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impresso Media Monitoring of the Past

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Overall impresso pipeline

Main objective: enabling critical text mining to search, extract, process, link, and explore data from print media archives via a unified web interface

INVOLVES

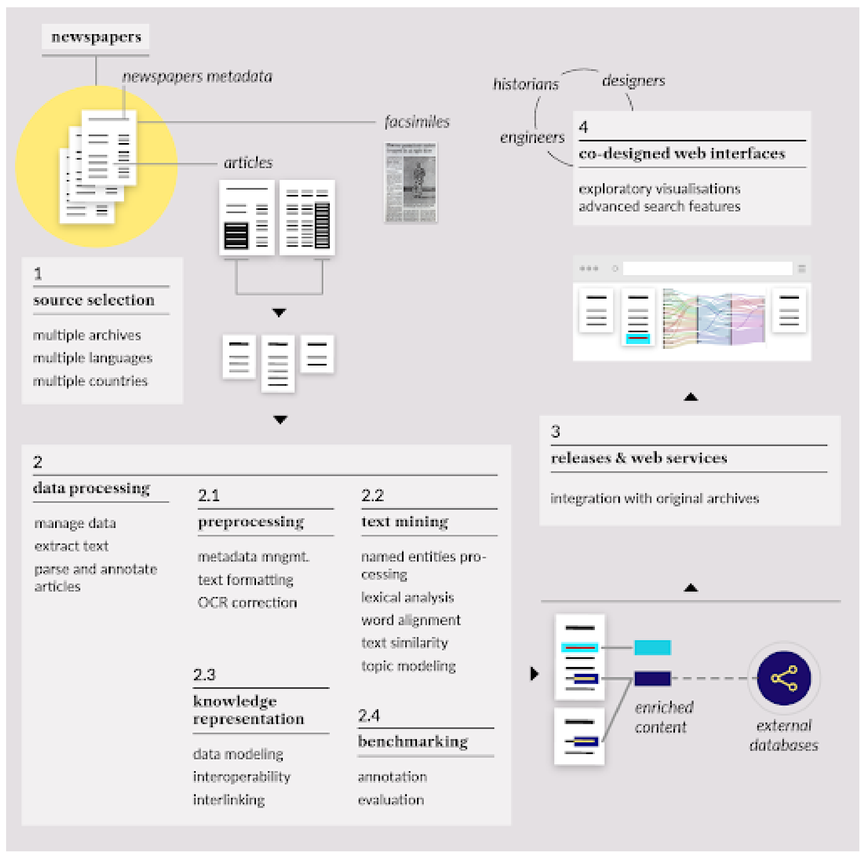
» computational linguists
» digital humanists
» historians
» web designers

THEIR COMMON GOAL

» tackling the challenges of content enrichment and data representation, visualization and analysis, completed by methodological and epistemological reflections

EXPECTED OUTCOMES

» natural language processing (NLP) tools dedicated to historical print media written in French and German
» visualization interfaces for active and goal-oriented exploration and critical analysis of newspaper corpora
» an application of digital history research on resistance to European integration.



Surprising success: Researchers report astonishing OCR results on historical newspapers!

OCR QUALITY OF HISTORICAL NEWSPAPERS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lu^ «‹«ch). Gchwell WMatssM , ‘ G r Zu
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«icht bhn^HWintt/boHM’S^^ stin t»d»Ptirtel<;S«h«, -Willia«. H<;l^>;e>;
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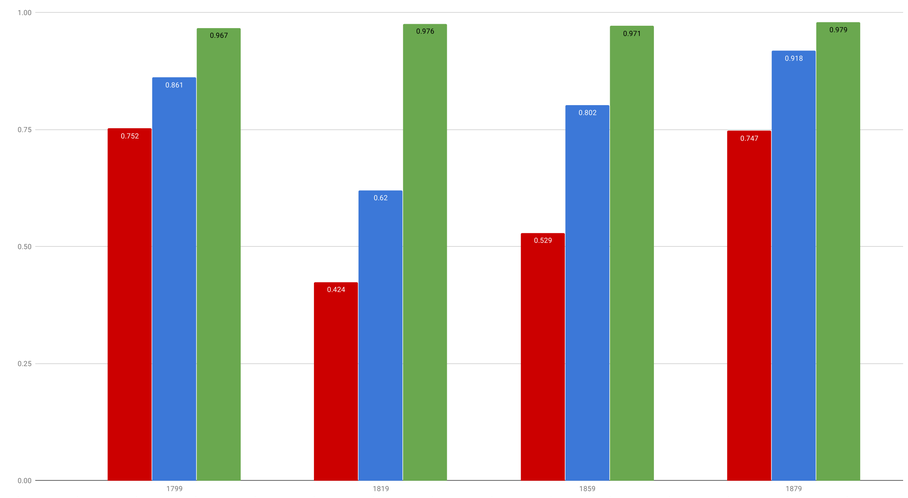
TACKLING OCR WITH HTR TOOLS

» 167 front pages from the Neue Zürcher Zeitung (NZZ)
» we used Transkribus[1] to create a gold standard
» manual correction of words and baselines
» training of Handwritten Text
» Recognition (HTR) model within
» Transkribus with 158 pages

1 https://www.transkribus.eu
2 https://www.abbyy.com

EVALUATION AND COMPARISON

» bag-of-words f-measure evaluation with TextEval 1.4
  » www.primaresearch.org/tools/PerformanceEvaluation
» compare three different outputs
  » original OCR by NZZ (ocr-2005)
  » re-OCRised material using ABBYY Finereader[2] (ocr-2017)
  » Transkribus’ HTR model (htr-2018)



DISCUSSION & OUTLOOK

» HTR models significantly increase OCR quality
» relatively small gold standards for training purposes suffice for decent OCR
» better OCR is beneficial for text mining techniques

Open questions:

» Do the HTR models trained on the NZZ perform equally well on other newspapers?
» How does occasionally occurring text in antiqua affect OCR quality?

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