LOD-LAUNDROMAT

PUBLISHING OTHER PEOPLE’S DIRTY DATA

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http://wouterbeek.github.io/ll.html
DIRTY DATA

- Character encoding issues
- Socket errors
- Protocol errors
- Corrupted archives
- Authentication problems
- Syntax errors
- Wrong metadata
PROBLEM STATEMENT

After 10+ years of SW evangelization data quality is still not as high as it should be.

... therefore the SW is not generally machine-processable today.

Data preparation / data cleaning tasks take 10-40% of research time.

Existing solutions for cleaning data (standards, guidelines, best practices, tools) are targeted towards human data creators, who can (and do) choose not to use them.
GOALS

• Automate the data preprocessing phase
• Disseminate *all* LOD in a standards-compliant / machine-processable way, *right now*:
  ▪ Scale: billions of triples
  ▪ Days not decades
• Support common uses cases:
  ▪ Splitting/combining data
  ▪ Streamed processing
  ▪ Non-SW tooling: reges, GNU tools (e.g., grep), Pig, etc.
METADATA

- Duplicate triples
- Most occurring errors
CURRENT USE CASES

- Automated load balancing:
  - Use reliable metadata for determining sizes/skews
  - Multi-node computing cluster
- Streamed data processing:
  - Streaming window: 1 triple
  - 10B+ triples processed on discount hardware
  - PrefLabel
- Improve evaluations:
  - "We tested our algorithm on the English version of DBpedia"
  - We are currently optimizing all our algorithms for <5 datasets!
  - Evaluate an algorithm against 15,000 datasets in 10-40 lines of code.
FUTURE USE CASES

- LOD Observatory
- Feedback to dataset publishers
- Meta-data dataset
- Algorithm heuristics