TIB | GERMAN NATIONAL LIBRARY OF SCIENCE AND TECHNOLOGY

Audiovisual preservation for GIS communities
GRASS GIS, Star Trek and old Video Tape

Peter Löwe
GIS day 2014
Potsdam, November 19 2014

German National Library of Science and Technology

German: **T**echnische **I**nformations**b**ibliothek (**TIB)**

- **largest science and technology library globally**
  - over 9 Mio. items,
  - 180 Mio. Documents (GetInfo Portal)
  - **125 km of shelving**
- **German National Library for**
  - **technology as well as civil engineering, chemistry, computer science, mathematics and physics**

- funded by the Federal Ministry of Education and Research and the 16 German states.

- **the world's first Digital Object Identifier (DOI) registration agency** for research data sets (since 2005).

- operates in conjunction with the **Leibniz University, Hannover**.
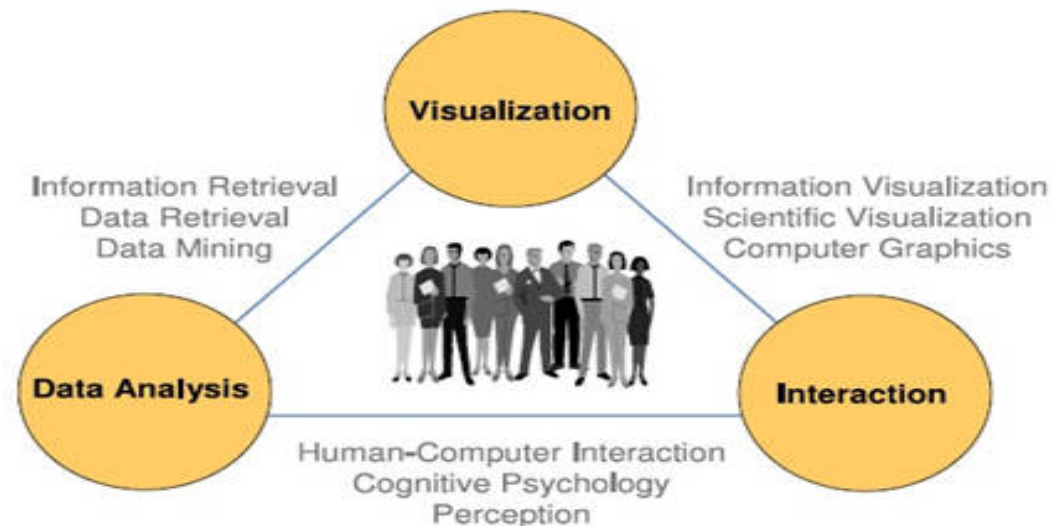
The Library Angle:
Science + Open Source = Open Science
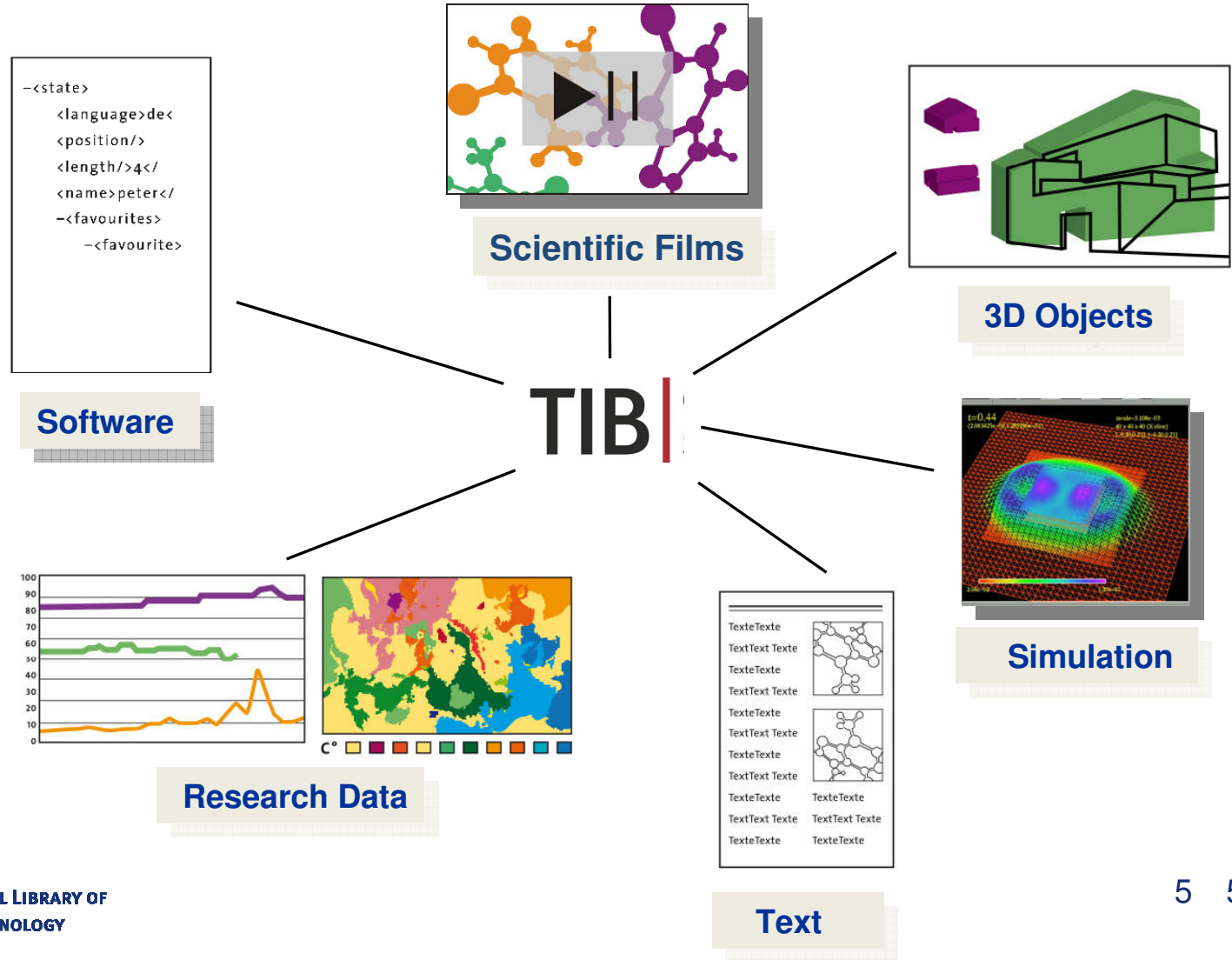

Science advances only if knowledge is shared.

*Accelerating the sharing of scientific knowledge accelerates the advancement of science.*

TIB | **GERMAN NATIONAL LIBRARY OF SCIENCE AND TECHNOLOGY**

Applied research topics at TIB

• Visual Analytics

• Ontologies

• Content based Retrieval

• Science 2.0 and Open Science

Strategy – Move beyond text

Software

Scientific Films

3D Objects

Simulation

Research Data

Text

Preserving Research Data:
Research Data Repositorium Project (RADAR)
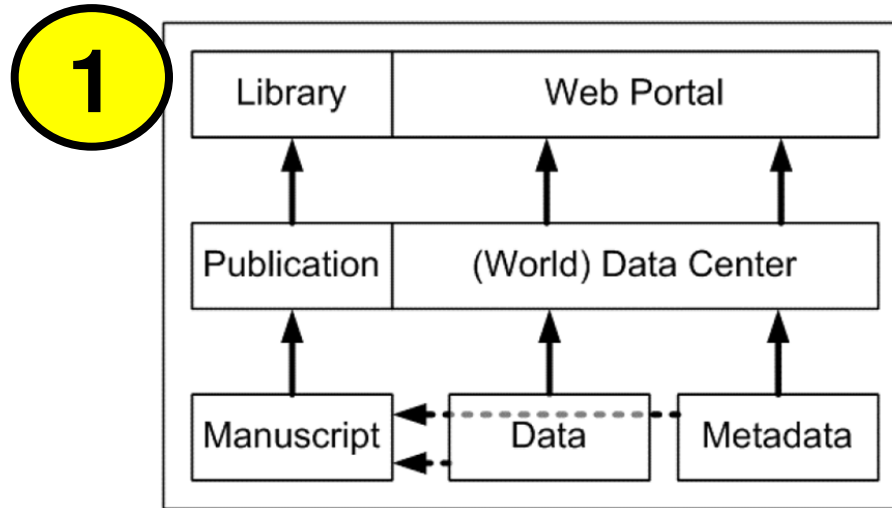
1

Library	Web Portal
Publication	(World) Data Center
Manuscript	Data	Metadata

Klump, et. al, Data Publication in the Open Access Initiative, Data Science Journal, Vol. 5, 15 June 2006.

2

RESEARCHER / INSTITUTION → DOI → RADAR → API / DOI → WEB PORTAL → COMMUNITY

radar-projekt.org

TIB | **GERMAN NATIONAL LIBRARY OF SCIENCE AND TECHNOLOGY**
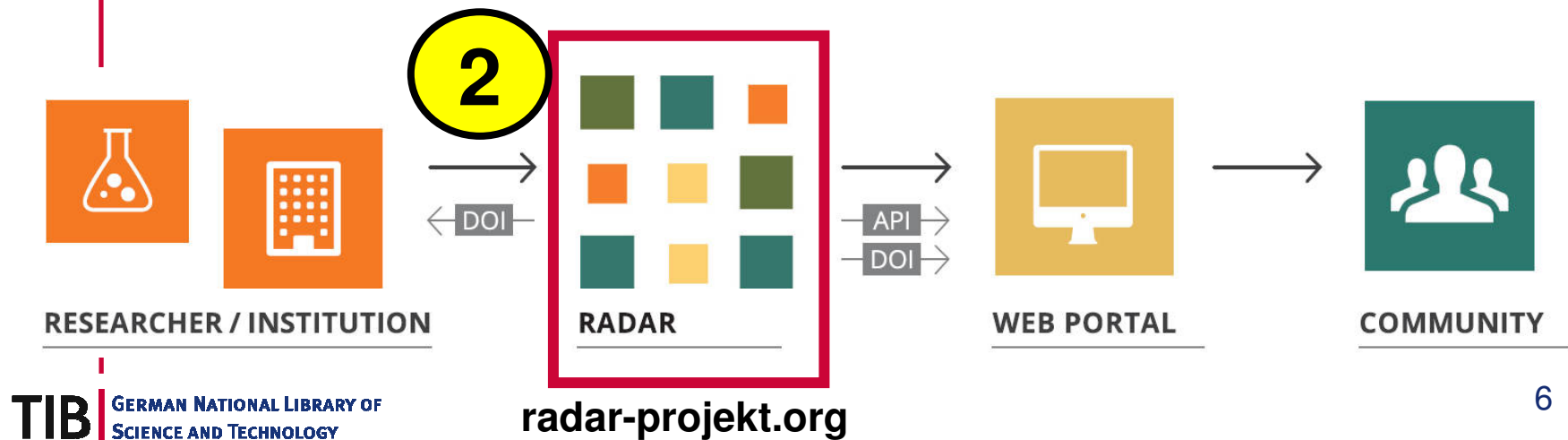
Towards data-driven Libraries

„**While scientists focus on the final frontier**,

(data-driven libraries) will work on designing

<u>a different kind of space</u>

<u>full of physical and virtual tools</u>

that

capture imagination and

enable researchers to explore it."

http://thrilling-tales.webomator.com
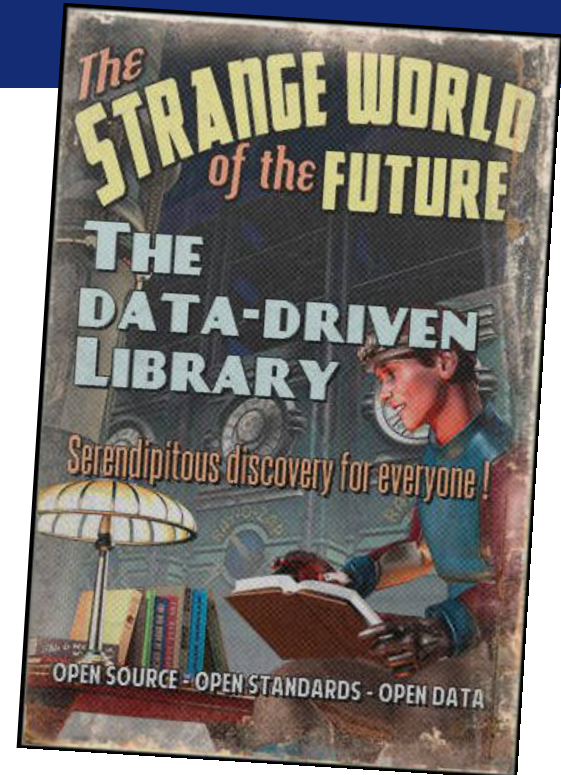
Christopher Erdmann, 2014

John G Wolbach Library at the Harvard-Smithsonian Center for Astrophysics

- **Looking back: Heritage in geospatial projects**

  - comprises **software, data** and **all auxiliary documentation**
  - **is valuable**
  - needs to be **preserved**, **accessed** and **cited** in a sustainable way
  - to provide **credit** and **recognition** for its creators.
  - OSGeo / FOSS GIS: Unique treasure trove for data mining

  Topic for today

- **The Present:** Getting credit for your work + future saving

- **Looking ahead:** Answers to new challenges + credit for it

  - Connecting software, data and auxiliary information
  - Growing standardisation
  - Networking & career development
  - Innovation scouting

GRASS GIS
A reference case for heritage in open geospatial research

GRASS GIS: **Geographic Resources Analysis Support System**

- Development started in 1982

- http://grass.osgeo.org

- GPL-licenced

- Current versions:

  - **GRASS 6.4.4**

  - **GRASS 7.0 (beta)**
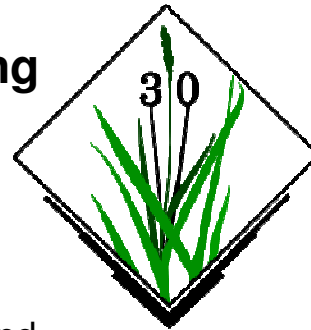
- Volumes, rasters, topological vectors

- Temporal data

Available on the GFZ HPC Cluster

(contact Rechenzentrum for details)
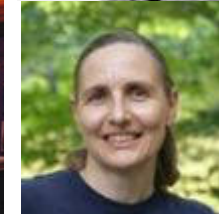
The GRASS community
Alive, kicking – and growing

GRASS GIS is going strong
- for over 30 years

GRASS is people

- New generations of developers and users emerge
- People address new problems
- People retire from the project

- The GRASS history trail is growing

- **Knowledge + skill needs to be preserved**
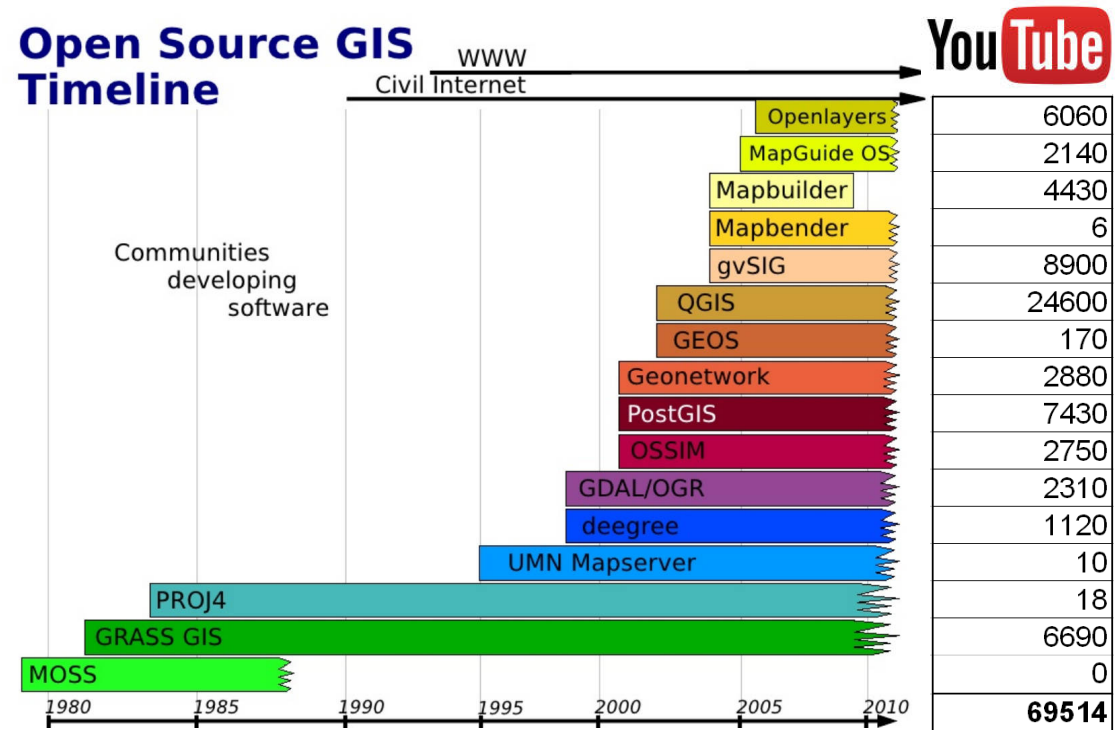
Video portals to share knowledge

- **After 30 years: Still nobody likes to write documentation**

- **YouTube and slideshare are heavily used**
  to announce new software <u>and its use</u>.

- **Web 2.0 audiovisual Webportals have become**
  a large treasure trove of „howto" knowledge

TIB | **GERMAN NATIONAL LIBRARY OF SCIENCE AND TECHNOLOGY**
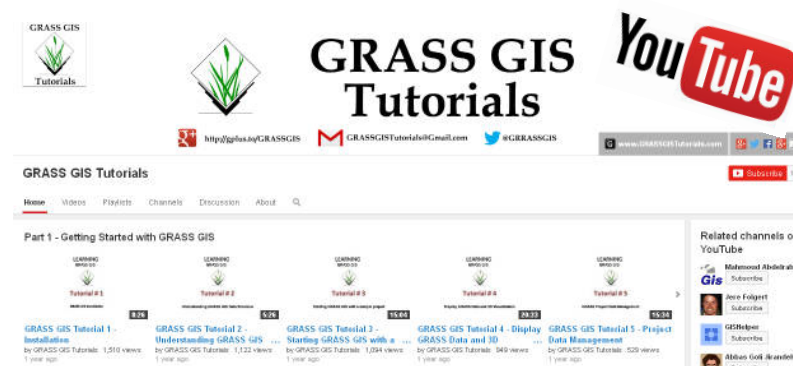
Geospatial Open Source Projects:
The rise of interconnected tools and mash-ups

Existing Free and Open Source GIS communities continue to grow

- **New communities emerge**
- **Mash-ups „interbreed" existing functionalities**

Open Source GIS Timeline

WWW
Civil Internet

Project	YouTube
Openlayers	6060
MapGuide OS	2140
Mapbuilder	4430
Mapbender	6
gvSIG	8900
QGIS	24600
GEOS	170
Geonetwork	2880
PostGIS	7430
OSSIM	2750
GDAL/OGR	2310
deegree	1120
UMN Mapserver	10
PROJ4	18
GRASS GIS	6690
MOSS	0
	69514

Communities developing software

1980 1985 1990 1995 2000 2005 2010

Source: Markus Neteler

http://de.slideshare.net/markusN/from-a-niche-to-a-global-user-community-open-source-gis-and-osgeo

TIB **GERMAN NATIONAL LIBRARY OF SCIENCE AND TECHNOLOGY**

Currently up to almost 70.000 videos!

What you get is … what you need ?

Search for „GRASS GIS"

You Tube

Proper Metadata ?

Meaningful search results ?

How to quickly find that certain video, blog entry, etc. – without the URL ?

•How long will the content actually be preserved ?

Lecture : 1 | ArcGIS 10 : Introduction to ArcGIS 10
by SabberFoundation
24,328 views
20:45

A Brief Introduction to GIS
by UIELGIEN
6,292 views
1:42:57

3D vizualization using GRASS GIS
by karan choudhary
1,821 views
14:35

GRASS MOVIE CERL 1987
by Miguel Sevilla-Callejo
8,560 views
14:28

Star Wars: Episode I - The Phantom Menace (1999) Bloopers Outtakes Gag
by Bloopers & Making of by FilmIsNow EXTRA
Recommended for you
MOVIE BLOOPERS HD
2:15

GRASS GIS Tutorials - Tutorial 5 - Project Data Management
by GRASS GIS
646 views
LEARNING GRASS GIS Tutorial # 5
15:34

QGIS: Understanding and Using Attribute Data, Queries and Analysis
by VTgeospatial
2,888 views
1:02:18

ArcMap Introduction Tutorial Part 1
by Kenan BOLAT
3,076 views
28:39

Library Angle: The inconvenient truth

Reality Check 2014:

Current communication channels (Web 2.0) to communicate „GIS how-to" are

•**volatile,**

•**difficult to search** and

•**hard to cite.**
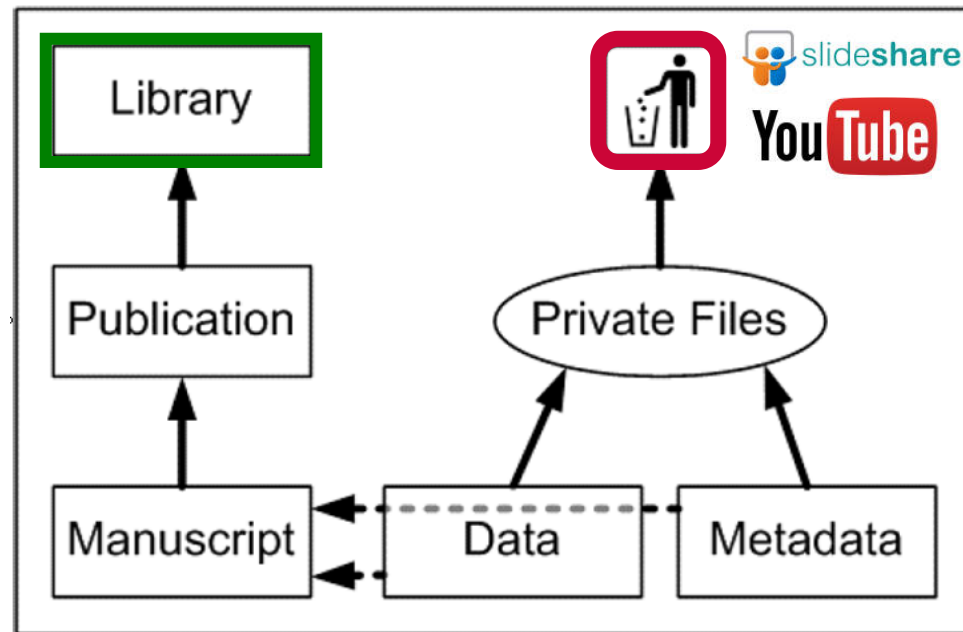
Klump, et. al, Data Publication in the Open Access Initiative, Data Science Journal, Vol. 5, 15 June 2006 nach Helly, Staudigel & Koppers, 2003

TIB | **GERMAN NATIONAL LIBRARY OF SCIENCE AND TECHNOLOGY**

Ultimate Goal:
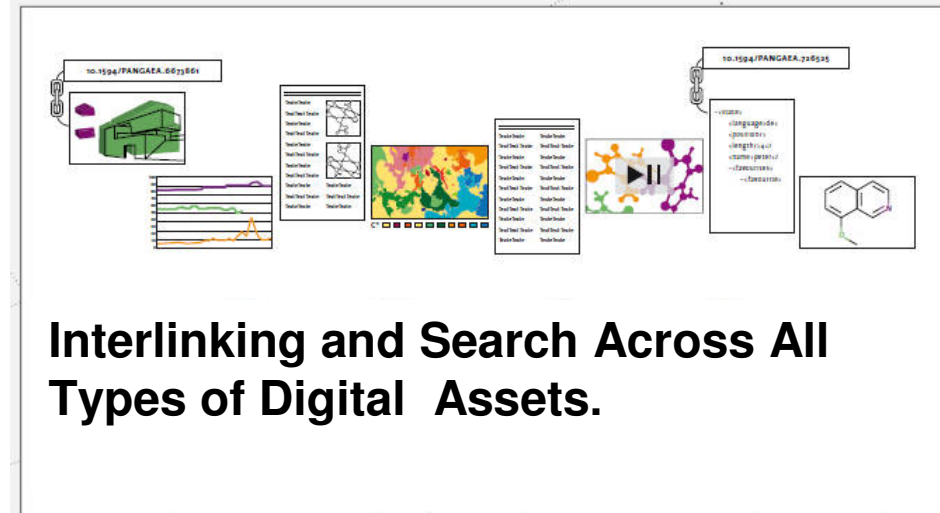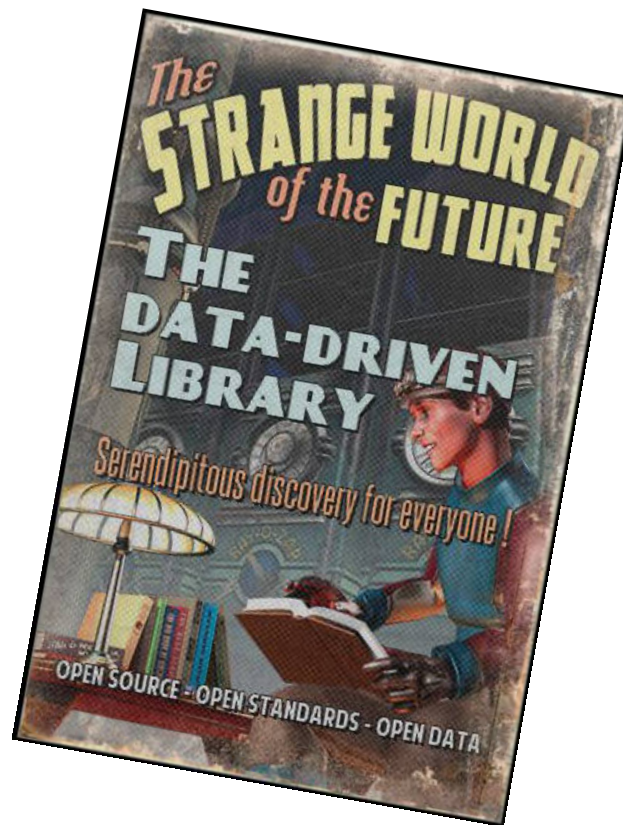
Interlinking and Search Across All Types of Digital Assets.

What about …

STAR TREK

TIB | **GERMAN NATIONAL LIBRARY OF SCIENCE AND TECHNOLOGY**

Let's go back to the 1980s

Sol Katz

7
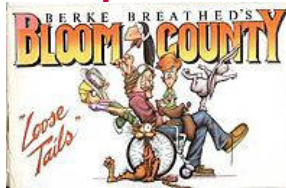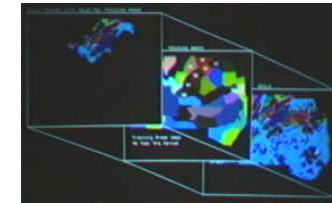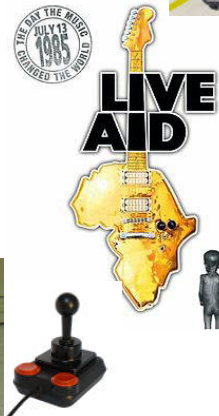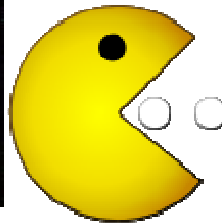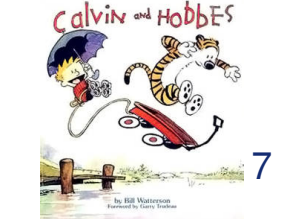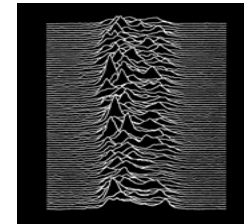
The early days of GRASS GIS

Year	Installations	GRASS Version
1982	1	-
1983	3	-
1984	5	-
1985	20	GRASS 1.0
1987	**100+**	**GRASS 2.0**
1988	1000+	GRASS 3.0

Sun 150U

2014: 70k EUR

Growth of GRASS installations from 1982 – 1991(Westervelt 1991)
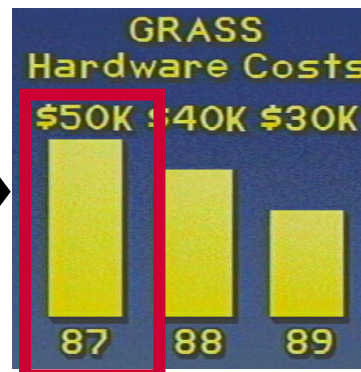
The 1987 promotional GRASS GIS video

- 1987: USA-CERL has a video for GRASS GIS produced.

- Narrated by William Shatner (a.k.a. James Tiberius Kirk of Star Trek)
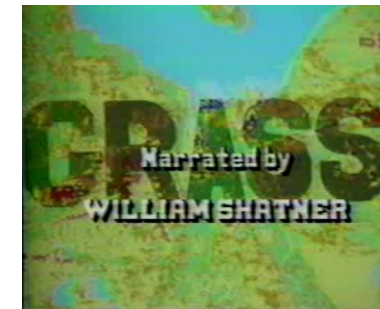
- Video was distributed on VHS tapes
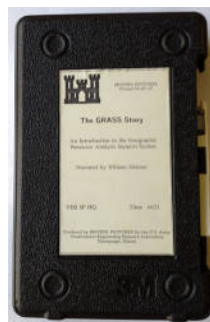
GRASS GIS:
The starting point of OGC standards
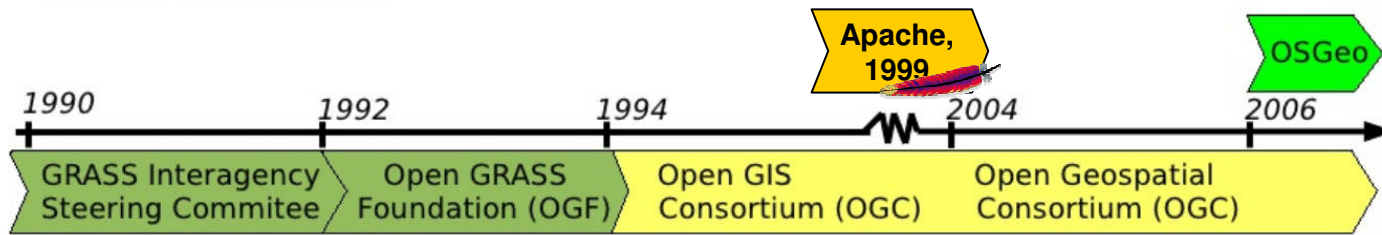
Markus Neteler, 2013
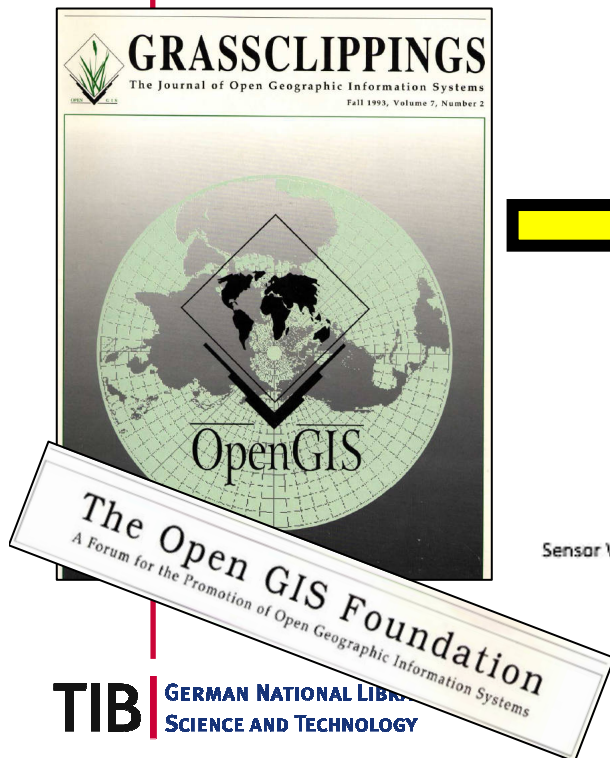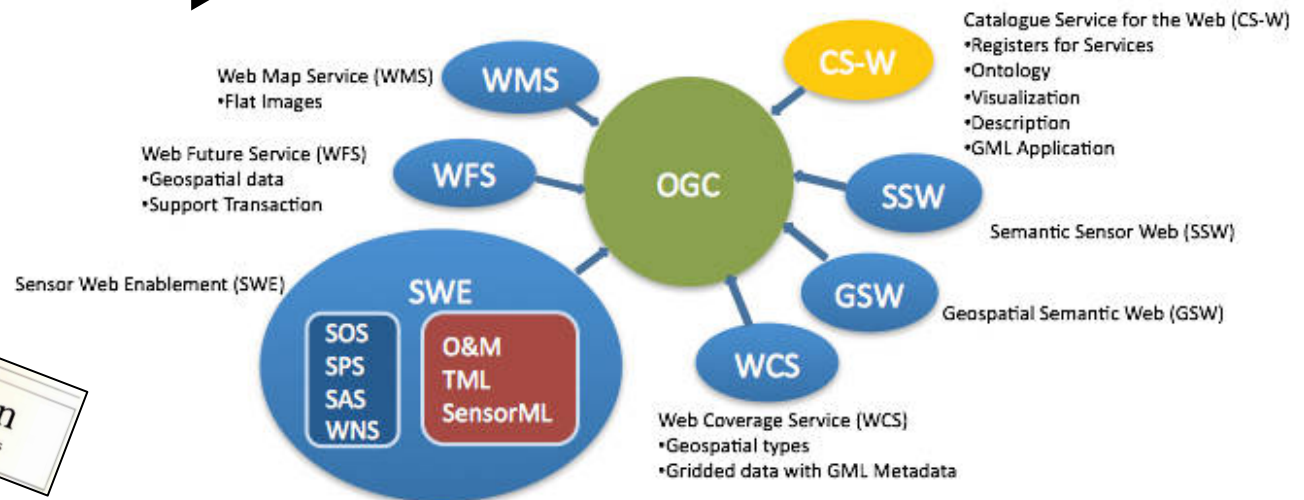
Bridging the digital divide - 2004

1990s

While the GRASS project evolved and addressed new kinds of geospatial challenges,

the GRASS video tape became legendary – and a preservation/access issue.

2004

A VHS copy is digitized.

.mov-file on the GRASS web portal

2011

The video is uploaded to YouTube with limited Metadata

The GRASS Story Video
Watch the video (64 MB, 14 minutes, USA CERL, 1987)

The U.S. Army Corps of Engineers Construction Engineering Research Laboratory produced this video to explain basic concepts and potential applications of geographic information systems to land managers at Army installations. Although the GRASS GIS is mentioned, the overall presentation of GIS topics is fairly generic. The video present a good, basic introduction to GIS that makes reference to GRASS (GRASS-GIS).

GRASS MOVIE CERL 1987
by **Miguel Sevilla-Callejo** · 3 years ago · 9,948 views
Downloaded from http://**grass**.osgeo.org/grass_movie_CERL_1987/ The basics of GIS are almost the same today I though ...
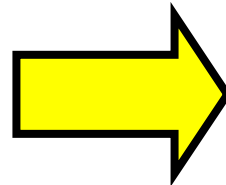
The challenge according to WIRED

2013

- Wired magazine features the GRASS movie in an online article and describes both it's **limbo status** and **significance**, being a **historic document**:

- **Absence of references/links to the movie:**

  - *not* **on the International Movie Database (IMDB)**

  - *not* **on Wikipedia**

  - *not* **on Mr. Shatners website**

Video Flashback 1987: Shatner Tells You Where You Can Stick Your Maps
BY BETSY MASON 08.07.13 | 6:30 AM | PERMALINK

Source: http://www.wired.com/2013/08/shatner-loves-digital-maps/

TIB | **GERMAN NATIONAL LIBRARY OF SCIENCE AND TECHNOLOGY**

2014: Bridging the digital divide - again
The GRASS 1987 video on the TIB AV-Portal

- A high resolution version of the GRASS 1987 video is available:
  - **Citable**
  - **Searchable**
  - **Long term preserved for the future.**

Enhanced search capabilities:
Navigation by film segments and search strings

Visual index

= Results found

This segment contains your search result.

00:32 | 14:26

Citation of Segment   http://dx.doi.org/10.5446/12963#t=00:30,00:32
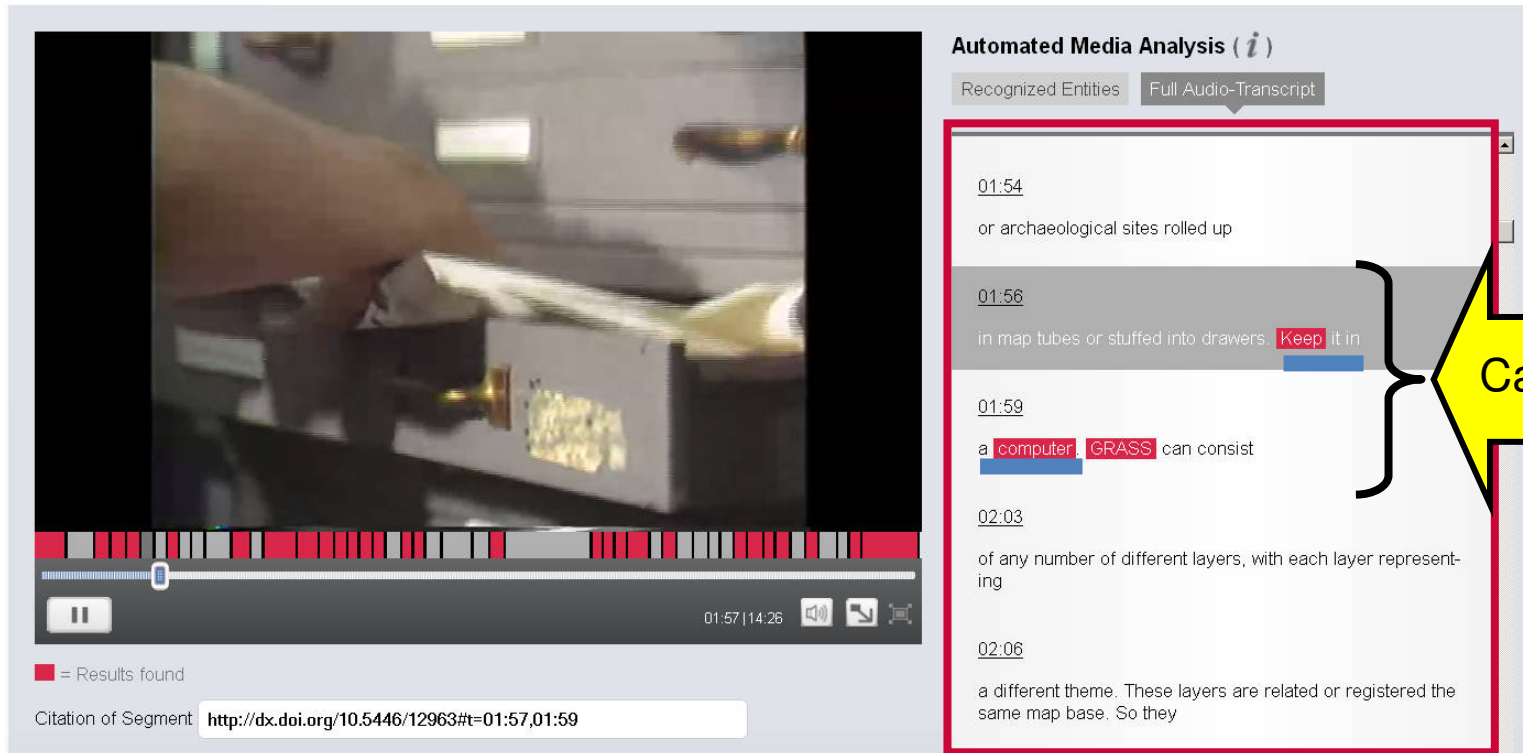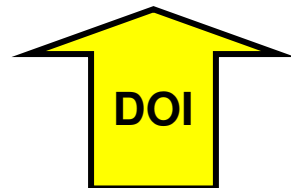
Download Options

- New (open) formats will be added in the future.

Navigation by audio-transcript

Automated Media Analysis (i)

Recognized Entities | Full Audio-Transcript

01:54
or archaeological sites rolled up

01:56
in map tubes or stuffed into drawers. Keep it in

01:59
a computer. GRASS can consist

02:03
of any number of different layers, with each layer represent-ing

02:06
a different theme. These layers are related or registered the same map base. So they

01:57 | 14:26

■ = Results found

Citation of Segment | http://dx.doi.org/10.5446/12963#t=01:57,01:59

Caption

DOI

TIB GERMAN NATIONAL LIBRARY OF SCIENCE AND TECHNOLOGY

Content referencing by Digital Object Identifiers (DOI)

Citation of Segment   http://dx.doi.org/10.5446/12963#t=01:48,01:59
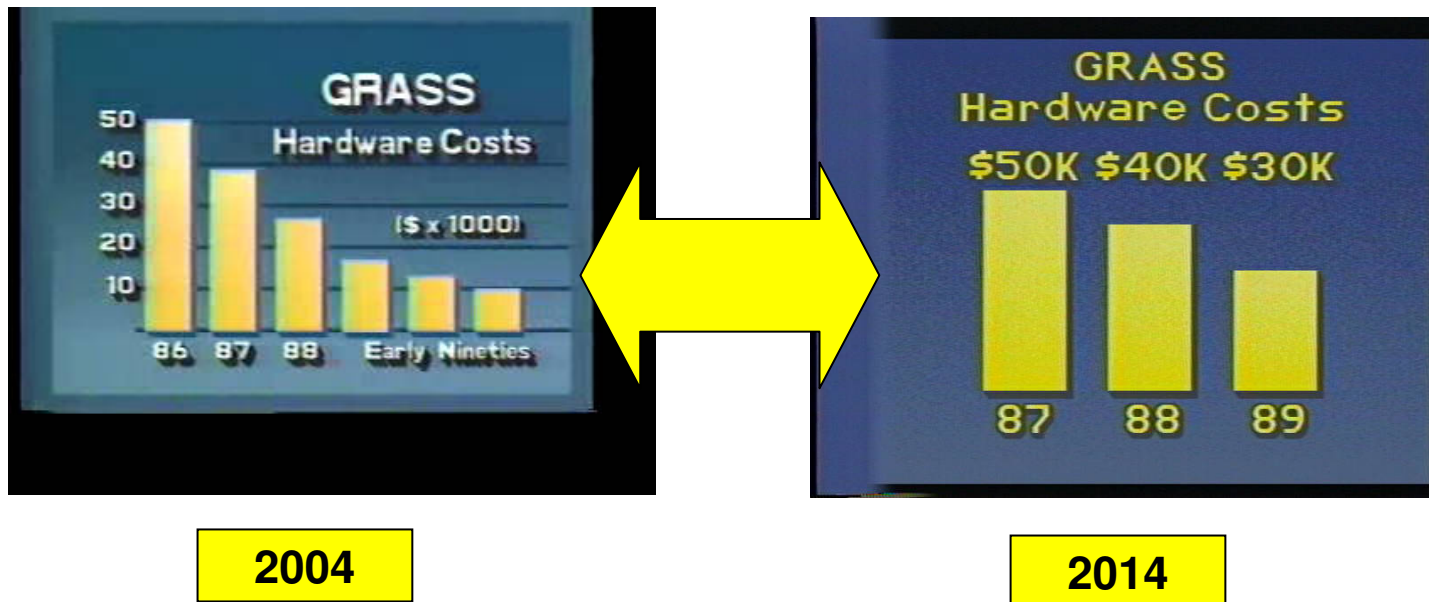
DOI
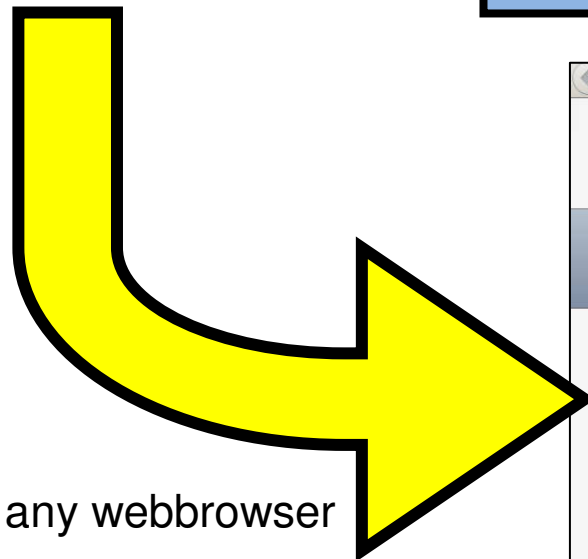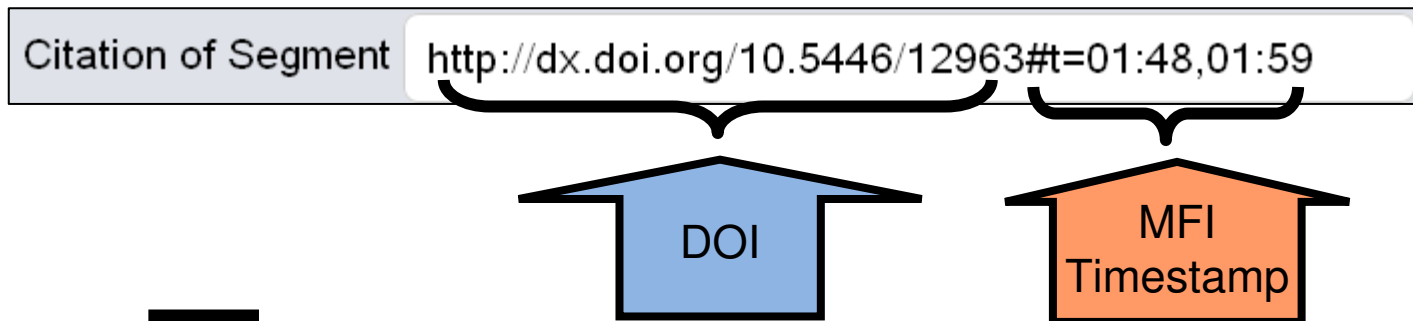
MFI Timestamp

... opens in any webbrowser

at the right time frame
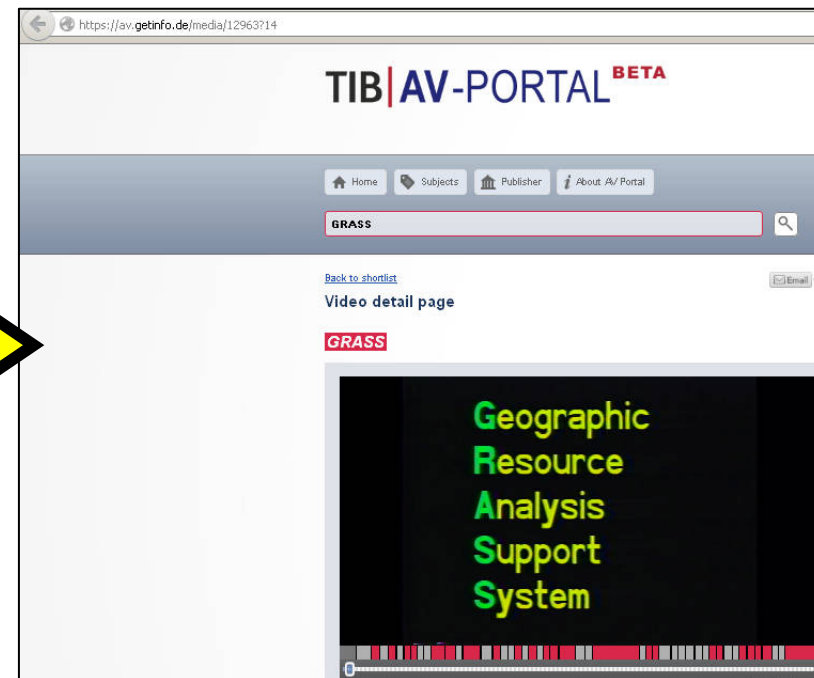
Surprise: A director's cut ?

- Multiple small but notable differences in the versions digitized in 2004 and 2014 !

2004

2014

The differences can be referenced by DOI-MFI links (DOI + Timestamp)

TIB | **GERMAN NATIONAL LIBRARY OF SCIENCE AND TECHNOLOGY**
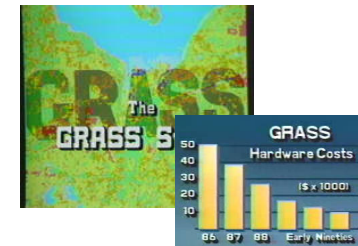
The road ahead

TIB AV-Portal

- Switch to operational status in 2015
- More coming: Integration of ORC-ID, IMDB links, etc.

GRASS 1987 Video

- The low-res alternative version will also be archived for reference

GIS / Geoinformatics-related content
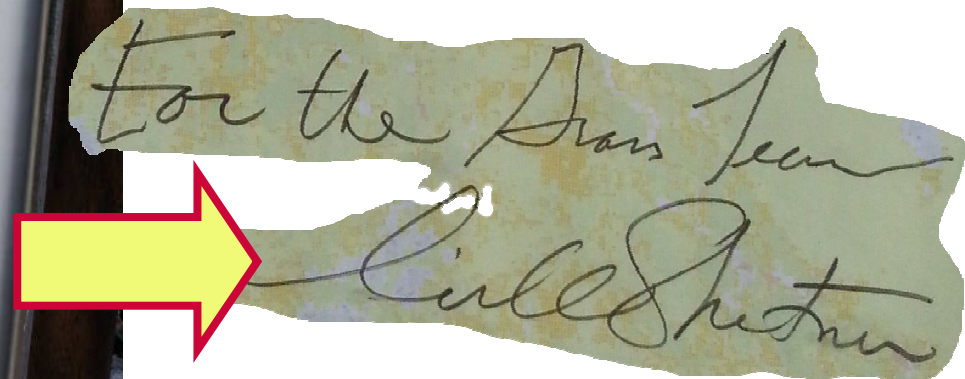
- The search for historic FOSS GIS videos continues.

Upcoming challenge:
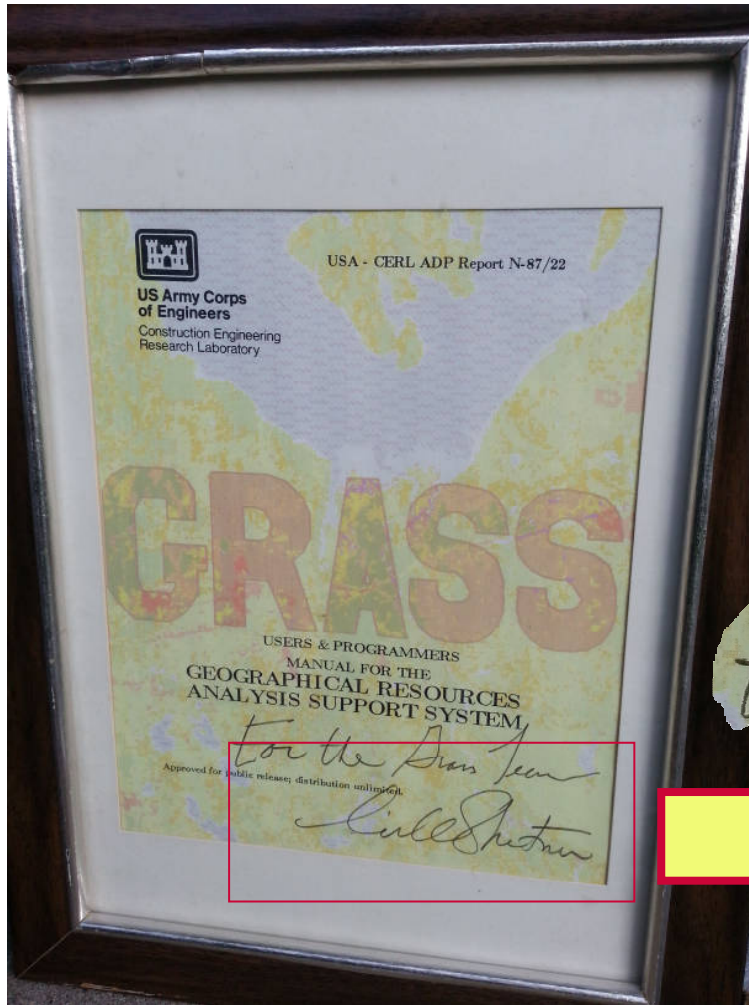# Phyiscal heritage in a virtual community

Image: Marji Larson, 2014

• W. Shatner autographed the cover of the GRASS Manual in 1987.

•Passed on from „80s GRASS caretaker " (Marji Lawson) to the current GRASS community.

„For the Grass team

Will Shatner"

Upcoming challenge:
Phyiscal heritage in a virtual community

Image: Marji Larson, 2014

- W. Shatner autographed the cover of the GRASS Manual in ... ... GRASS ... ...

Tweet by Michael D Gould (**ESRI**):

oh, so the GRASS manual signed by William Shatner **is a reality** not just a joke. Shown live at #foss4g

Sept. 12, 2014

„For the Grass team

Will Shatner"

Thanks for listening

Visit the AV-Portal: http://av.getinfo.de

- Watch the GRASS GIS video [DOI]
- Watch the GRASS codeevolution video [DOI]
- Explore the content & use it in your work
- Got content ? Contact us !

- **Publish and share your work:**
  - Code + data + auxiliary content

- **Check out the RADAR project on data preservation**
  - Opportunity: Meeting on Nov 20-21 at Haus H, GFZ

- **Participate in the OSGeo communities**

Contact: peter.loewe@tib.uni-hannover.de

TIB | AV-PORTAL BETA

RADAR
radar-projekt.org

RDA
RESEARCH DATA ALLIANCE
EUROPE

OSGeo
Your Open Source Compass

Showtime

Tweet by **Michael D Gould** (Global Education Mananger, **ESRI**):

That's the BEST way to get geogeeks to sit attentively to watch an outdated GIS video. Kirk out.

#foss4g #GRASS #williamShatner

Sept. 12, 2014

The
GRASS Story

http://static.tvtropes.org/pmwiki/pub/image
s/tv_tropes_producers_gracie_films.png

„For the Grass team

Will Shatner"

TIB | **GERMAN NATIONAL LIBRARY OF**
SCIENCE AND TECHNOLOGY