums, and libraries are more important now than ever. But our understanding of the past faces stiff new challenges in face of the Social Web. History is not only written in books anymore. The radical changes in information creation, communication and citizen involvement that currently characterise our information society (e.g., there are now more social network hits than Google searches) need a <u>new approach on preservation</u>. Social media are becoming more and more pervasive in all areas of life. But how do we separate the wheat from the chaff in Social media, how is it being preserved and will it still be available twenty years from now?

ARCOMEM will enable political archivists and journalists to preserve Social media around certain entities, topics or events. To give you a quick insight here is a short movie on how journalism can benefit from Social media archiving.

We would like to share our work with you so please come and have a look at our system demos! We have installed

Content is not available anymore



Waste of significant investments

European Union FP7 Work Programme invested **59 million euros in R&D projects**.

Part of this funding was **spent** developing R&D projects

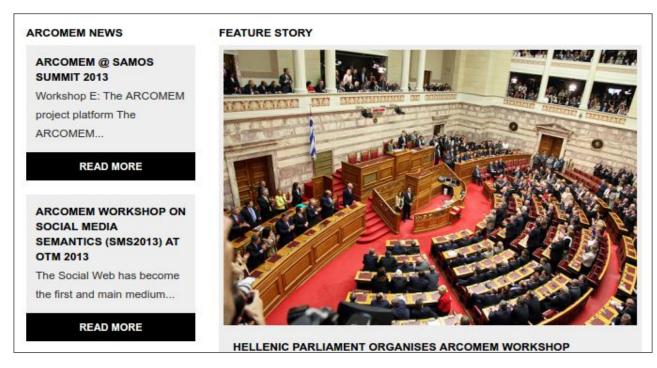
websites.



Loss of **Knowledge**

R&D project sites publish important scientific outputs (e.g. data sets, tools).

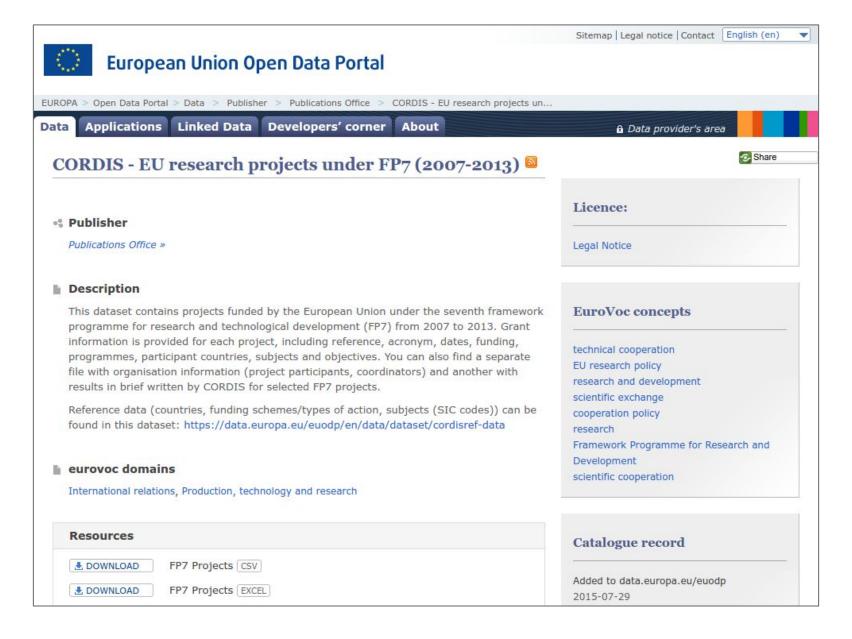
Work as aggregators of project outputs (ex. news and events).



Web archives can preserve this valuable information.

Web Archives **need to identify project URLs** to preserve their content.

Where to get project URLs?



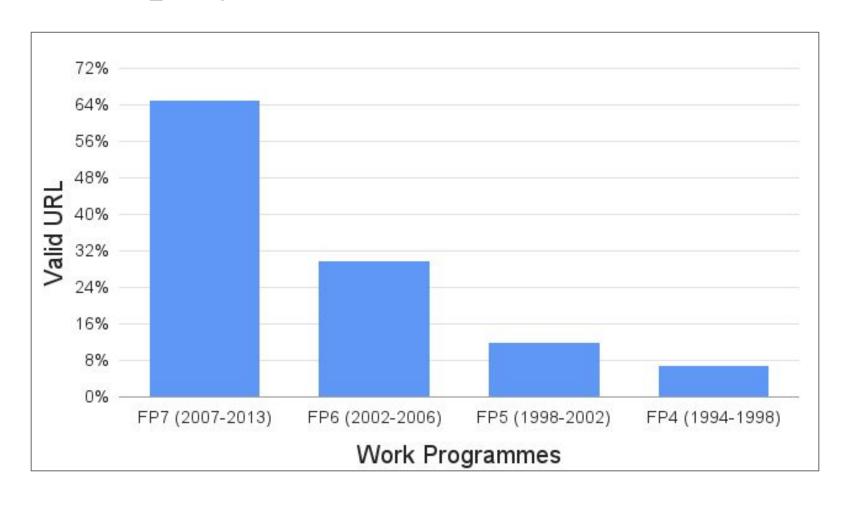
https://open-data.europa.eu/

European Open Data Portal Datasets

CORDIS EU research projects funded under work programmes (FP4, FP5, FP6, FP7).

Include information like **project URL**, acronym, title, dates, funding, objectives etc.

Valid project URLs in 2016



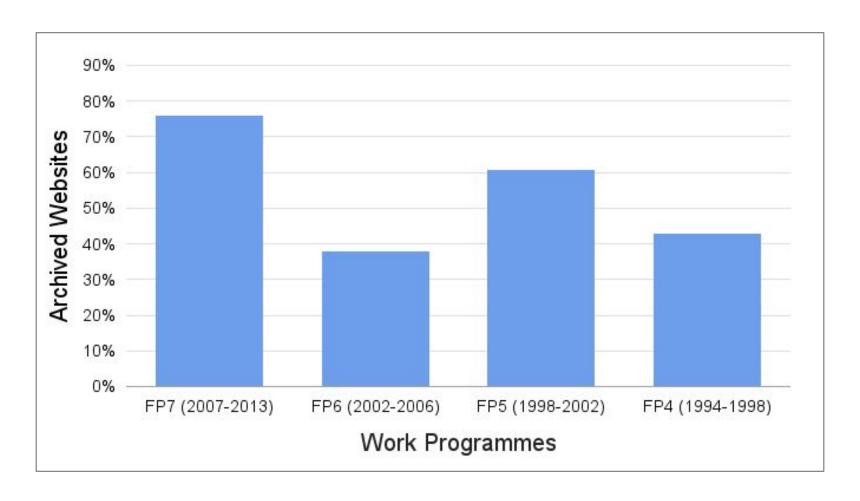
How much of these projects are really being preserved?



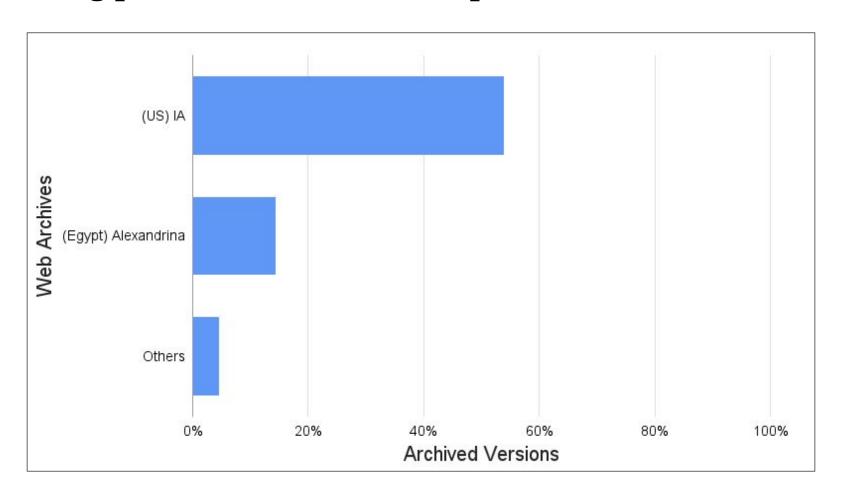


http://timetravel.mementoweb.org/

Web-archived project URLs since FP4



Project URLs of EU-funded research are mostly being preserved outside Europe



CORDIS datasets provided incomplete information

25 000 projects were funded by the FP7 work programme.

Only 8% have an associated **project URL**.

Missing information regarding project URL

acronym	title	projectUrl
ALFRED	ALFRED - Personal	•
TIBETMETH	Microbial Biomark	P
SMALL_MAM_RECOL	Post-glacial recolo	•
MOMEFAST	Molecular Mechan	→
RNF4 IN THE DDR	Identifying the tan	*
ARIEL	Archaeological Inve	→
NANODYNATCELLVATION	Nano -structural a	ı b
ТВКО	Synthesis and Bio	*
MICROBIOELECTROSYN	cathode in bioelec	†
THINFACE	Thin-film Hybrid Ir	*
IMPACTS	The impact of the	•
FLEXISTAT	Production Flexib	lÞ.
3FLEX	Depth enabled wo	•
GUIDENANO	Assessment and n	+
AZNETAC	A zebrafish model	•
PLASMANANOSMART	Plasma- and electi	*
RASMIM	Reactivity of Alum)
FAMILIESANDSOCIETIES	Changing families	http://www.familiesandsocieties.eu/
ACTICOSPACK	Reducing the level	>
MULTIMERMAID	Development of a	P
GAGAUTOSYN	Automated Glycos	*
COMPOSITES 4 IU	Grant to develop s	→
MCEC	Ministerial Conference	DP.
BACTINSECT	Molecular mechan	+
SOLAR FUEL BY III-VS	Direct photoelectr)
FIBRILLATION	The structure-base	•

Problem

R&D websites provide **important** information but quickly **disappear**.

Funded projects datasets are incomplete.

Thousands of projects are too many to be humanly identified.

Our study:

How to **automatically** identify project URLs to be preserved (with **limited resources**)?

Proposed approach to automatically identify project URLs

Search Engines already index the Web.

Open Data Portal provides meta-data about R&D projects.

Combine open data sets with search engines to identify R&D project URLS.

Automatic workflow to identify R&D project URLs

ACRONYM	TITLE	PROJECT URL	ACRONYM	TITLE	PROJECT URL
DIP3	The 3Ps of Distributed Information delivery	missing	DIP3	The 3Ps of Distributed Information delivery	www.dip-3.eu

Identify project URL through Bing Web Search API

Web search by project Acronym +Title



Experiment

Evaluate heuristics to **maximize** the performance of the automatic identification of R&D project URLs.

- +Acronym +Title
- +Acronym +Title -Cordis
- +Acronym +Title -Cordis -EC
- +Acronym +Title -Cordis -EC +CommonTerms

Evaluating the heuristics to automatically identify project URLs

A test collection was built based on the FP7 dataset by **manually** validating each R&D project URL.

The project URLs returned by each heuristic were compared to the test collection to measure if they **matched**.

ACRONYM	TITLE	PROJECT URL
FAMILIEANDSOCIETIES	Changing families and	www.familiesandsocieties.eu

Heuristics Performance (F-measure)

Heuristics	Top 1 Results
+Acronym +Title	44%
+Acronym +Title -Cordis	45%
+Acronym +Title -Cordis -EC	47%
+Acronym +Title -Cordis -EC +project	48%

F-measure is a combination of **recall** and **precision**.

Preserving R&D projects websites

Applied heuristic with the best performance to the CORDIS Dataset.

23 588 missing project URLs.

20 429 new project URLs were automatically identified.

Before: 23 588 missing URLs

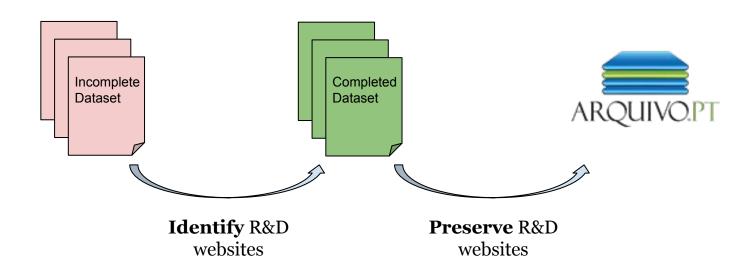
acronym	title	projectUrl
ALFRED	ALFRED - Person	
TIBETMETH	Microbial Biomar	
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acronym	title projectUrl
ALFRED	ALFRED - Person http://alfred.eu/
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MOMEFAST	Molecular Mecn>
RNF4 IN THE DDR	Identifying the that http://www.dundee.ac.uk/research/n
ARIEL	Archaeological http://ucy.ac.cy/ariel/
NANODYNATCELLVATION	Nano -structural
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MICROBIOELECTROSYN	al systems >
THINFACE	Thin-film Hybrid http://www.nanogune.eu/projects/th
IMPACTS	The impact of the http://www.sciencedirect.com/science
FLEXISTAT	Production Fles i http://www.flexistat.eu/
3FLEX	Depth enabled whttp://www.hhi.fraunhofer.de/depart
GUIDENANO	Assessment and http://www.guidenano.eu/News
AZNETAC	A zebrafish mo i∌
PLASMANANOSMART	Plasma- and el http://portal.tpu.ru/departments/cen
RASMIM	Reactivity of All https://www.highbeam.com/doc/1G1
FAMILIESANDSOCIETIES	Changing famil http://www.familiesandsocieties.eu/

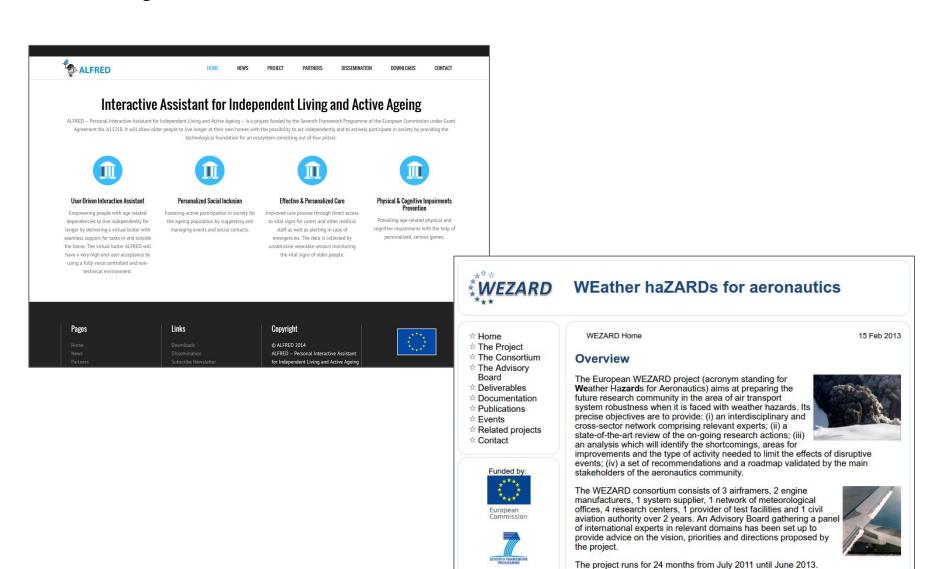
After: 20 429 new URLs

Crawled the identified project URLs to be preserved.

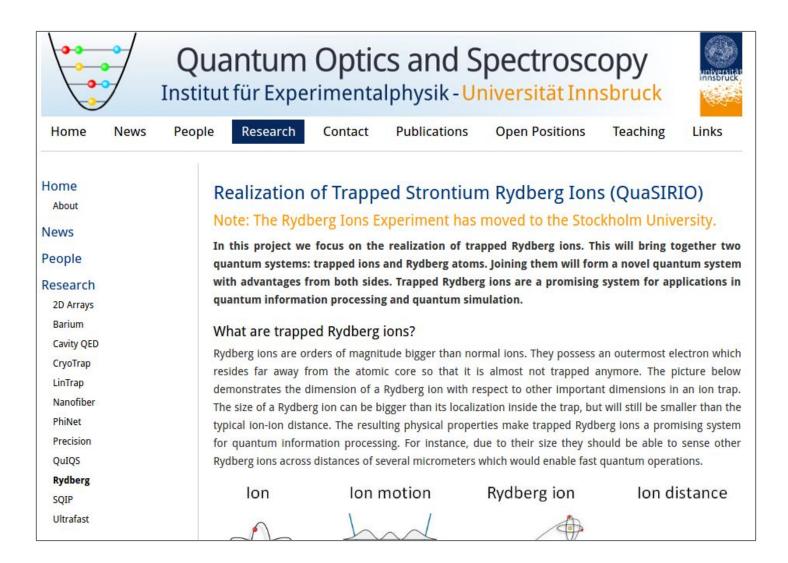
Nr. Project URL Seeds	20 429
Stored Content (compressed)	1.4 TB



Project Websites Preserved



Investigation Institutes



On going work

Use the methodology to identify and preserve national funded projects.

Adapt the methodology to identify websites related to the Portuguese elections.

Conclusions

R&D websites are **important** but are quickly **disappearing**.

European Datasets about funded R&D projects are **incomplete**. Only 8% have a project URL associated.

54% of the EU-funded R&D project URLs are being web-archived. Mostly **outside the European Union**.

Automatic heuristics to identify R&D project URLs.

Conclusions

All outputs of this study are available in open access

- Test collection
- Completed CORDIS data sets with new project URLs
- Extended technical report

arquivo.pt/publications

github.com/arquivo: Research-Websites-Preservation