Cultural Heritage in CLEF (CHiC) 2012

Pilot Lab Overview

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Humboldt-Universität zu Berlin
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Contents

Cultural Heritage Information Systems

"Cultural heritage, as distinguished from natural heritage, consists of objects created by, or given meaning by, human activity."

(Bearman & Trant, 2002)

→ multilingual & multimedia

- general users (interested in culture, the "informed citizen"),
- cultural heritage professionals (content producers, collection managers),
- educational users (researchers, teachers, students), and
- tourist users (travelers, tourist agencies, information centers)
- the "information tourist" / casual user

CHiC Tasks (1)

- Ad-hoc
  - default IR task
  - Predetermined information need, expected outcome
  - Query → ad-hoc results
  - Binary relevance assessments / standard IR measures

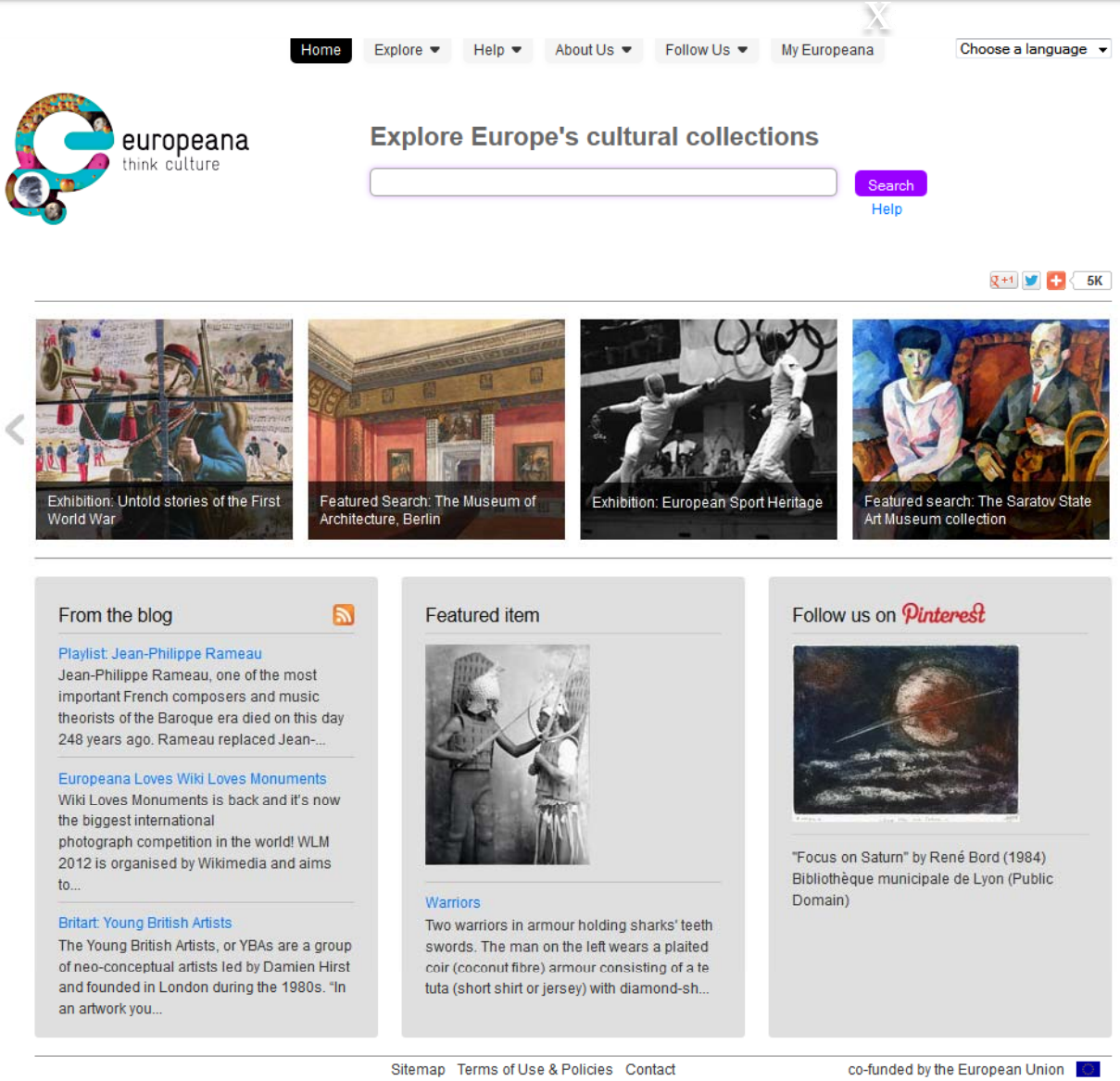
- Variability / Diversity
  - For the casual information tourist „probing“ the system
  - ad-hoc query, unexpected outcome
  - 1 result page → as diverse as possible
  - Diversity: media type, content provider, content category, …?
  - Binary relevance assessment + diversity measure (cluster recall)

CHiC Tasks (2)

- Semantic Enrichment
  - Improve semantic ambiguity of query process („Did you mean?“)
  - Ad-hoc query → 10 query suggestions
  - Internal and external resources for recommendations
  - (a) Binary relevance assessments of query suggestions
  - (b) Binary relevance assessments of IR runs using query suggestions for query expansion / standard IR measures

- Languages: English, French, German & Multilingual

CHiC Collection(s)



- Complete Europeana index (03/2012)
- 23,300,932 documents
- Metadata only + automatically added tags (content enrichment) for 30% of documents
- 62% images, 35% text, 2% audio, 1% video

CHiC Collection(s) - Documents

Free Access

View item at
British Broadcasting Corporation

Rights: All rights, including copyright, in the content of the pages submitted by the BBC are owned or controlled for these purposes by the BBC. In accessing the pages

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Identifier:
EUS_9E1AE3297AEB448C9896ABC

Format: Colour

Language: English

Publisher: BBC |

Publication date: 01/07/1967

Agatha Christie

Contributor: Agatha Christie (WRITER)

Date: [1967]

Geographic coverage: United Kingdom

Type: Still | Drama/Fiction |

Subject: Performed drama/TV play | Drama

Description: -

Agatha Christie wrote more than 60 novels, pla
have been adapted for television.

Data provider: British Broadcasting Corporatio

Provider: EUscreen Project | United Kingd

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When

Where

Place Label: velká británie ; spojené království ; großbritannien ; suurbritannia ; großbritannien und nordirland ; inggris raya ; велика британия ; gb ; u.k. ; združeno kraljestvo velike britanije in severne irske ; marea britanie ; jungtinė karalystė ; det forenede kongerige ; ühendkuningriik ; det forenede kongerige storbritannien og nordirland ; regnum unitum ; regno unito ; обединено кралство великобритания и северна ирландия ; великобритания ; velika britanija ; britanniarum regnum ; united kingdom of great britain and northern ireland ; združeno kraljestvo (v. britanija in s. irska) ; regatul unit ; grande-bretagne ; обединено кралство ; det forente kongerike storbritannia og nord-irland ; великобритания ; wielka brytania ; reino unido ; united kingdom ; zjednoczone królestwo wielkiej brytanii ; iso-britannia ; england ;

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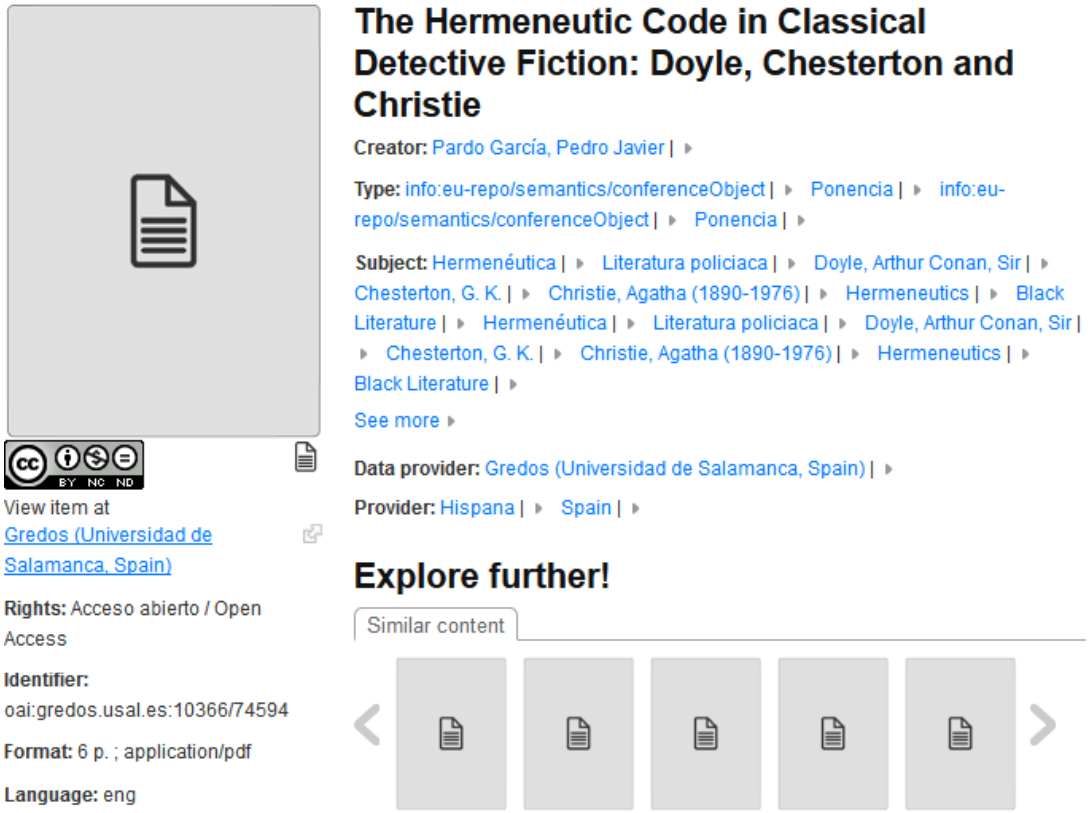
CHiC Collection(s) – By Language



The Hermeneutic Code in Classical Detective Fiction: Doyle, Chesterton and Christie

Creator: Pardo García, Pedro Javier | ▸

Type: info:eu-repo/semantics/conferenceObject | ▸ Ponencia | ▸ info:eu-repo/semantics/conferenceObject | ▸ Ponencia | ▸

Subject: Hermenéutica | ▸ Literatura policiaca | ▸ Doyle, Arthur Conan, Sir | ▸ Chesterton, G. K. | ▸ Christie, Agatha (1890-1976) | ▸ Hermeneutics | ▸ Black Literature | ▸ Hermenéutica | ▸ Literatura policiaca | ▸ Doyle, Arthur Conan, Sir | ▸ Chesterton, G. K. | ▸ Christie, Agatha (1890-1976) | ▸ Hermeneutics | ▸ Black Literature | ▸

See more ▸

Data provider: Gredos (Universidad de Salamanca, Spain) | ▸

Provider: Hispana | ▸ Spain | ▸

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View item at Gredos (Universidad de Salamanca, Spain)

Rights: Acceso abierto / Open Access

Identifier: oai:gredos.usal.es:10366/74594

Format: 6 p. ; application/pdf

Language: eng

Source: Pardo García, P. J. (1994). The Hermeneutic Code in Classical Detective Fiction: Doyle, Chesterton and Christie. En Actas del XVI Congreso de la Asociación Española de Estudios Anglo-Norteamericanos (pp. 335-343). Valladolid: Universidad de Valladolid. | ▸

Publisher: Universidad de Valladolid (España) | ▸

Publication date: 1994

- by language of content provider
- 13 of 30 with >100,000 documents
- English: 1.11 mio.
- French: 3.64 mio.
- German: 3.87 mio.
- Multilingual: all

CHiC Queries

- 50 sampled queries from Europeana query logs
- Query had to result in at least 1 full result view
- many named entities typical for cultural heritage

→ Annotated by query category: person, location, work title, topical, other

→ Translated from English to French & German

→ „information need“ added for disambiguation & relevance assessments

CHiC Queries - Disambiguation

Red kite (EN)

Cerf-volant rouge (FR-1)
Milan royal (FR-2)

Roter Drache (DE-1)
Rotmilan (DE-2)

CHiC Participation

Chemnitz University of Technology, Dept. of Computer Science	Germany
GESIS – Leibniz Institute for the Social Sciences	Germany
Unit for Natural Language Processing, Digital Enterprise Research Institute, National University of Ireland	Ireland
University of the Basque Country, UPV/EHU & University of Sheffield	Spain / UK
School of Information, University of California, Berkeley	USA
Computer Science Department, University of Neuchatel	Switzerland

- 131 runs
- all language combinations
- EN monolingual in all tasks most popular
- ad-hoc & semantic enrichment equally popular
- 2 multilingual baseline runs from Europeana

CHiC Relevance Assessments

- pools: 35,000 (EN), 22,000 (FR + DE)
- broad distribution of number of relevant documents
- topics without relevant documents:
  - EN = 14
  - FR = 11
  - DE = 2
  - Multilingual = 1
- 45 runs for semantic enrichment:
  - Semantic correctness of query suggestions
  - 45 new runs as query expansion (Lucene index)
- 32 runs for variability
  - Media types + content providers
  - Content category of document…

CHiC Relevance Assessments - Categories

View

View item at Saxon State and University Library, Dresden / Deutsche Fotothek

Identifier: http://www.deutschefotothek.de/obj70601973.html

Format: image/jpeg

Language: de-DE

Source: SLUB/Deutsche Fotothek |

Dresden, Pionierpalast "Walter Ulbricht" (Schloss Albrechtsberg). Kundgebung mit Prof. Herbert Gute, Oberbürgermeister von Dresden und Johanna Andersen-Nexö, amlässlich des 16. Jahrestages des Abwurfs der Atombombe über Hiroshima, 6. August 1961

Creator: Höhne, Erich & Pohl, Erich (Fotograf) |

Contributor: Gute, Herbert ; Andersen-Nexö, Johanna

Coverage: Dresden | Hiroshima | Japan |

Date: 1961

Type: image |

Subject: Kontaktbogen | Politik | Kundgebung | Fotos | Pressearchiv Höhne/Pohl |

Description: Dresden, Pionierpalast "Walter Ulbricht" (Schloss Albrechtsberg). Kundgebung mit Prof. Herbert Gute, Oberbürgermeister von Dresden und Johanna Andersen-Nexö, amlässlich des 16. Jahrestages des Abwurfs der Atombombe über Hiroshima, 6. August 1961 Dresden& Hiroshima & Japan

Provider: Saxon State and University Library, Dresden / Deutsche Fotothek | Germany |

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CHiC Results

- Ad-hoc: best monolingual MAP

EN	52%	UPV
FR	38%	Neuchatel
DE	60%	Chemnitz

- Variability: best P@12 / # queries without relevant docs

EN	36%	UPV (SimFacets)	2
FR	15%	Chemnitz (DBPedia_Subjects)	8
DE	29%	Chemnitz (NO)	2

- Variability: avg. relative cluster recall

EN	86%	Chemnitz (BO2_3D_10T)
FR	69%	Chemnitz (NO)
DE	92%	Chemnitz (BO2_3D_10T)

CHiC Results

- Semantic Enrichment: best P@10 (semantic correctness)

EN	75%	UPV
FR	57%	Chemnitz
DE	74%	Gesis

- Semantic Enrichment: best MAP (query expansion)

EN	34%	Original
	30%	DERI
FR	32%	Original
	15%	Chemnitz
DE	57%	Original
	32%	Gesis

Approaches

- Systems: Cheshire, Indri, Lucene (Chemnitz Xtrieval), Solr
- Ranking: vector space, language modeling, DFR, Okapi
- Translation: Google Translate, Wikipedia entries, Microsoft
- Variability:
  - Chemnitz: least recently used (LRU) algorithm to prioritize documents with different media types & providers
  - UPV: maximal-marginal relevance (MMR) to cluster results & cosine similarity to select the most dissimilar documents
- Semantic enrichment:
  - Wikipedia at different levels of detail (article titles, first paragraph, full text)
  - Wordnet, DBpedia
  - co-occurrence from Europeana collection

CHiC Outlook

- Fine-tune & adjust (collections, queries)
- Ad-hoc for baselines
- Interesting experiments in realistic scenarios → but complicated to evaluate!
- More user interaction?
- More languages?

CHiC 2012 Workshop: Thursday

Organizers:

Humboldt-Universität zu Berlin / University of Padova / Europeana / University of Sheffield / Royal School of Library and Information Science Copenhagen

Thank you to:

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