

The Explicator Project

12 September 2007

Terrier Workshop

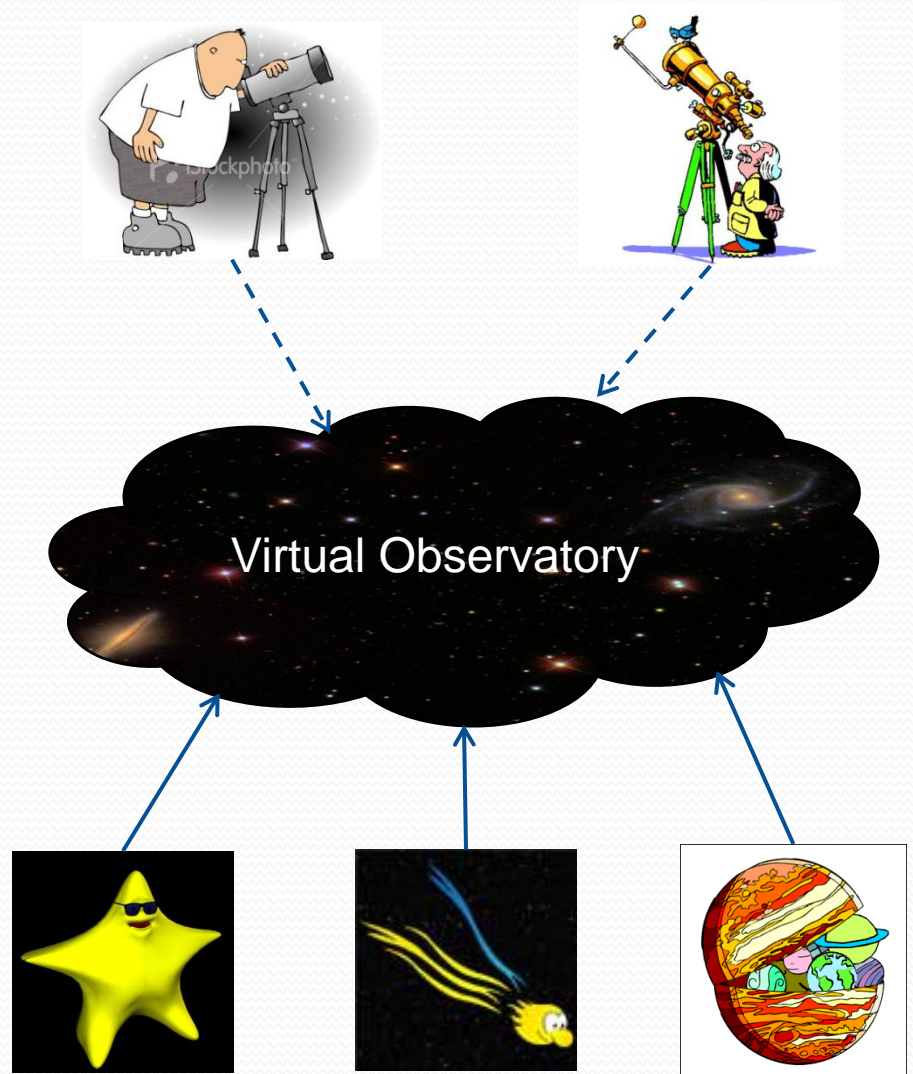
Explicator Overview

- July 2007 – December 2008
- EPSRC Funded
- Members:

| | |
|---------------|--|
| Iadh Ounis | Information Retrieval, University of Glasgow |
| Norman Gray | Astronomy, University of Leicester (Based at University of Glasgow) |
| Paul Millar | High Energy Physics, University of Glasgow |
| Alasdair Gray | Information Retrieval, University of Glasgow |

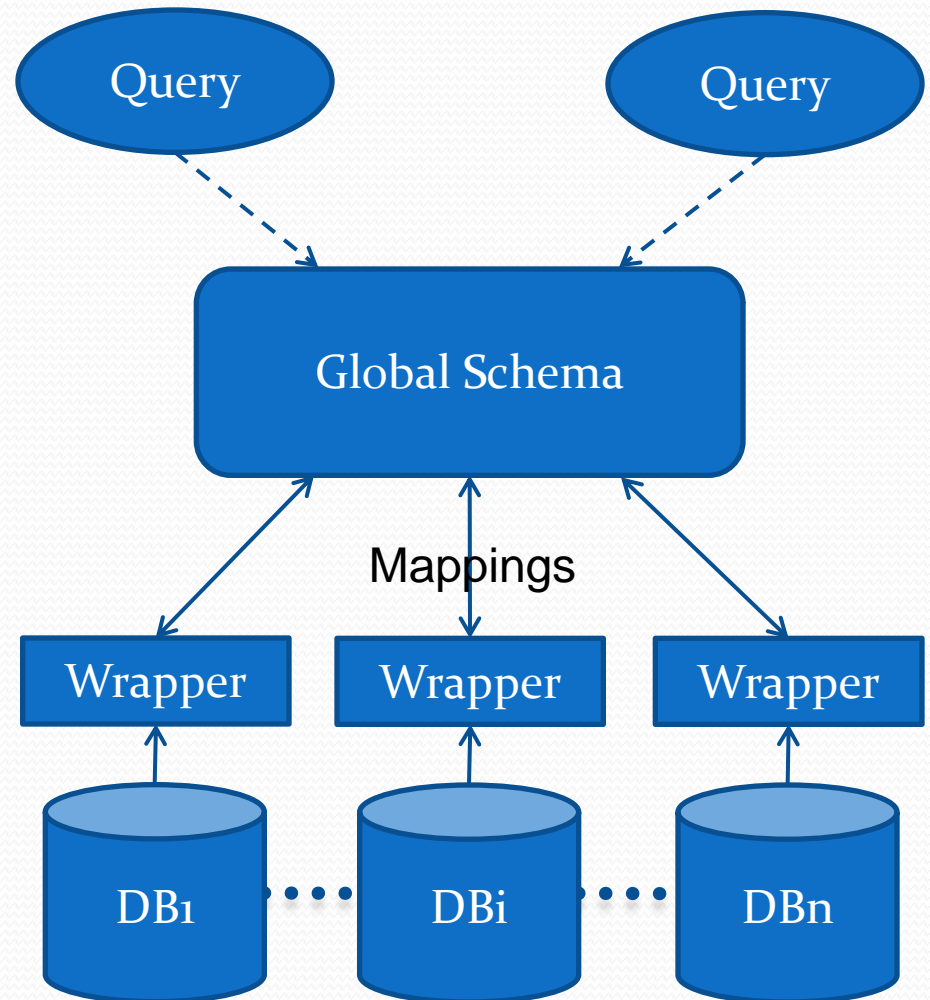
The Problem

1. Locating relevant data
2. Integrating data
 - Heterogeneous user models
 - Heterogeneous data sources



Data Integration

- Heterogeneous data sources
 - Autonomous
 - Local schemas
- Homogeneous view
 - Mediated global schema
- Mapping
 - LAV: local-as-view
 - GAV: global-as-view



Ontologies

“Formal specification of a shared conceptualisation”

Consist of

- Concepts
 - Types of objects
- Relationships between concepts
 - Generalisation
 - Specialisation
- Instances
 - Objects in the domain

Enable

- Understanding of data semantics
- Inferring additional knowledge through reasoning
- Integrating knowledge across applications

Conclusions

- Data integration supports homogeneous view
 - Astronomers cannot agree on a consensus model
- Ontologies enable translation between semantic data models

Aim

- Develop lightweight semantic integration system
 - Sources publish according to own ontology
 - Users express data need in own ontology
 - System links required terms to answer queries