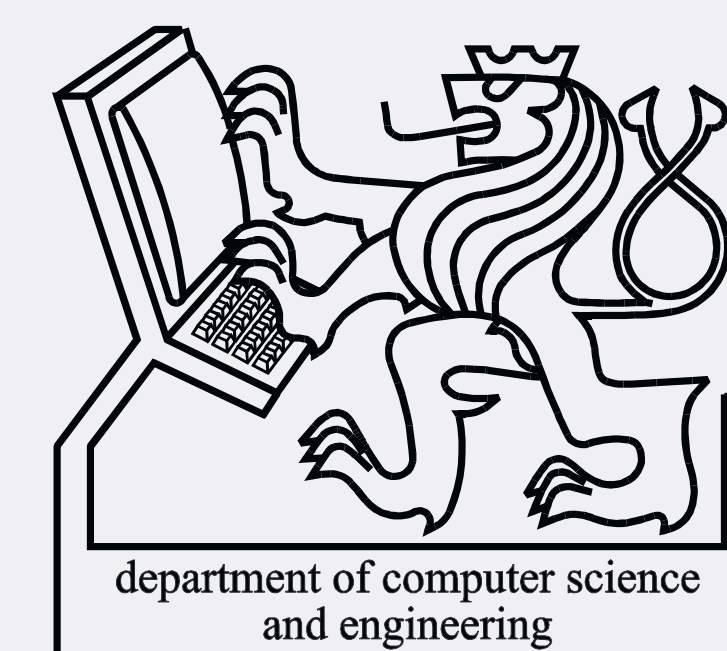


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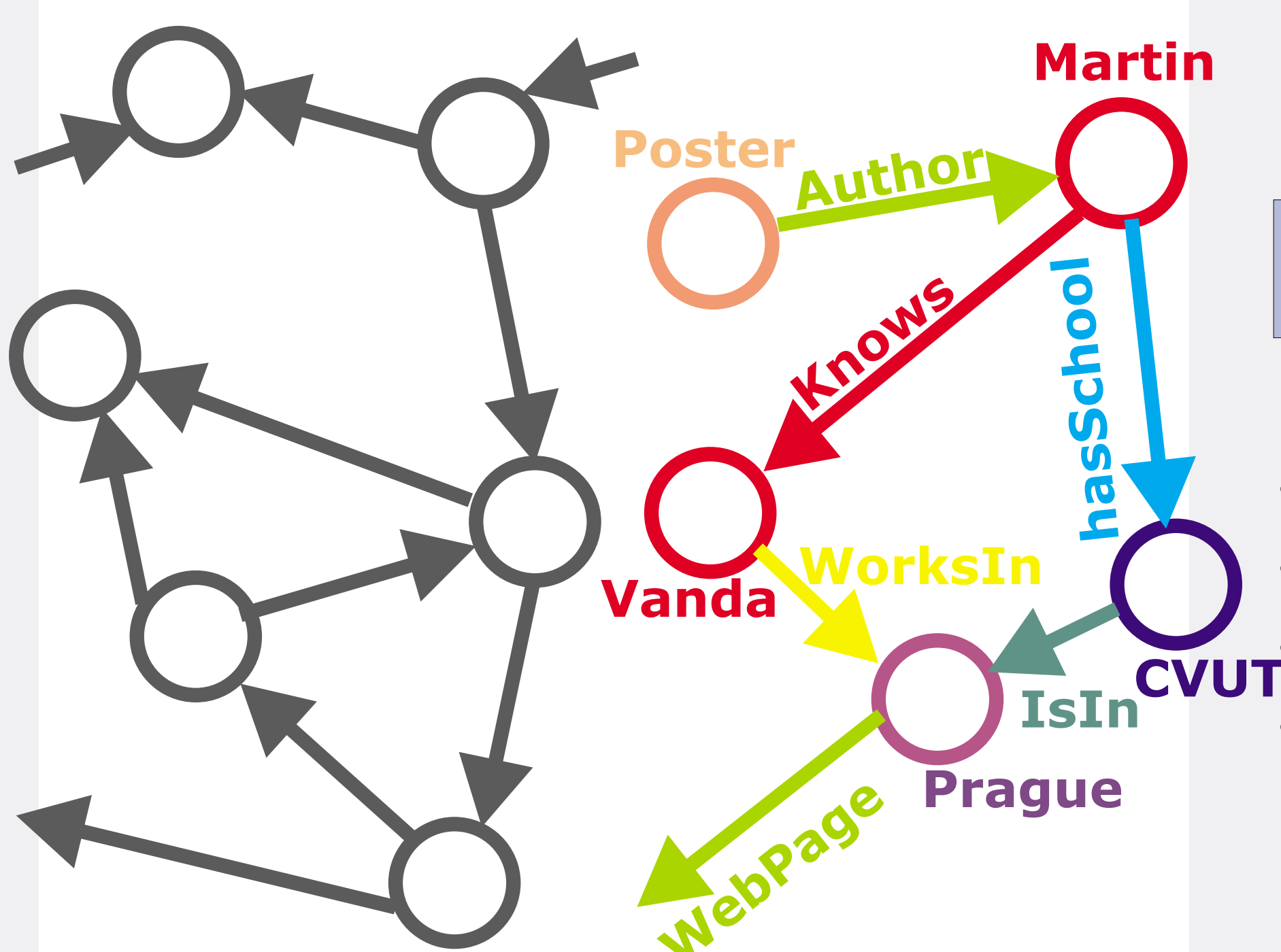


SIMPLE GENERATION OF RDF METADATA

SEMANTIC WEB

is an extension of the current web...

Current web **Semantic web**



computers *understand* semantic of information

Technologies

- XML, URI, Namespaces
- RDF, RDFS
- Ontology - terms and relations
- Logical framework - inference
- Trust layer

Applications

- knowledge management
 - information retrieval
 - adaptation
 - navigation
- Enterprise App Integration
- eCommerce (B2B, B2C)
 - webservice
 - intelligent agents

...enabling better
**COOPERATION
BETWEEN
COMPUTERS
AND PEOPLE.**

ABSTRACT

The Semantic Web is an initiative that tries to add more structure and computer understandable meaning to the data on the web. This extension of current web should enable computers and people to work in better cooperation.

We propose our own concept of generating of Semantic Web content. RDF metadata are generated directly from database, according to given ontology. Presented model called METAmorphoses is two layer schema of mapping SQL to RDF, focused on usability.

PROBLEM OVERVIEW

SQL to RDF mapping (Fig 1)

- Automatic, fast, cheap and still up-to-date RDF data
- Request for RDF translated to SQL query
- Resultset translated to RDF and sent as response
- Translation is based on mapping document

Our presumptions

- Data are stored in relational database
- Metadata format is specified by ontology

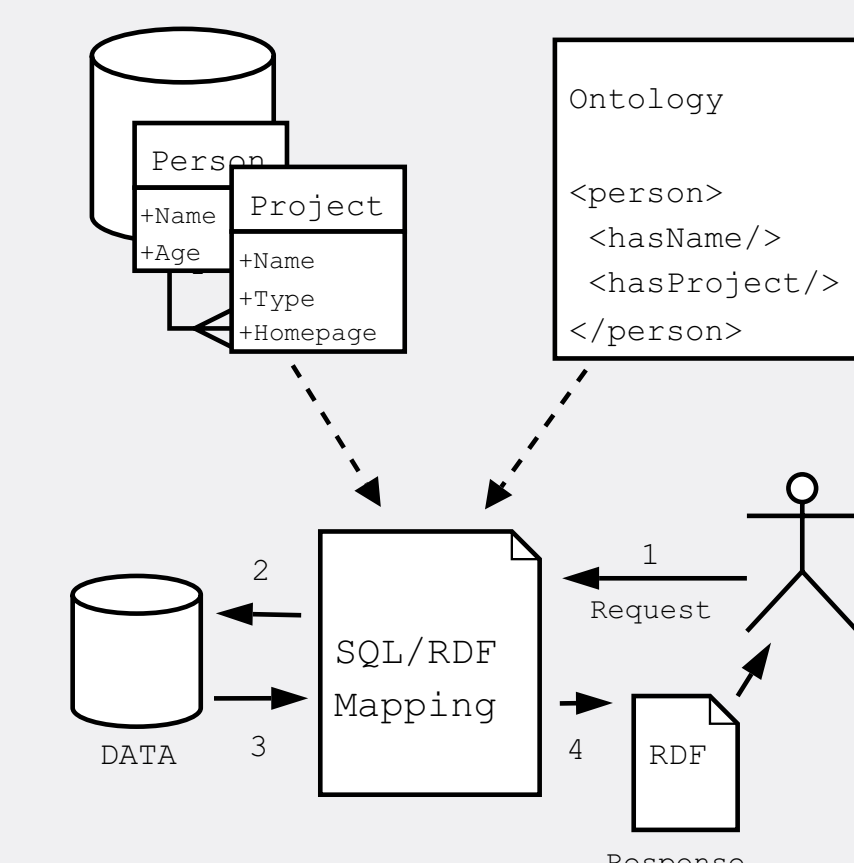


Fig 1: SQL to RDF mapping

OUR PROPOSAL - TWO LAYER MAPPING

Mapping layer

- Mapping between SQL structure and ontology
- Preserves consistency of generated RDF
- Defines tags for template layer

Template layer

- Used by Semantic web presentation programmer
- Uses tags defined in mapping layer
- Produces RDF instances according to mapping layer

Mapping process (fig 2)

- Request for RDF is received, template is selected
- Template calls mapping, that composes DBS query
- Response is generated by template layer

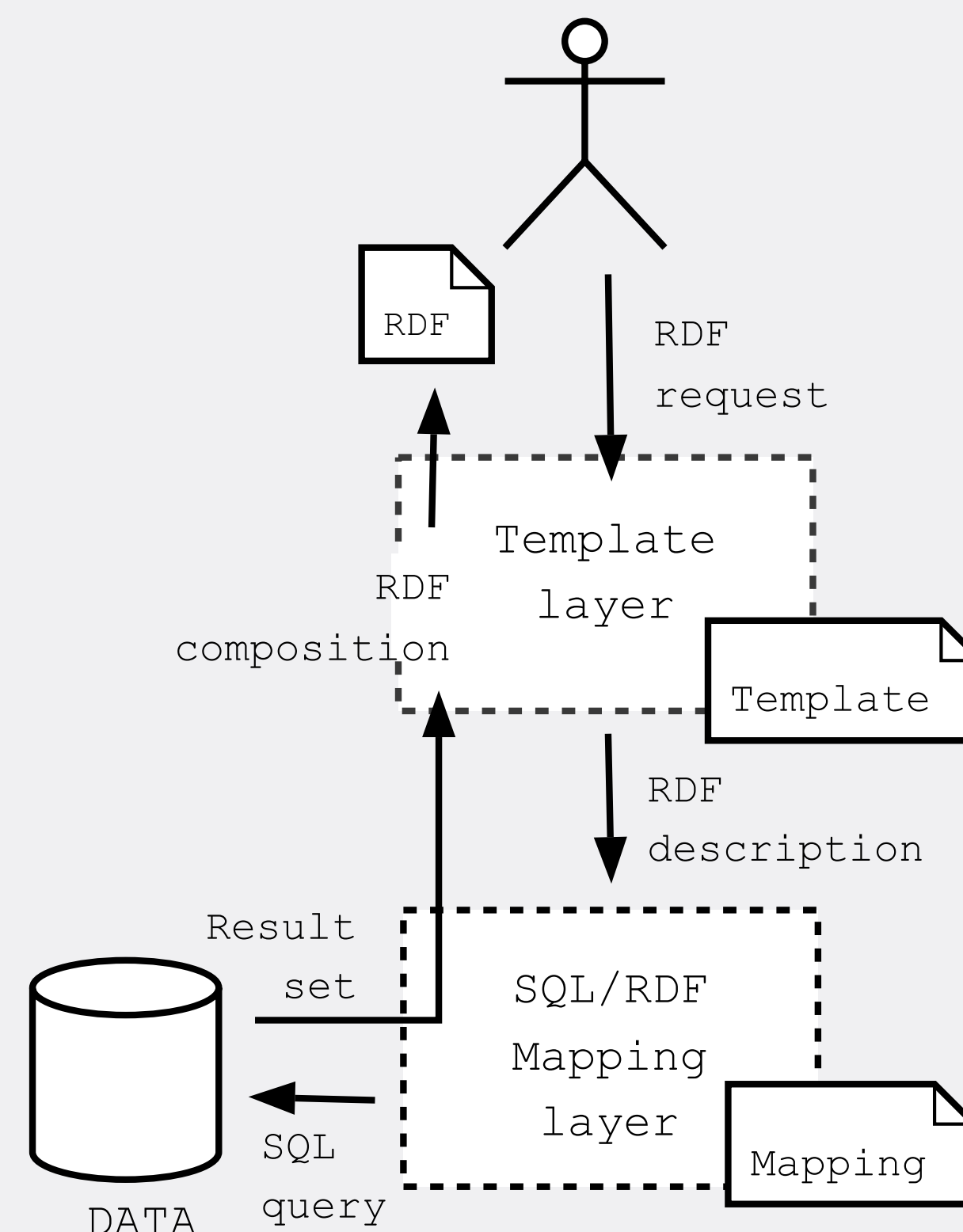


Fig 2: Two layer mapping

CONCLUSION

Two layer mapping model is:

- Suitable for data-intensive Semantic web presentations
- **Reliable:** Mapping layer preserves consistency of RDF according to ontology
- **Flexible:** Capable to capture any ontology
- **Simple programmer interface:** Programmer needn't know ontologies

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