Saint Petersburg National Research University of Information Technologies, Mechanics and Optics

Computer Systems Design Chair

OWL-ontology visualization tool

Pavel Smirnov

smirnp@gmail.com

Saint-Petersburg, Apr. 2012

The main goals

Goal: to create an instrument for semantic structures visualization

Purpose: to provide an intuitive presentation of material and improve effectiveness of educational process

Targets:

• educational portals

• museums

Knowledge Base

Knowledge Base – kind of database aimed to operate with structured data concerning with some field of science and supposed to be used in a reasoning process by some device or human with a concrete goal

Ontology - an hierarchical structure of items, objects, definitions, properties and relations
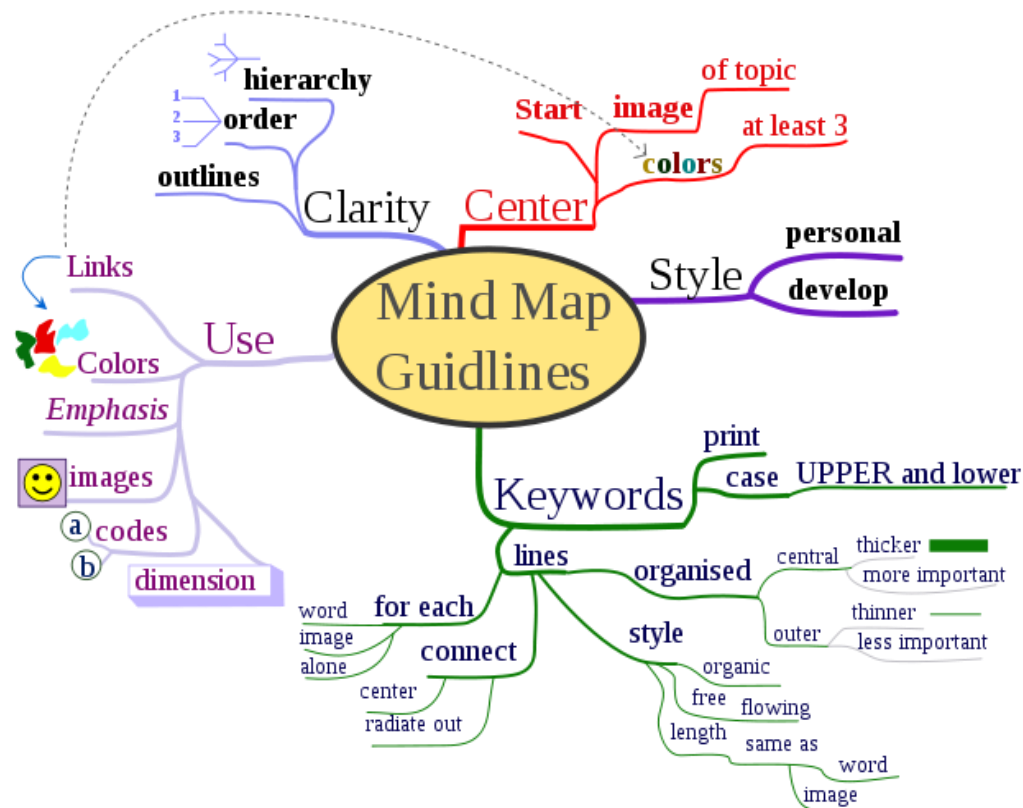
Ontology representation:

RDF (Resource Description Framework) – ontology definition format

OWL (Web Ontology Language) – appeared from RDF

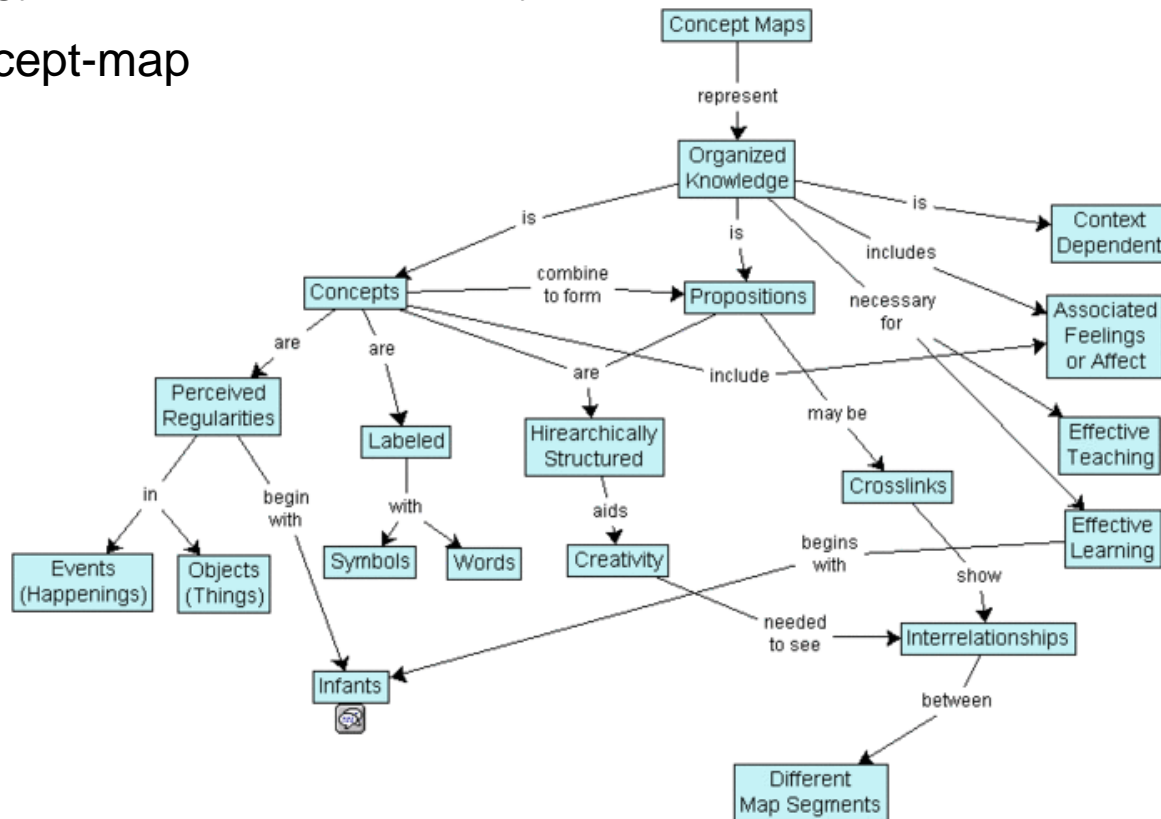# Visual appearance

Ontology visual appearance ways:

I. Mind-map

* A diagram builds around one central object
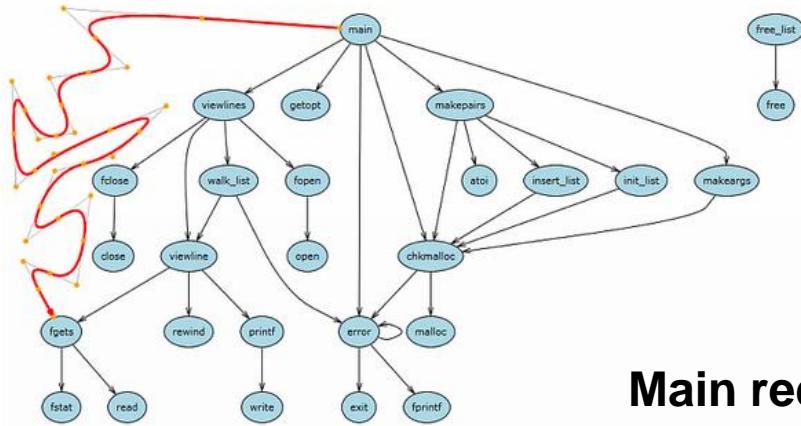
Visual appearance

Ontology visual appearance ways:

II. Concept-map

* Do not requires central object

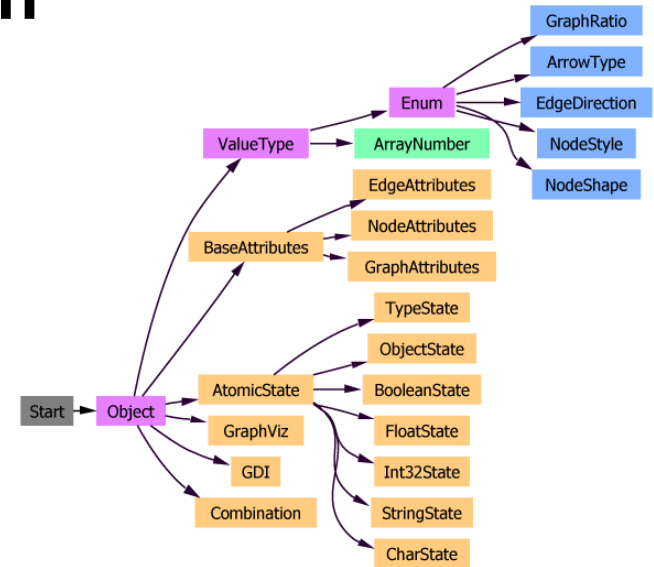* Allow introduce different types of relations between individuals
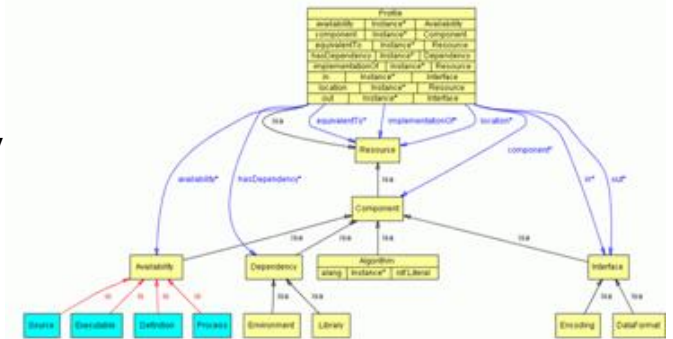
Platform selection

GraphLight

GraphViz

Main requirements:

- Open-source code

- Web-appearance

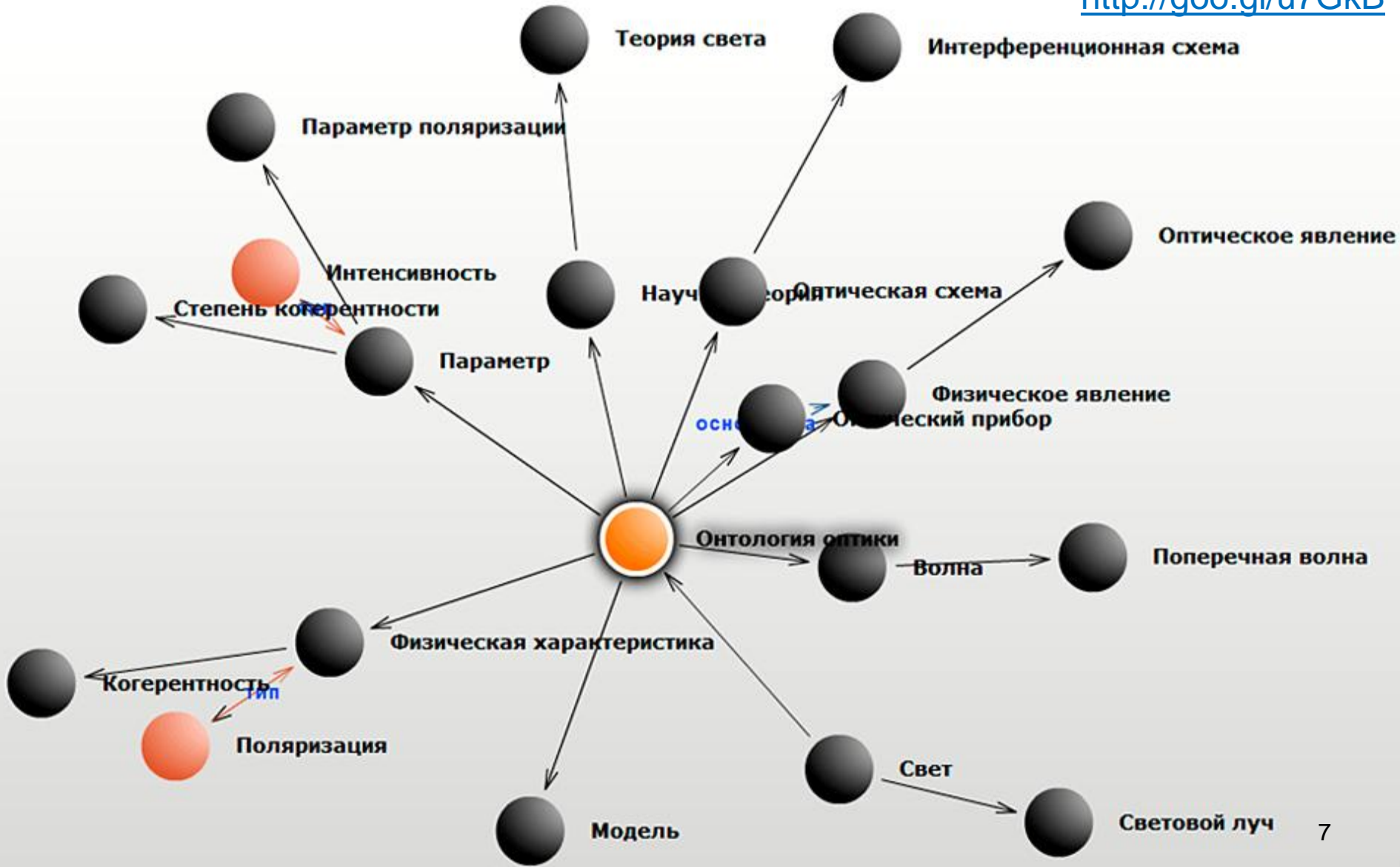- Interactivity

- Dynamic and liquidity

UbiGraph

OntoViz, IsaViz (Protege)
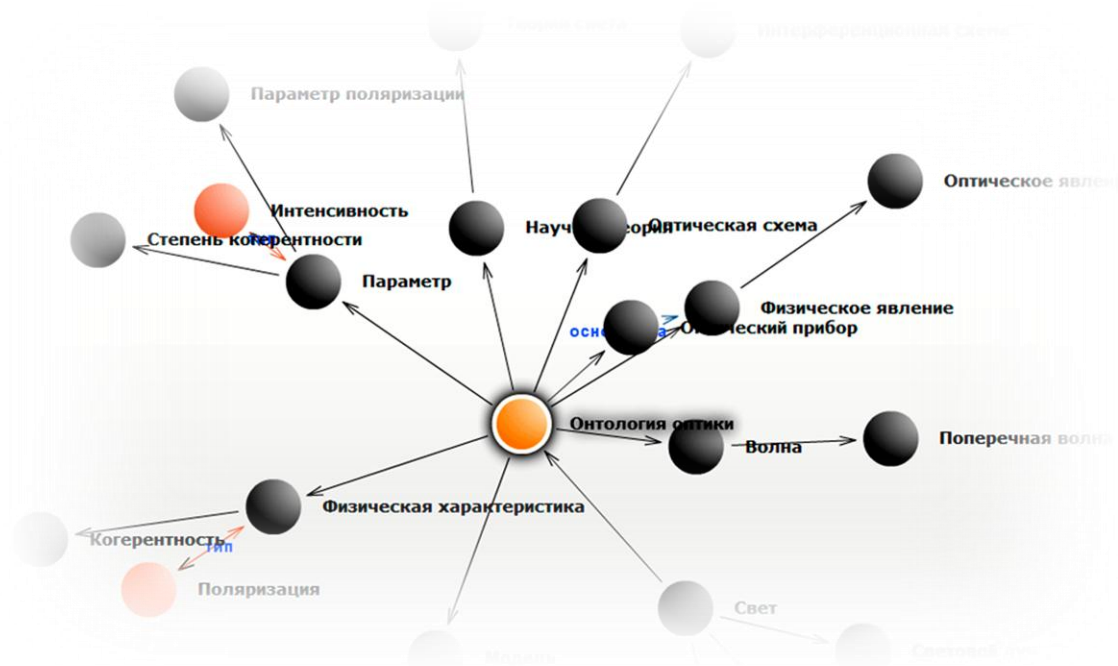
Practical results

7

Practical results

Application features:

- OWL to XML generator(SemanticMediaWiki plugin)

- Directed & named edges

- Typed nodes (класс, индивид)

- Search through ontology

http://goo.gl/u7GkB

Thank you!

Pavel Smirnov
smirnp@gmail.com