

Laying the foundation for sustainable content aggregation, collaboration and innovation

Lessons from the

German Digital Library

SADI Workshop

Pretoria/Johannesburg

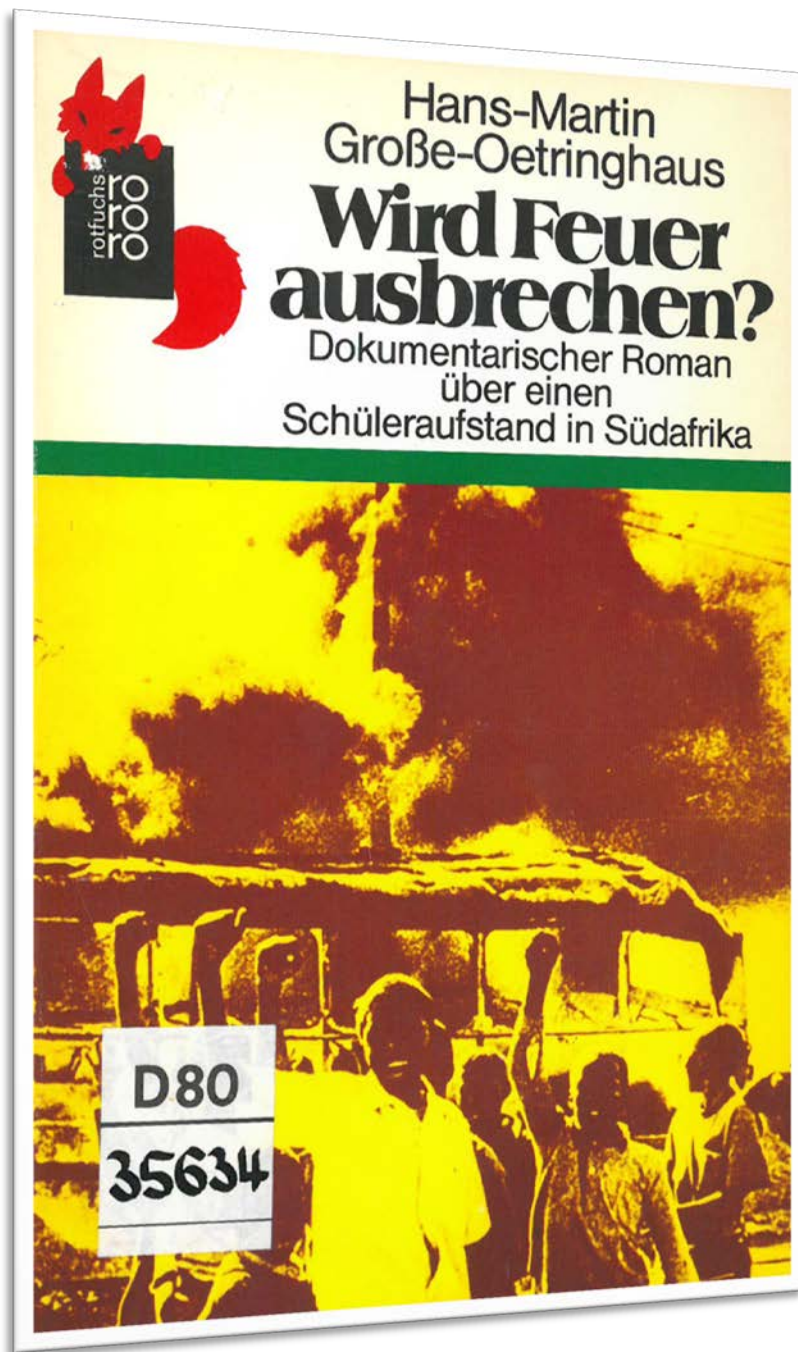
December 3rd, 2014

Stephan Bartholmei

s.bartholmei@dnb.de

+49 (0) 69 1525-1783





A personal note ...

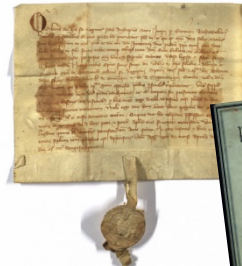
The Deutsche Digitale Bibliothek in a nutshell

- joint venture of the 16 states & the federal government
- **linking** up the digital inventories of Germany's cultural heritage institutions
 - **>10 Millionen** digital objects (images, text,, video & audio) from 160 data providers from **6 domains**

film & audio archives

monuments

archives



museums



research



libraries

- normalised, enriched and linked metadata
- available via portal and **API**
- **national aggregator for Europeana**
- collaborative network

<https://www.deutsche-digitale-bibliothek.de>





Ergebnisliste

Ergebnis 1 von 254 Zurück Weiter ▼

Institution
→ Frankfurter Goethe-Haus, Freies Deutsches Hochstift
http://www.goethe-haus.de



Objekt beim Datenlieferanten anzeigen

Link auf diese Seite PDF Ansicht



Faust und Gretchen

Objektbezeichnung: Druckgraphik
Objektbeschreibung: Illustration zu Faust I, Vers 3206 (Ein Gartenhäuschen): Angedeuteter Innenraum, mittig Faust, mit elegantem Umhang, Degen und federbestecktem Barett, und Gretchen, in einfachem weißen Kleid, als Halbfiguren, einander umarmend und küssend. Rechts daneben ein schmal geöffnetes Fenster, durch das Mephisto schelmisch hereinblickt. Plakativ illustrierende Darstellung in reich historisierendem Kostüm, dabei sehr kräftige, mit Schablonen flächig aufgetragene Farbe. Bezeichnet: Links unter der Darstellung "Lith von C. Patzschke."; mittig "Im Debit von C.G.Ende in Berlin, Spittelmarktstr. N° 4."; rechts "Druck v. L. Zoellner in Berlin"; darunter "Bester Mann, von Herzen lieb' ich dich! / (Scene aus Faust)". Illustrierte Textstelle: Faust - Der Tragödie erster Teil, Ein Gartenhäuschen

Material/Technik: Lithographie, mit Schablonen koloriert
Maße: Blatt: 34,4 x 48,6 cm - Darstellung: 20,9 x 25,9 cm
Ereignis: Druckplatte hergestellt
(wer): Berlin
(wo): Vor 1871
Ereignis: Herstellung
(wer): Carl Friedrich Patzschke (1811-1871)
Bezug (wer): Mephistopheles
Faust (Hugo von Goethe)
Verwandtes Objekt/Literatur: Herzen lieb' ich dich!
[Thieme Becker], : Thieme Becker, Bd. 26, S. 303,
Klassifikation: Kunstsammlung
Standort: 60311 Frankfurt am Main
Inventarnummer: III-13251

Rechtsstatus: In der öffentlichen Domain
Rechtsstatus: In der öffentlichen Domain

Objekt beim Datenlieferanten anzeigen

Ähnliche Objekte >

Informations about the data provider

preview

Faust und Gretchen
Foto: Frankfurter Goethe-Haus Freies Deutsches Hochstift
© Frankfurter Goethe-Haus Freies Deutsches Hochstift

metadata

semantic links

rights labelling

link to
high-resolution
digital original
at the data
provider's web
site

In the beginning ...



... there was a letter, written in 2005,



from Jacques Chirac to European Commission's president Manuel Barroso ...



europæana
think culture

Europeana – aggregation destination & model





Lessons learned

top-down-approach



- A top-down approach usually leads to extremely unrealistic expectations – especially, if started by politicians.
- Initial funding is excellent, sustainable operation is difficult.
- Top-down approaches favor Big Design UpFront – slow, tend to produce outdated results.
- Resist the temptations of „All you can do, I can do better.“
- Be agile.
- The concept of „digital libraries“ is very much in the flow, we have to make it up, as we go along.

As important as presentation is ...



... DO NOT neglect the infrastructure!



but beware of your greatest enemy ...



die eierlegende Wollmilchsau (egg laying & milk giving sheep-pig)



In the cultural sector,
Germany doesn't look
like that.

Baden-
Württemberg



Bavaria



Berlin



Brandenburg



Bremen



Hamburg



Hesse



Saarland



Saxony



Schleswig-
Holstein

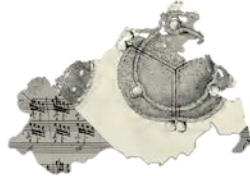


16 states – 16 legislations

Lower Saxony



Mecklenburg-
Vorpommern



North Rhine-
Westphalia



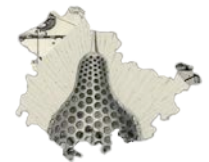
Rhineland-
Palatinate



Saxony-Anhalt



Thuringia



Baden-
Württemberg



Bavaria



Berlin



Brandenburg



Bremen



Hamburg



Hesse



digitization service centers
(state level)

Saarland



Saxony



Schleswig-
Holstein

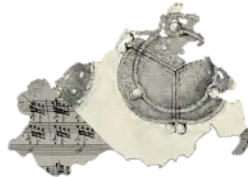


There's no federal digitization programme (yet).

Lower Saxony



Mecklenburg-
Vorpommern



North Rhine-
Westphalia



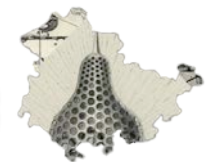
Rhineland-
Palatinate



Saxony-Anhalt



Thuringia



BUT: There is federal funding for digitization projects at single institutions via the German Research Foundation.

2008-2009: concept phase

- Spring 2008: initial concept presented by joint federal-state expert group
- Spring 2009: feasibility study by Fraunhofer Institute for Intelligent Analysis and Information Systems (IAIS)
- October 2009: states' prime ministers and
- December 2009: federal cabinet pass



DDB's founding documents:

1. common outline of the federal government, the





Stiftung
Preußischer Kulturbesitz



Das
Bundesarchiv



Competence Network Deutsche Digitale Bibliothek



Kulturamt
Landeshauptstadt Düsseldorf



Organisational Structure

board of trustees („Kuratorium“)

general assembly of the competence network

managing board (H. Parzinger, R. Griebel, R. Kretzschmar)

CEO (F. Frischmuth)

admin. office

coordinator

service desk

technical
operator

Frankfurt a. M.

DEUTSCHE
NATIONAL
BIBLIOTHEK

working groups

development
partners

domain desk

museums:



Institut für
Museumsforschung
Staatliche Museen zu Berlin

November 28, 2012: Beta-Launch





Lessons learned

beta launch



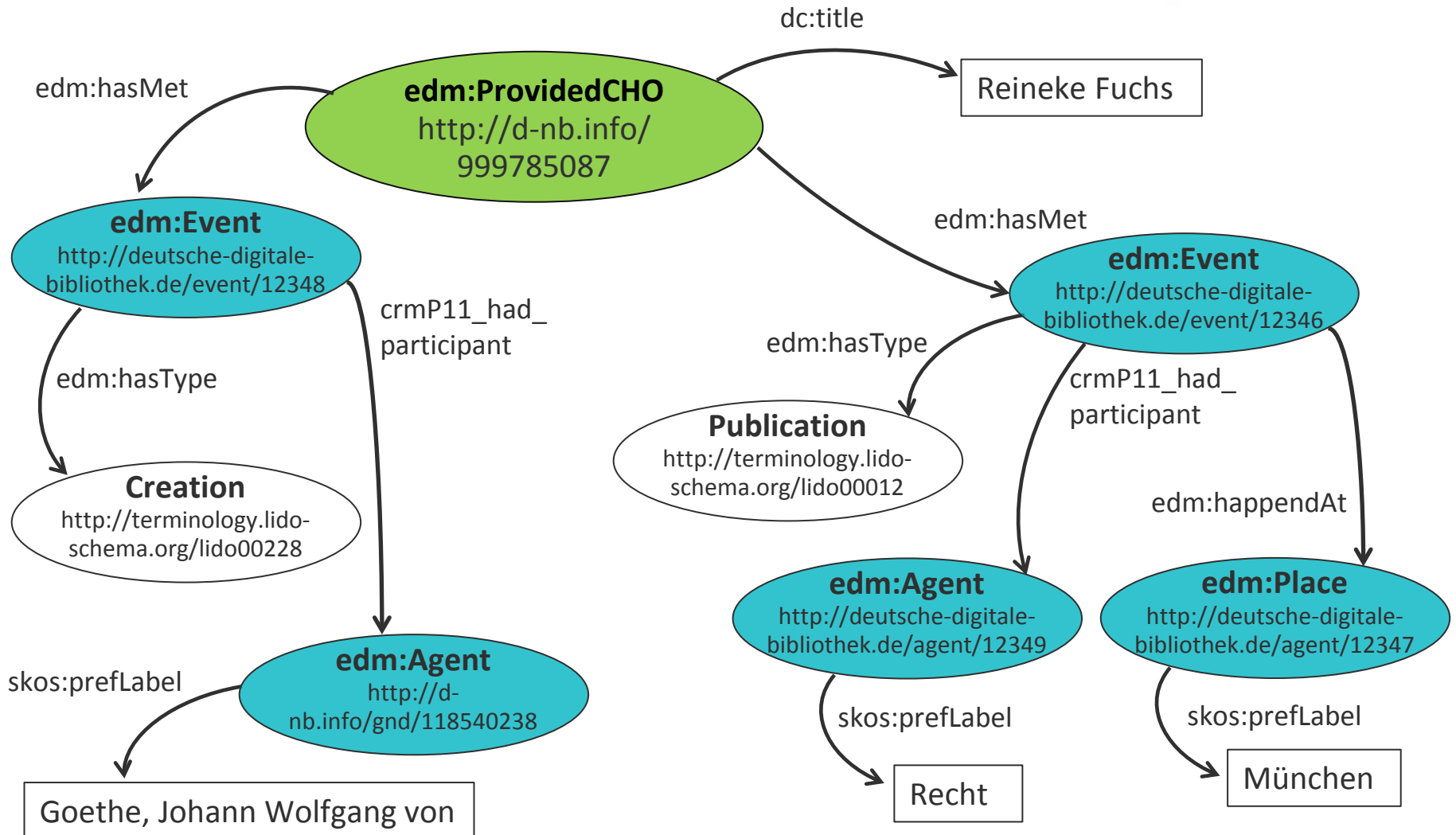
- A lot of ideas from the concept papers and founding documents didn't make it into the prototype.
- We chose the wrong data model (CIDOC-CRM) => switch to EDM
 - working implementations: (n)one
 - domain experts were unfamiliar
 - no interoperability with Europeana
- We had to re-implement our frontend. Outsourcing core tasks = bad idea. => technical operator with frontend development expertise
- Basic concept (data clearing, ingest) worked!
- Huge benefit: mutual improvement of domains' metadata culture through collaboration in network's working groups.
- We need a central service desk!

From the beta launch to normal
operations...



2013: new internal data model

Europeana Data Model (RDF)



How do the data get into the DDB?
The Service Desk



28

... to digital objects

Institution

→ Deutsche Nationalbibliothek

 <http://www.dnb.de>

 Objekt beim Datenlieferanten anzeigen

 [Link auf diese Seite](#)

Reineke Fuchs

Beteiligte Personen und Organisationen:

Goethe, Johann Wolfgang von (1749-1832)

Dokumenttyp:

Monografie

Erschienen:

München : Recht, 1922

Erschienen:

[Online-Ausg.]: 2010

Sprache:

Deutsch

Umfang:

167 S.

Thema:

Deutsche Literatur

Link zum

Katalogisat/OPAC:

 <http://d-nb.info/999785087>

URN:

 <http://nbn-resolving.de/urn:nbn:de:101:2-2010012646>

Rechtsstatus:

 Rechte vorbehalten - Freier Zugang

 Objekt beim Datenlieferanten anzeigen



preliminaries

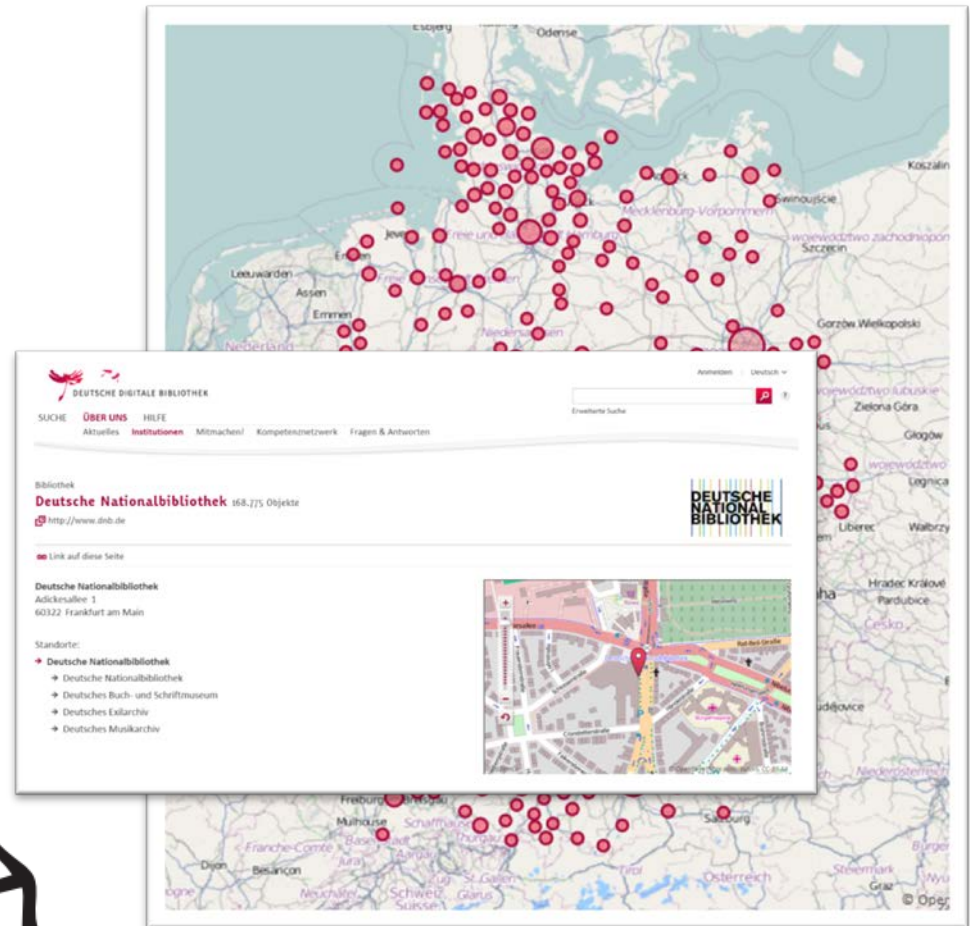
preliminaries
formalities & Co.

content survey

cooperation agreement

registration

first contact



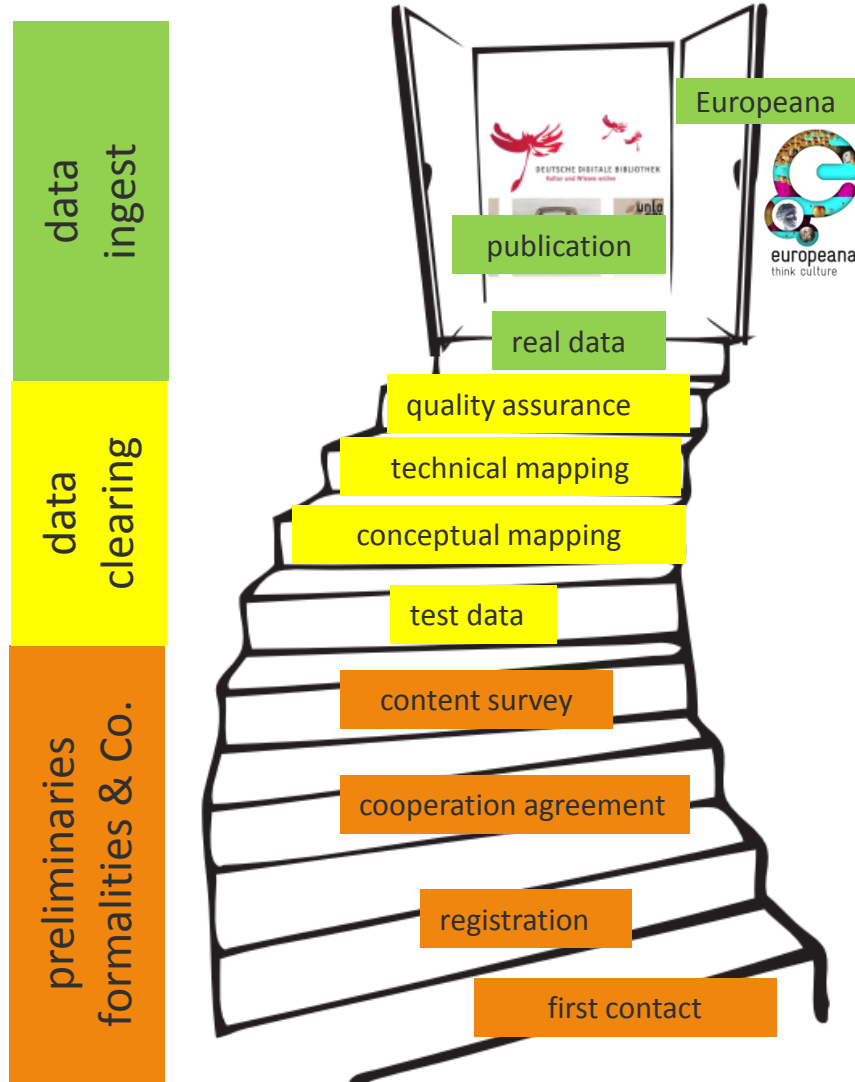
```
preliminaries
formalities & Co.
data
clearing
```



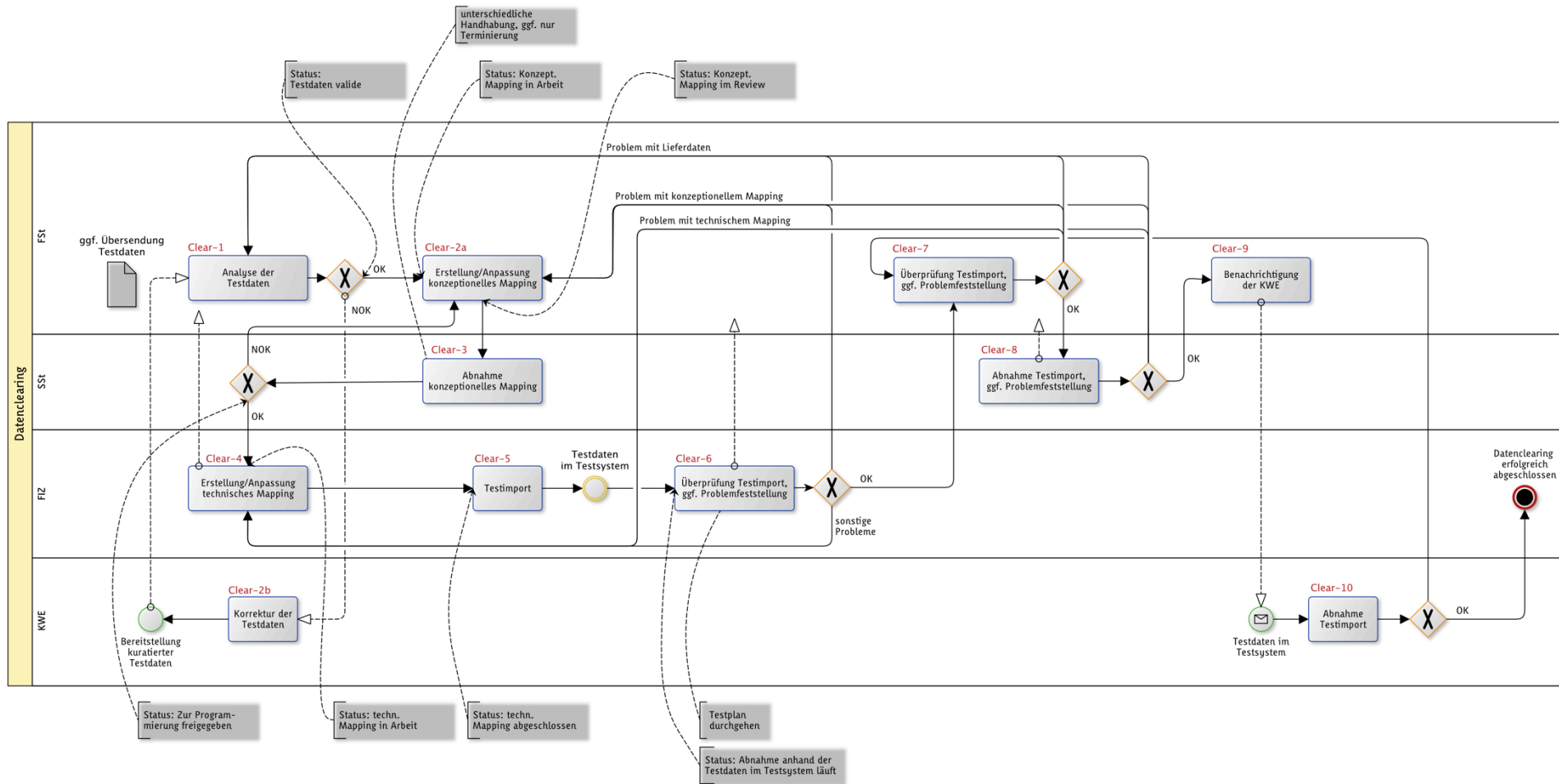
Beteiligte Personen und Organisationen:	Goethe, Johann Wolfgang von (1749-1832)
Dokumenttyp:	Monografie
Erschienen:	München : Recht, 1922
Erschienen:	[Online-Ausg.]: 2010
Sprache:	Deutsch
Umfang:	167 S.
Thema:	Deutsche Literatur
Link zum Katalogisat/OPAC:	http://d-nb.info/999785087
URN:	http://nbn-resolving.de/urn:nbn:de:101:2-2010012646
Rechtsstatus:	Rechte vorbehalten - Freier Zugang



data ingest



real processes are quite complex



data workflow (simplified)

delivery



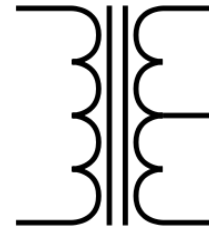
splitting



clean-up



transformation

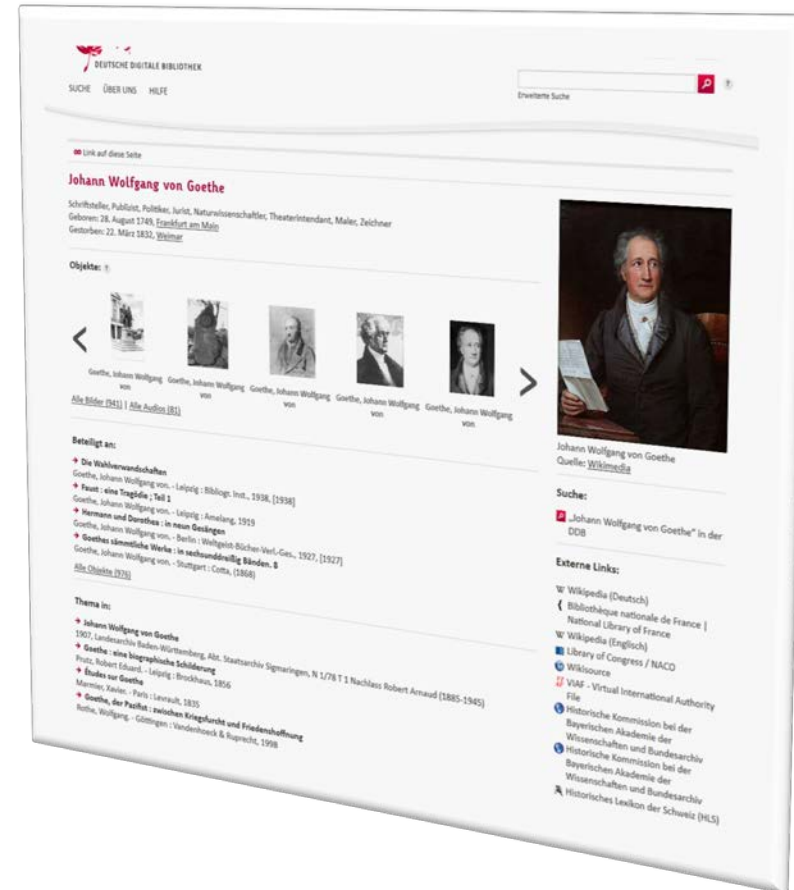


enrichment

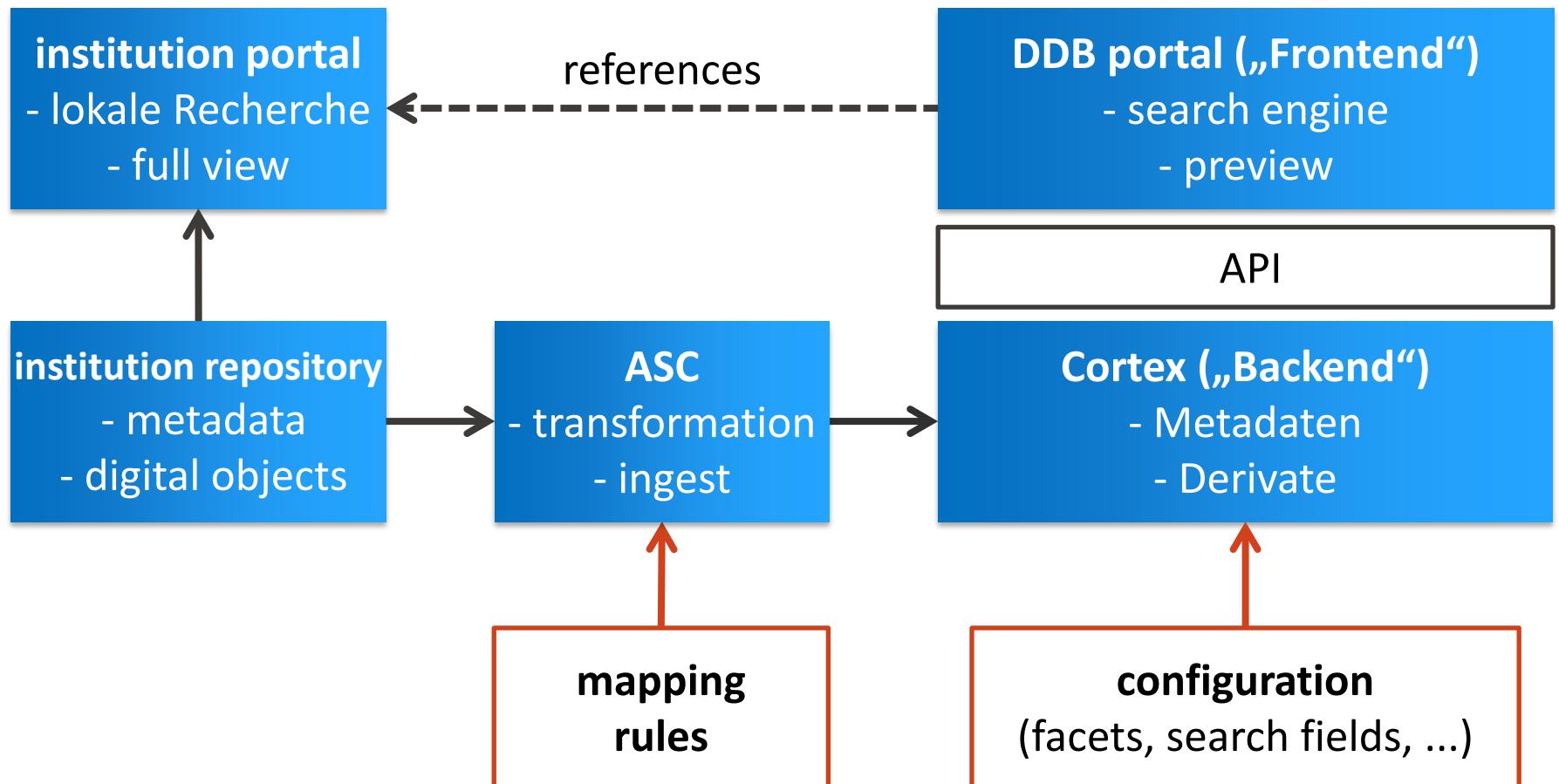


person entity pages

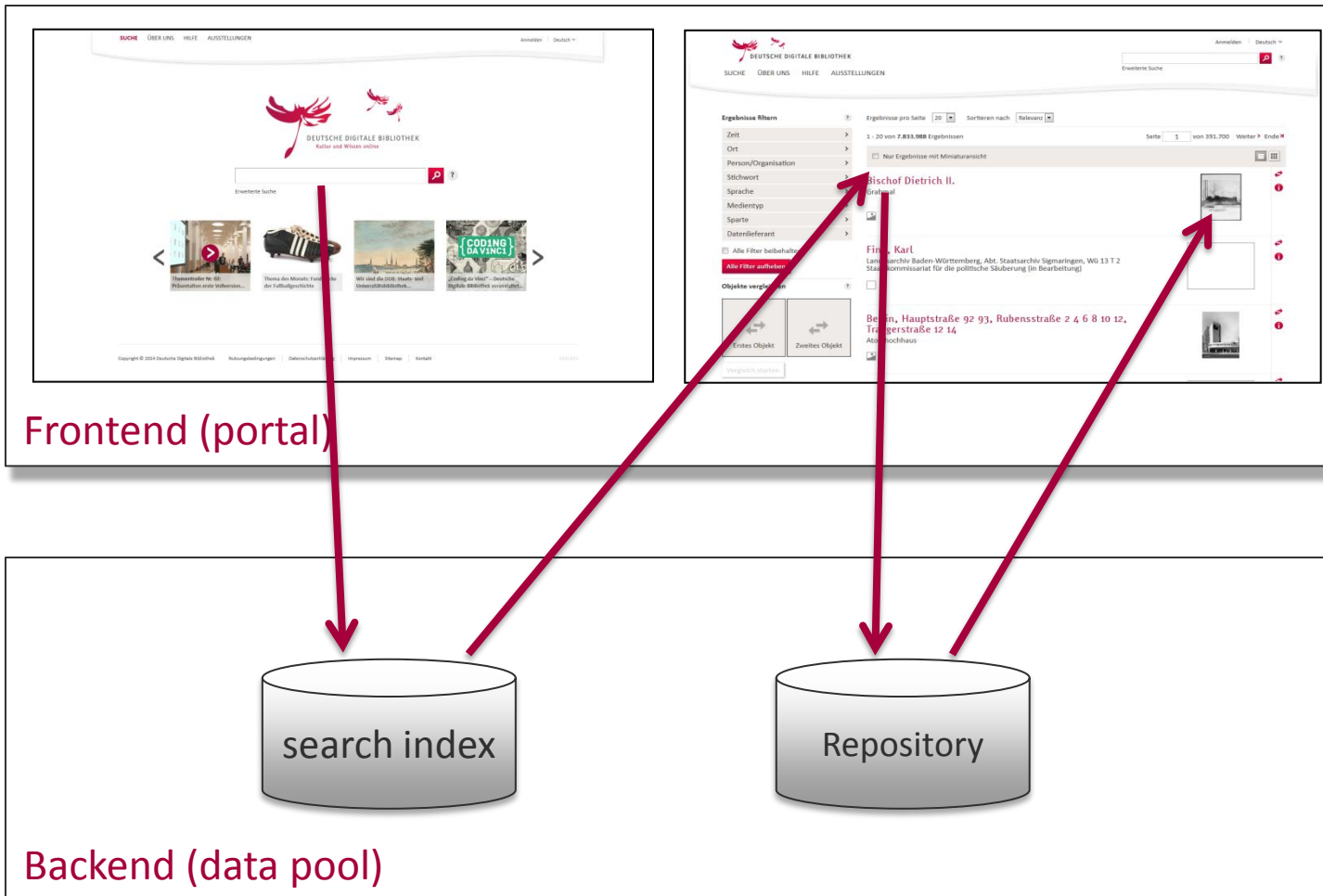
- contextualization
- entity pages as nodes for the semantic web
- linkage to authority files
 - dates of birth & death, etc.
 - further links (external)
- filled by web service „Entity Facts“
 - basiert auf Gemeinsamer Normdatei (GND)
- web of related objects (internal)



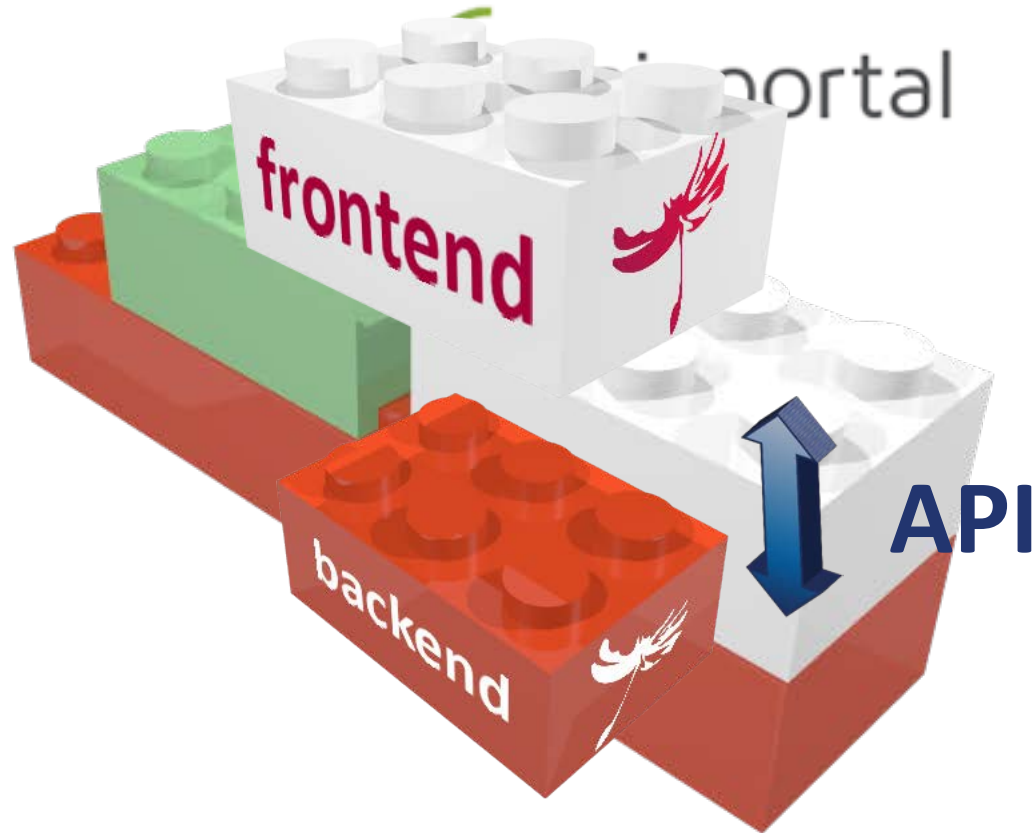
How does the DDB work?



A closer look at a DDB search...



Application Programming Interface



content

- digital objects (derivatives)
 - digital first
 - no relevance criteria regarding content
 - formal criteria
 - metadata in standard formats
 - persistent identifiers, stable links
 - objects must be freely accessible
 - sustainable infrastructure for data supply
- accompanying metadata
 - default licensing CC0 (cooperation agreement)
 - exceptions: e.g. long descriptions

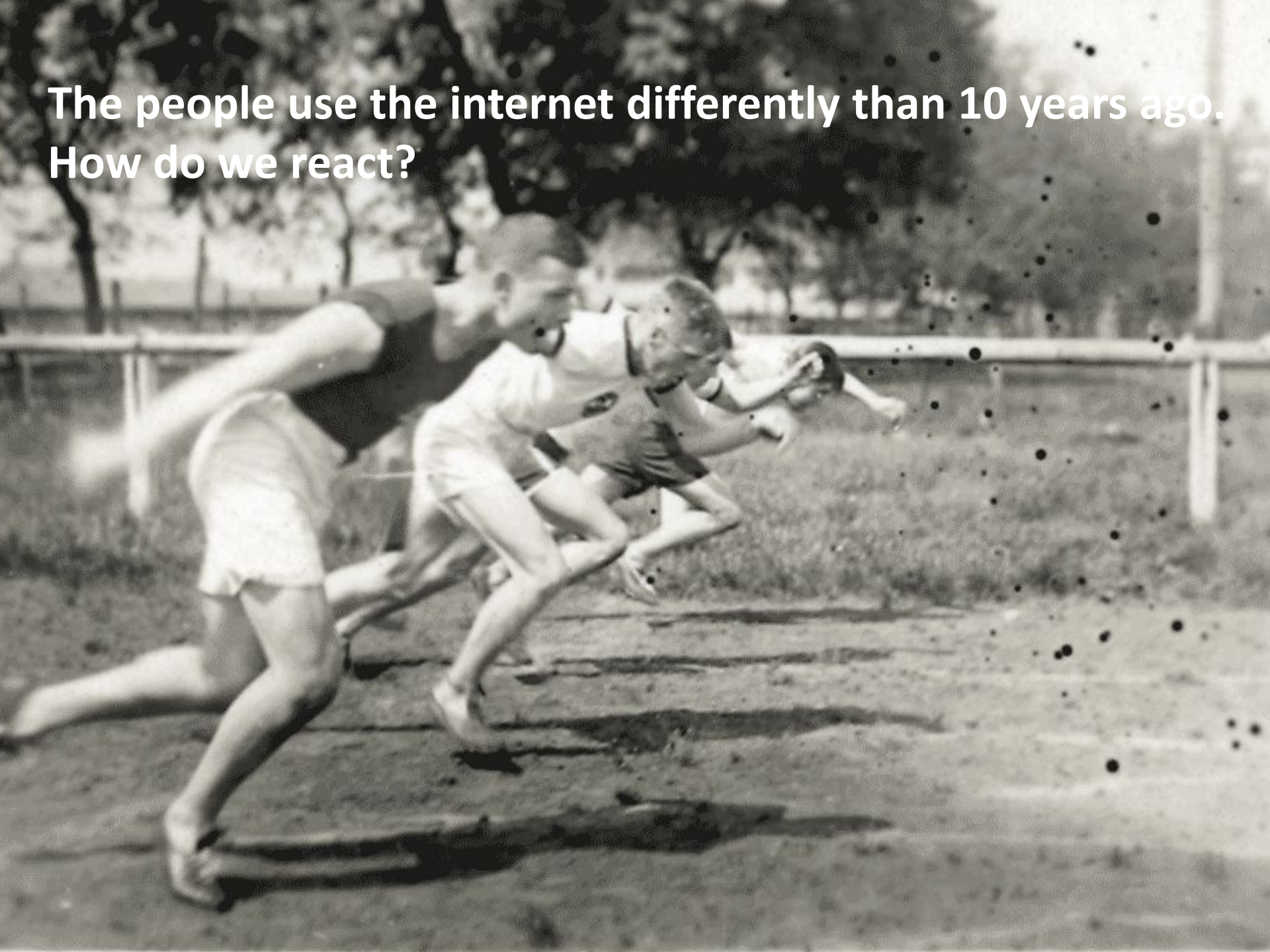


<http://www.deutsche-digitale-bibliothek.de/item/26JVK5E5WTHCKZRD4ARVHVD7QFSGMEPL>

Digression: Content Re-Use



**The people use the internet differently than 10 years ago.
How do we react?**



„As a museum we
are used to having
the people, either
visitors or researchers,
come to us.“

Anna Maria Heckmann
Berlinische Galerie

Preisverleihung

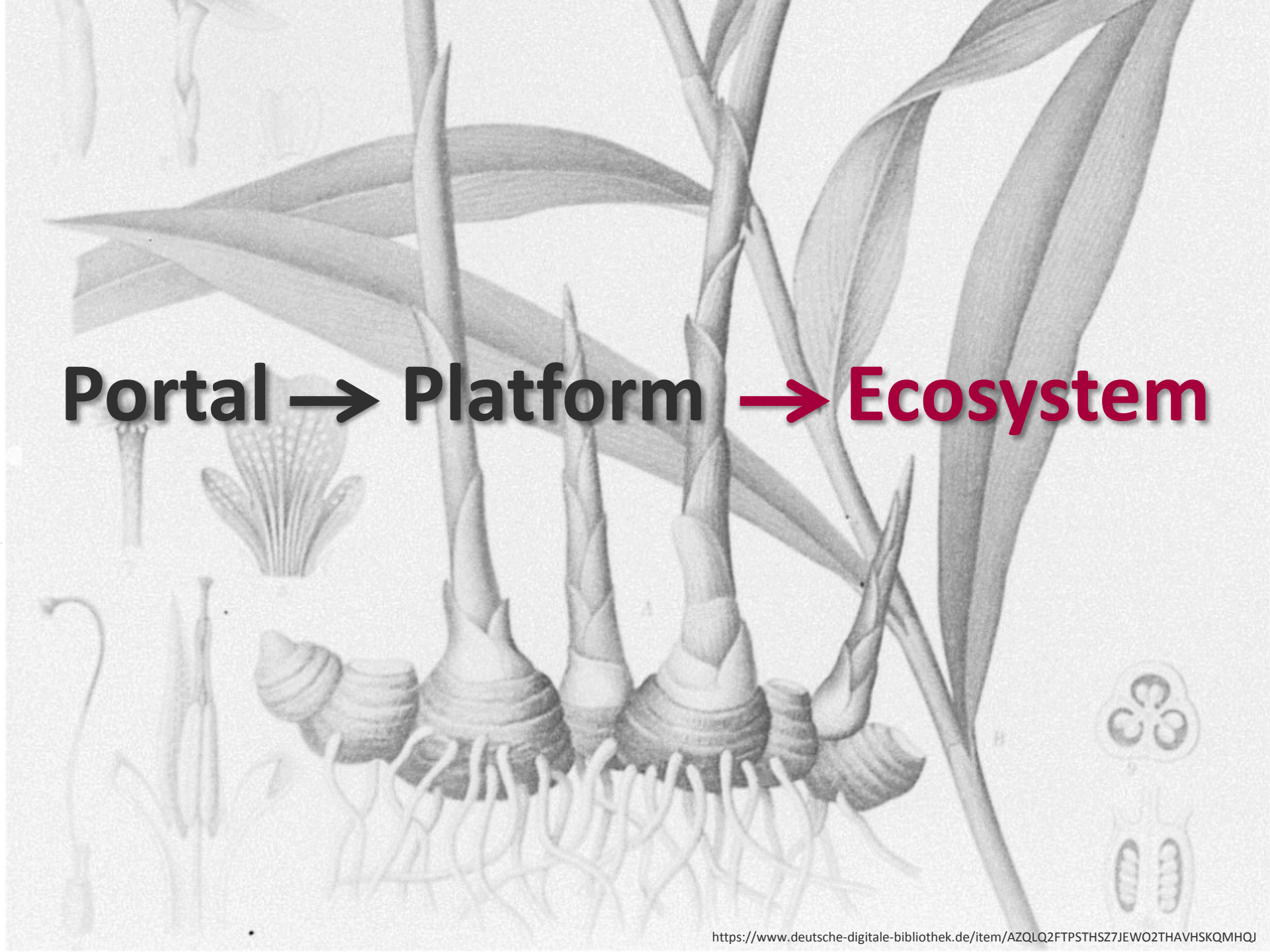
6 / 27 APRIL

5 / 16 JULY



Our users decide, where, when and in which context they are reached by our data and services.



A detailed botanical illustration of ginger (Zingiber officinale) in grayscale. The central focus is a cluster of ginger rhizomes (roots) with several young shoots emerging from them. Long, lanceolate leaves are shown growing from the top of the shoots. In the background, there are faint, detailed drawings of ginger flowers and other botanical parts, including a cross-section of a rhizome showing its internal structure.

Portal → Platform → Ecosystem

Portal → Platform → Ecosystem



standardization

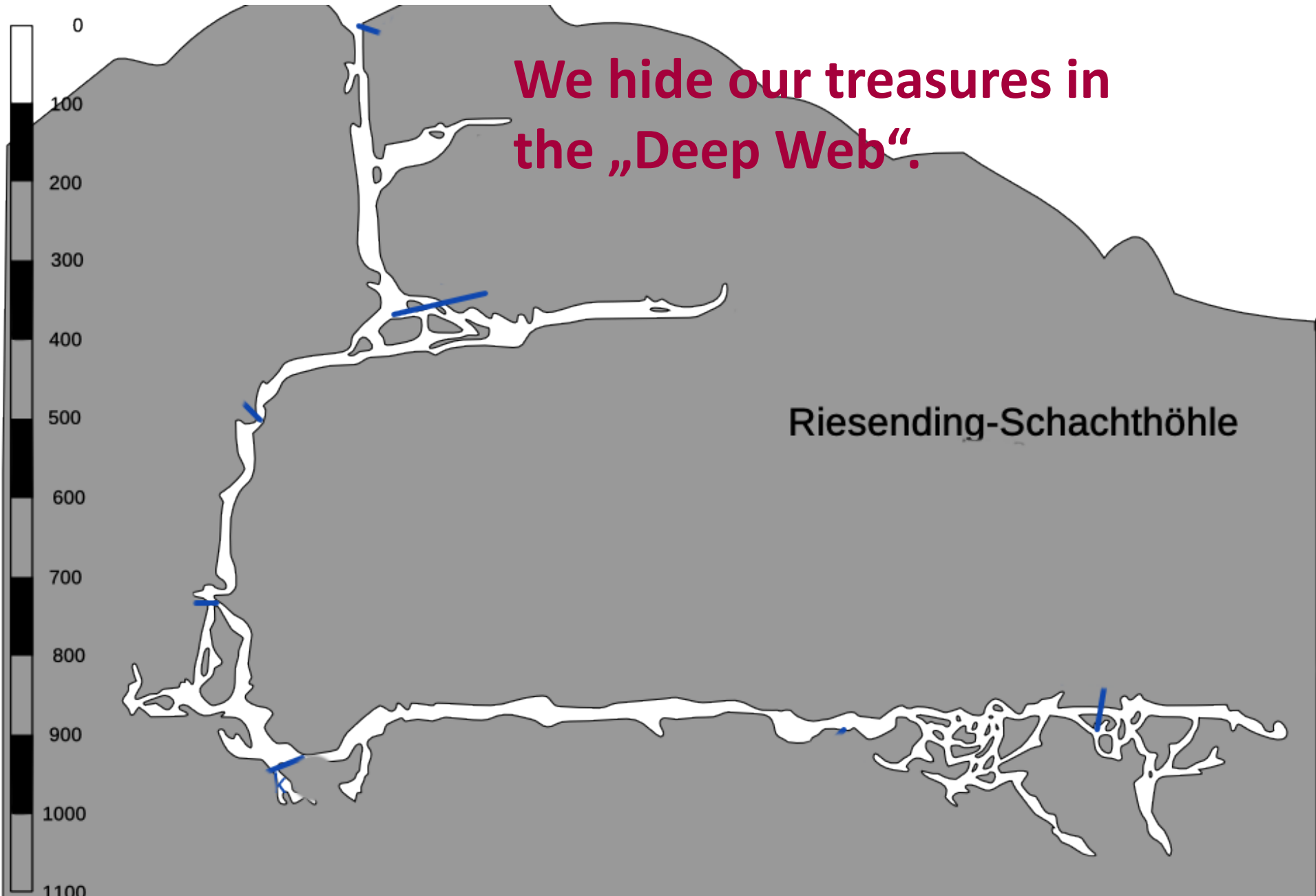
open interfaces

community

tools & infrastructure

**We hide our treasures in
the „Deep Web“.**

Riesending-Schachthöhle



API usage example (1)

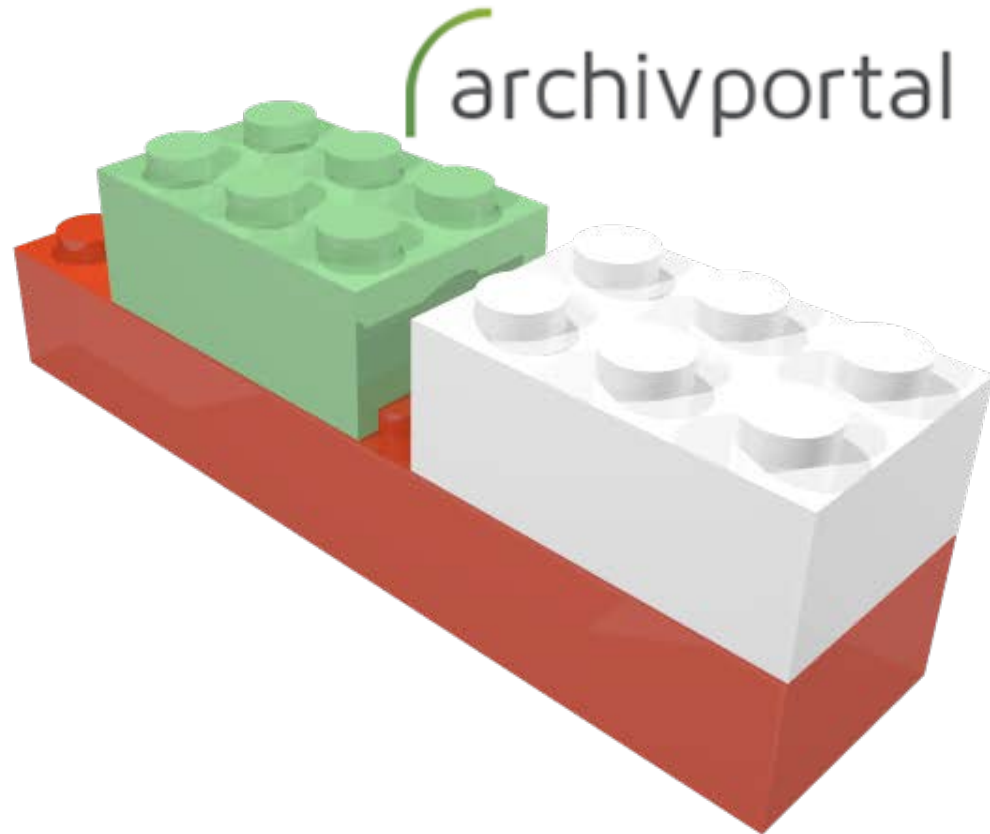
Twitterbot @ddbkatten

by Peter Mayr (Vortragsvideo

source code: <https://github.com/hatorikibble/twitter-ddbkatten>



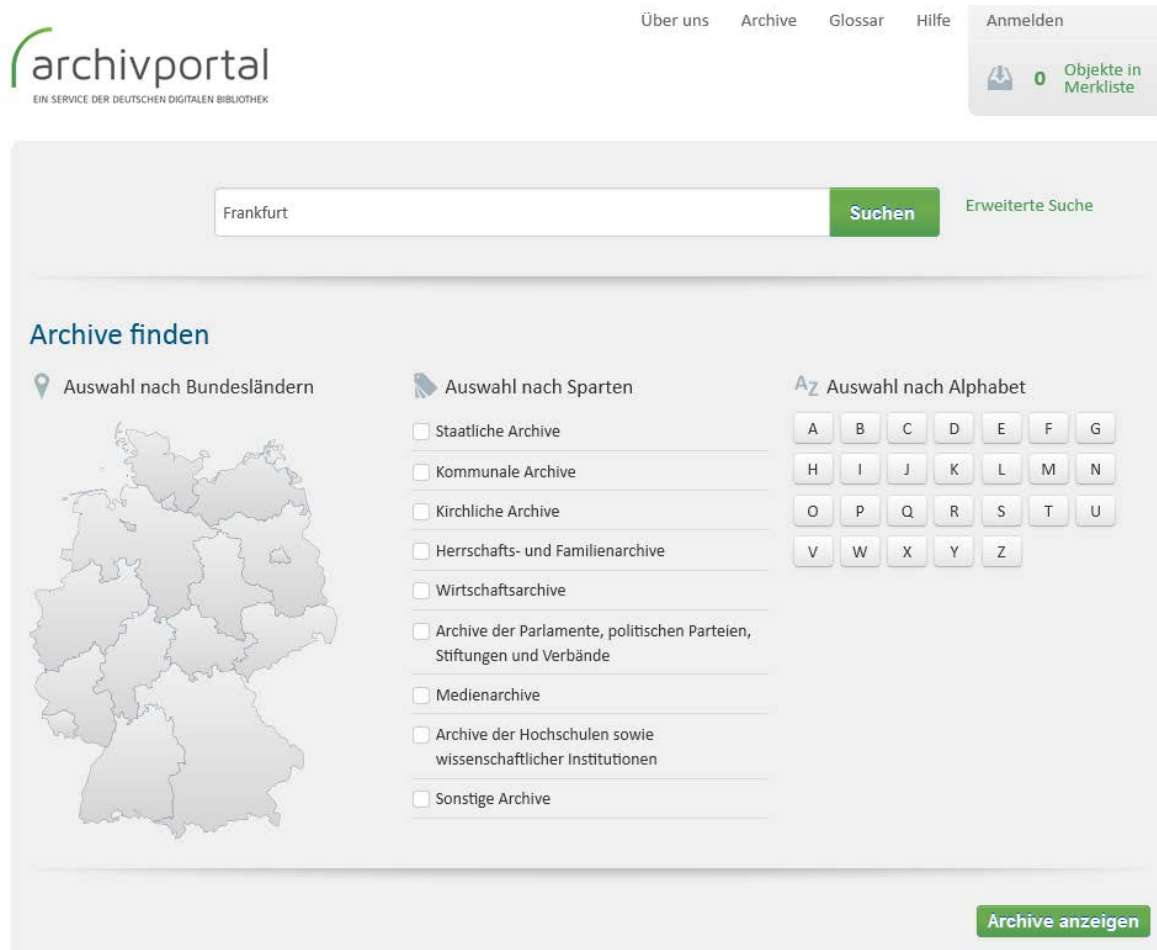
There's plenty of room on a platform ...



API usage example (2)

Archivportal-D

domain specific frontend for the DDB <https://www.archivportal-d.de/>



The screenshot shows the Archivportal-D search interface. At the top, there is a navigation bar with links: Über uns, Archive, Glossar, Hilfe, and Anmelden. The Archivportal logo is on the left, and a user icon with '0 Objekte in Merklisse' is on the right. Below the navigation bar is a search bar with the text 'Frankfurt' and a green 'Suchen' button. To the right of the search bar is a link for 'Erweiterte Suche'. Below the search bar, there are three sections for finding archives: 'Auswahl nach Bundesländern' with a map of Germany, 'Auswahl nach Sparten' with a list of archive types, and 'Auswahl nach Alphabet' with a grid of letters. At the bottom right, there is a green button labeled 'Archive anzeigen'.

archivportal
EIN SERVICE DER DEUTSCHEN DIGITALEN BIBLIOTHEK

Über uns Archive Glossar Hilfe Anmelden

0 Objekte in Merklisse

Frankfurt Suchen Erweiterte Suche

Archive finden

Auswahl nach Bundesländern

Auswahl nach Sparten

Auswahl nach Alphabet

Staatliche Archive

Kommunale Archive

Kirchliche Archive

Herrschafts- und Familienarchive

Wirtschaftsarchive

Archive der Parlamente, politischen Parteien, Stiftungen und Verbände

Medienarchive

Archive der Hochschulen sowie wissenschaftlicher Institutionen

Sonstige Archive

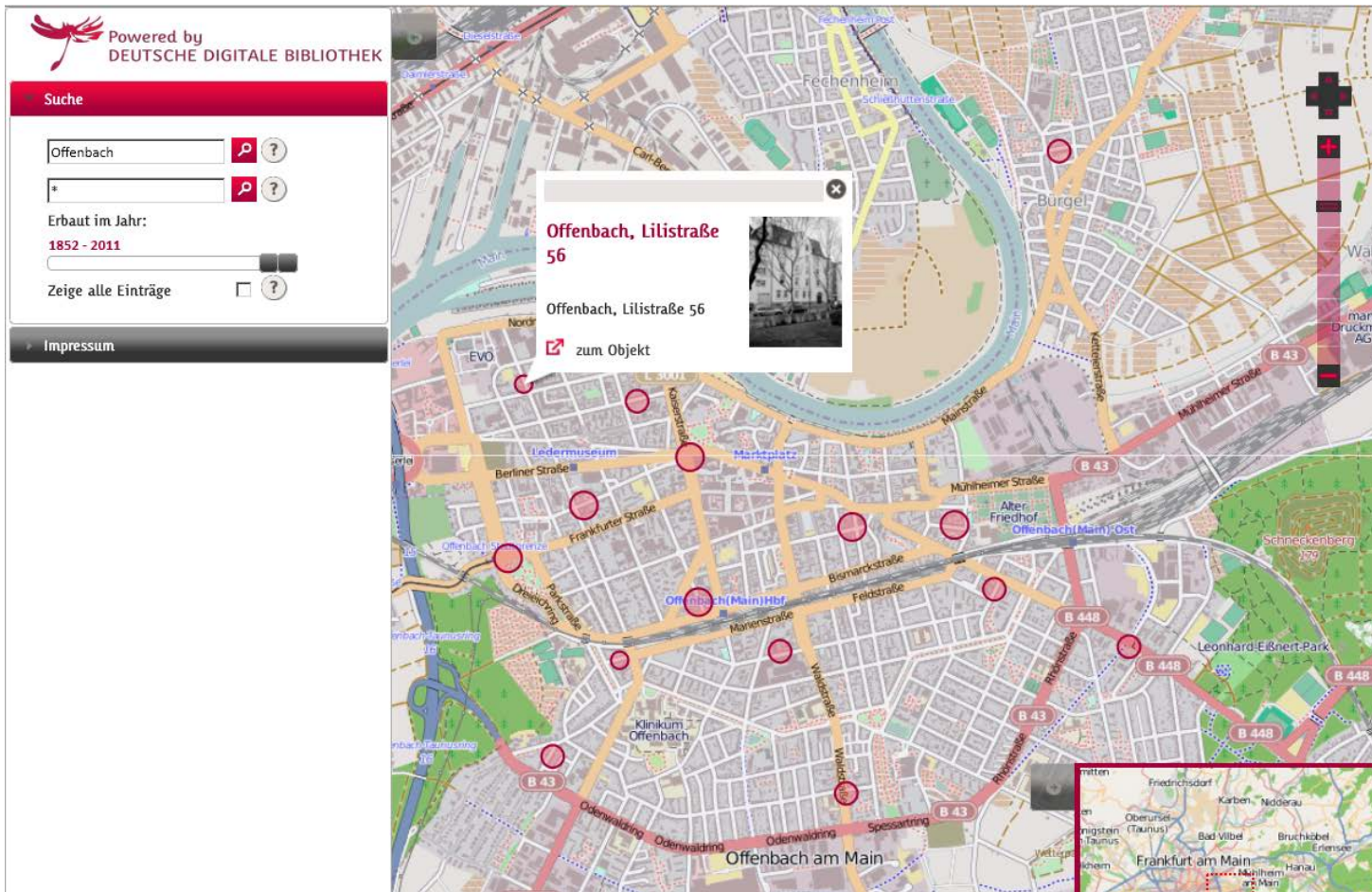
Archive anzeigen

API usage example (3)

map-based search in the data of the Hessian monument preservation agency

web application:

source code: <https://github.com/Deutsche-Digitale-Bibliothek/ddb-mapshowcase>



The screenshot displays a web application interface for a map-based search. On the left, a sidebar contains the following elements:

- Logo: A red stylized bird logo.
- Text: "Powered by DEUTSCHE DIGITALE BIBLIOTHEK".
- Section: "Suche" (Search).
- Search Input: A text box containing "Offenbach" with a magnifying glass icon and a question mark icon.
- Advanced Search: A text box with a plus sign icon and a question mark icon.
- Filter: "Erbaut im Jahr: 1852 - 2011" with a range slider.
- Checkbox: "Zeige alle Einträge" with a checkbox icon and a question mark icon.
- Section: "Impressum" (Imprint).

The main area shows a map of Offenbach am Main. A red circle on the map indicates a selected monument. A pop-up window displays the following information:

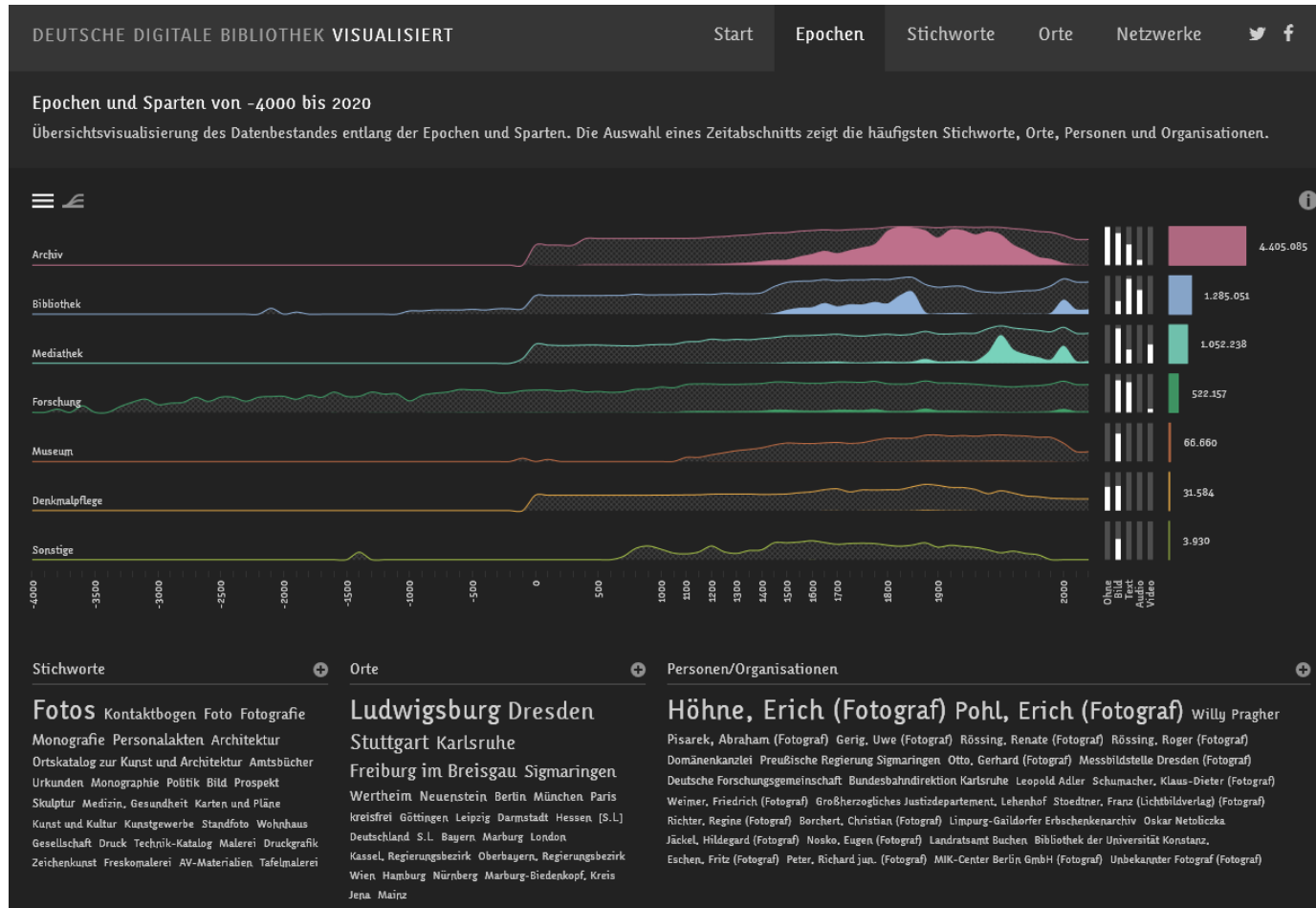
- Address: "Offenbach, Lilistraße 56".
- Image: A small photograph of the building.
- Text: "Offenbach, Lilistraße 56".
- Link: "zum Objekt" (to the object).

The map includes various labels for streets (e.g., "Lilistraße", "Mühlerstraße", "Feldstraße"), landmarks (e.g., "Liedermuseum", "Klinikum Offenbach", "Alter Friedhof Offenbach (Main) Ost"), and transportation routes (e.g., "B 43", "B 448"). A legend on the right side of the map shows a red cross symbol and a red line symbol.

API usage example (4)

interactive visualization of DDB's data

by Prof. M. Dörk (FH Potsdam) <http://infovis.fh-potsdam.de/ddb/>



{ COD1NG }
{ DA V1NC1 }

Der Kultur-Hackathon
26./27. April – 5./6. Juli 2014

<http://codingdavinci.de/>



16 INSTITUTIONS

Participating Cultural Heritage Institutions



**BERLINISCHE
GALERIE**
MUSEUM FÜR
MODERNE KUNST



Ethnologisches Museum
Staatliche Museen zu Berlin



**GEORG ECKERT
INSTITUT**
Leibniz-Institut für
internationale
Schulbuchforschung



Herzog August Bibliothek
Wolfenbüttel



**LANDESARCHIV
BADEN-WÜRTTEMBERG**



**MAX-PLANCK-INSTITUT
FÜR WISSENSCHAFTSGESCHICHTE**

**museum für
naturkunde
berlin**



**Staatsbibliothek
zu Berlin**
Preußischer Kulturbesitz

STIFTUNG
—
STADTMUSEUM
—
BERLIN



TextGrid
Virtuelle Forschungsumgebung
für die Geisteswissenschaften





26 open data sets

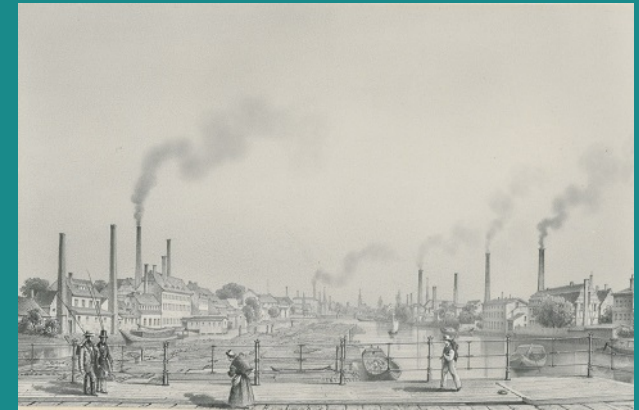
Botanical Garden Berlin



Natural History Museum

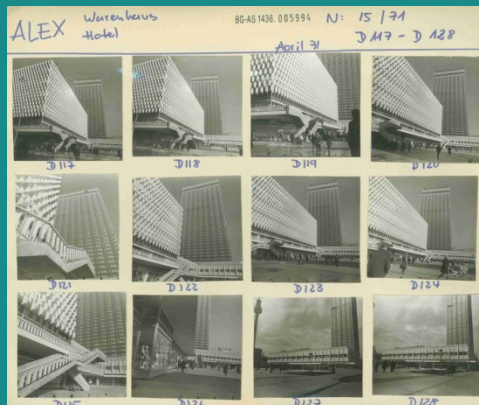


city museum Berlin



26 Datasets — <http://codingdavinci.de/daten/>

Berlinische Galerie



Steinheim Institut, Essen



Georg-Eckert-Institut, Braunschweig



A collage of various objects including coins, a ruler, and a clock, with the text "150 participants" overlaid.

150 participants



{ CODING DA VINCI }



27 project ideas



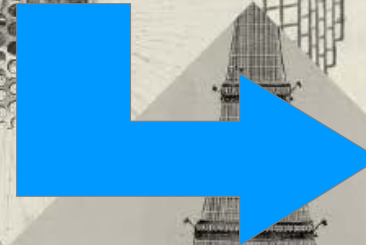
Startup Weekend
26.-27.April, Berlin
Data & Hacking

{ CODING }
{ DA VINCI }

Der Kultur-Hackathon



10 week „sprint“
17 teams



**presentations &
award ceremony**
06.Juli, Berlin



17 presentations



{ CODING DA VINCI }



5 winners

March 31, 2014: Presentation of DDB 1.0





Lessons learned

2013/2014



- Strategic change of focus: supply driven -> target audience oriented
- We have to decide what our main product is (ongoing).
- We have to keep developing from portal to platform.
- Our processes are too expensive.
- Google offers better search on our data than we do.
- 2/3 of our users come via Google => SEO, schema.org
- Nobody (exc. machines) is that much into metadata. Context is king.
- Content is king. In 2015 we'll focus on ingesting new collections.
- After 10 years of broken promises, Linked Open Data is finally coming.
- We need permanent innovation. (And more money...)



Die Entzückung.

Thanks for having me.
When will I see
the South-African
Digital Library online?

Stephan Bartholmei

s.bartholmei@dnb.de

+49 (0) 69 1525-1783

Skype: stephan.bartholmei