new/s/leak

network of searchable leaks

Information Extraction and Visualization for Investigative Data Journalists

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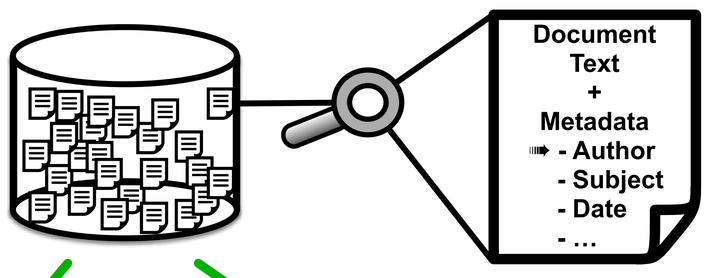
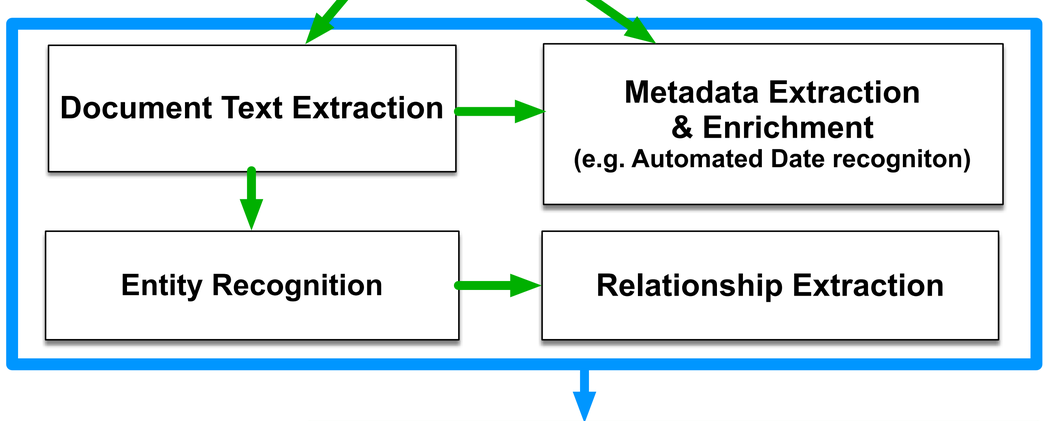
Input: Document Collection

messy, unstructured data

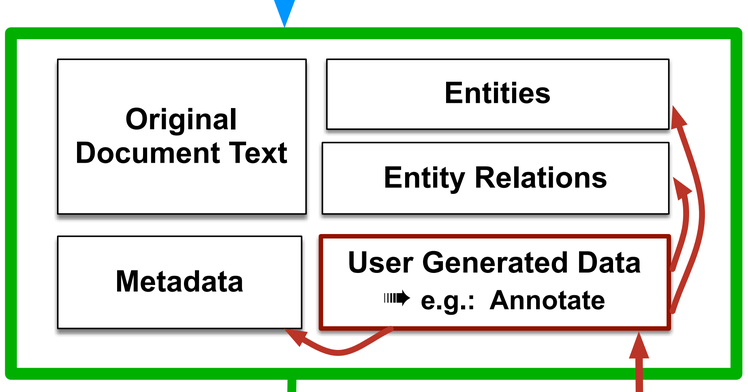


Backend



NLP Output = Visualization Input

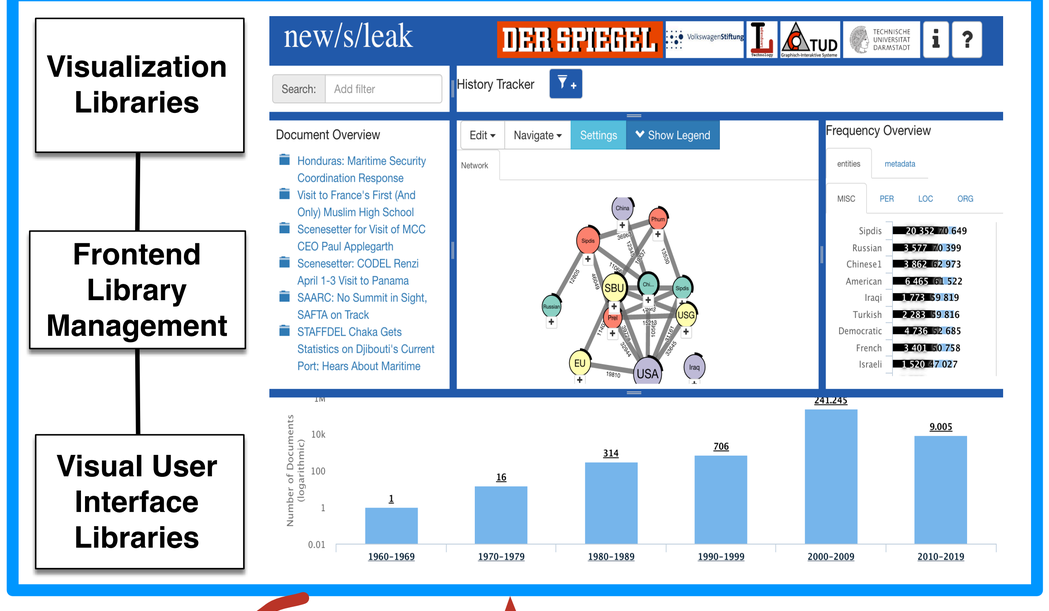
preprocessed, structured data



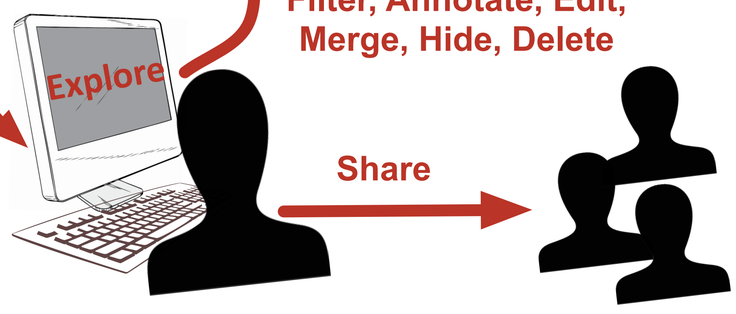
REST-API

Annotations, new Entities

Frontend



User Interaction



Filter, Annotate, Edit, Merge, Hide, Delete

Share

new/s/leak – Overview

- Supports investigative journalism
- Designed for large textual datasets (un- or semi-structured)
- Generic infrastructure, easy to adapt to new datasets

Key Requirements for Journalists

- Identify key entities
- Guided document browsing
- Analyze entity connections
- Temporal development of documents
- Geographic distribution of events
- Annotate documents
- Save and share findings

Backend

- Pre-process and clean documents
- Extract generic and dynamic metadata using latest NLP technologies
- Extract relationships between entities
- All extractions are done with the Apache Spark cluster computing framework for parallel computations
- Store data in PostgreSQL database and Elasticsearch indexes
- Provide API services for queries and updates

Frontend

- Support interactive visualization with different views
- **Graph view**: shows named entities and their relations, annotate and update the graph
- **History**: tracing / reverting user interactions
- **Timeline**: document evolution over time
- **Document view**: list, read & annotate documents
- **Full text search**
- **Metadata filter**: constrained data exploration

Project Blog: http://newsleak.io/
Demo: http://bev.lt.informatik.tu-darmstadt.de/newsleak/
Source code: https://github.com/tudarmstadt-lt/newsleak/

Seid Muhie Yimam, Heiner Ulrich, Tatiana von Landesberger, Marcel Rosenbach, Michaela Regneri, Alexander Panchenko, Franziska Lehmann, Uli Fahrer, Chris Biemann and Kathrin Ballweg (2016): new/s/leak – Information Extraction and Visualization for an Investigative Data Journalists. ACL 2016 Demo Session, Berlin, Germany

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