How to Find the Right Data?

Challenges in data access
- Data access has to go via an IT expert
- Miscommunication between end users and IT experts
- IT experts have to write specialised queries for different DBs
- Restricted creativity and exploration capabilities for end users

Bottleneck: access to IT expert

Ontology Based Data Access

Philosophy of OBDA
- User is confronted to an ontology and not to databases
- Ontology is connected to DBs via declarative mappings
- Queries are formulated over the ontology
- Queries are pushed to DBs and evaluated over DBs

Optique 1.0 Modules

Optique 1.0 Querying
- Visual query formulation interface
- SPARQL end point

Optique 1.0 Query processing
- Query rewriting over ontology
- Query unfolding with mapping
- Query execution over RDBs

Optique 1.0 Installation module
- Ontology bootstrapping
- Mapping bootstrapping
- Ontology alignment
- Ontology approximation

Optique 1.0 Architecture

Presentation Layer
- Query Formulation Interface
- Visualisation
- System Interface

Application Layer
- Answer Visualisation
- Ontology Visualisation

Data Layer
- Visual Query Formulation
- SPARQL Editor
- Triple Store
- Reasoner
- Query Answering
- Reasoner

Optique 1.0 over NPD FactPages

Imported petro ontology
- 209 classes
- 131/229 object/data prop.
- 1271 axioms

Bootstrapped Ontology
- 70 classes, 276 properties
- 192 domain, range restr.
- 10 subclass relations

Mappings
- 346 direct mappings

NPD FactPages
- 70 tables, 276 at. names
- 96 foreign keys
- 46 MB RDB
- 125 MB = 2,342,597 triples

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