

An Ontology for the Expression of Intellectual Property Entities and Relations

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Intellectual Property Value Chain

Creator Instantiator Producer Distributor



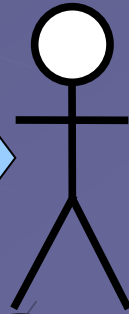
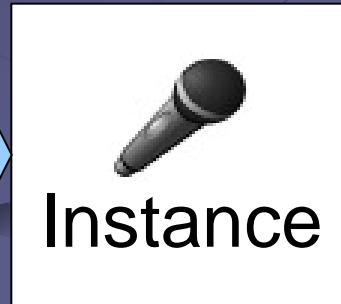
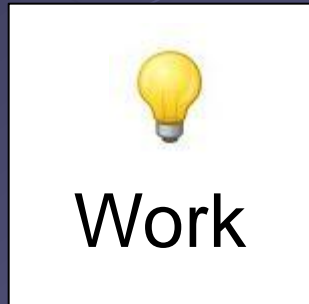
CreateWork

MakeInstance

MakeProduct

Distribute

MakeManifestation



EndUser

Computer Ontologies

- “An Ontology is an explicit specification of a conceptualization” (Gruber).
- (‘Οντος / λογία).
 - “To be” with attributive meaning
 - (Theory of objects and their relations)
 - “To be” with existence meaning
 - (Account of existing individuals)
- **OWL (Ontology Web Language)** is the standard promoted by W3C

What is a Computer Ontology (2)?

An **Ontology**: Data model, representation of knowledge, allowing to **reason** about the objects in that domain and the relations between them.

CONCEPTS:

- **Classes**: sets, collections, or types of objects. *E.g. “Work”*
- **Attributes**: properties, features, characteristics, or parameters that objects can have and share. *E.g. “Work” has a title*
- **Relations**: ways that objects can be related to one another. *E.g. “Adaptation **derivesFrom** Work”*
- **Individuals**: the ground level objects. *E.g. “Les miserables”*

RDF Data Model

- OWL derives from RDF

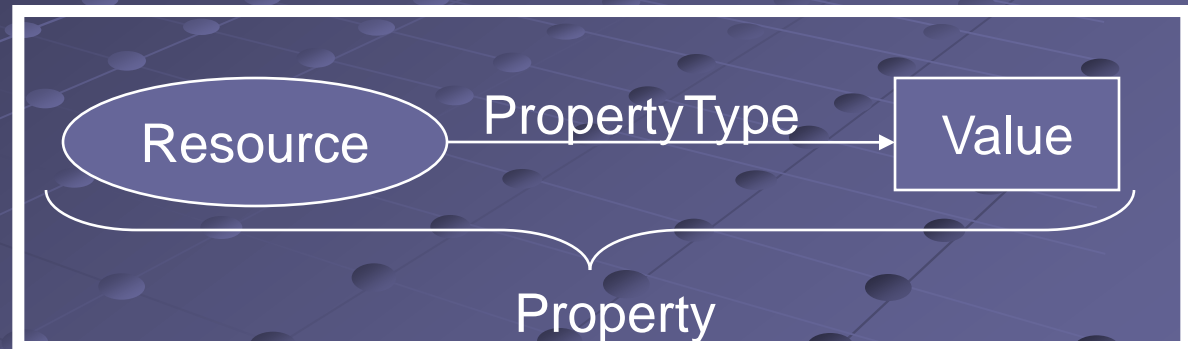
08-Jun-06

on

Wosis.ppt

written by

Victor



Resource has property value
Wosis.ppt written-by Victor

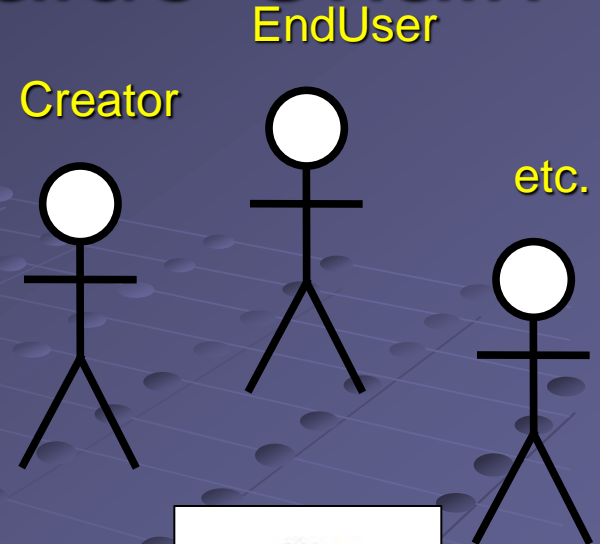
Known as *triples* or *tuples*

Ontology of the IP Value Chain

Roles

IP Objects

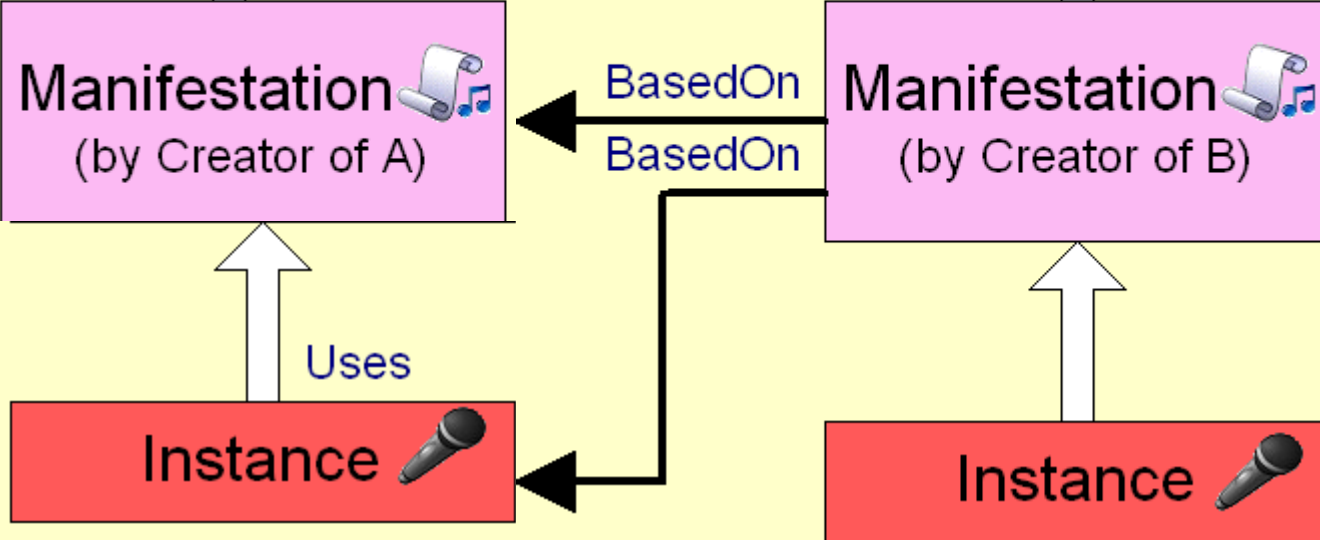
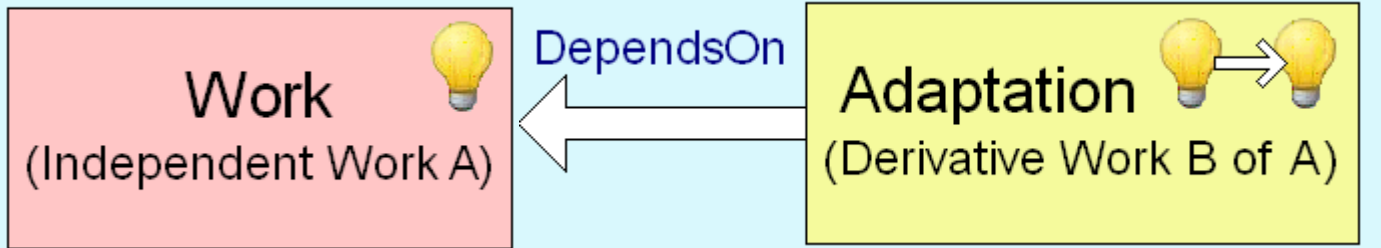
Actions



CreateWork
Distribute
MakeProduct

IP Entities (1)

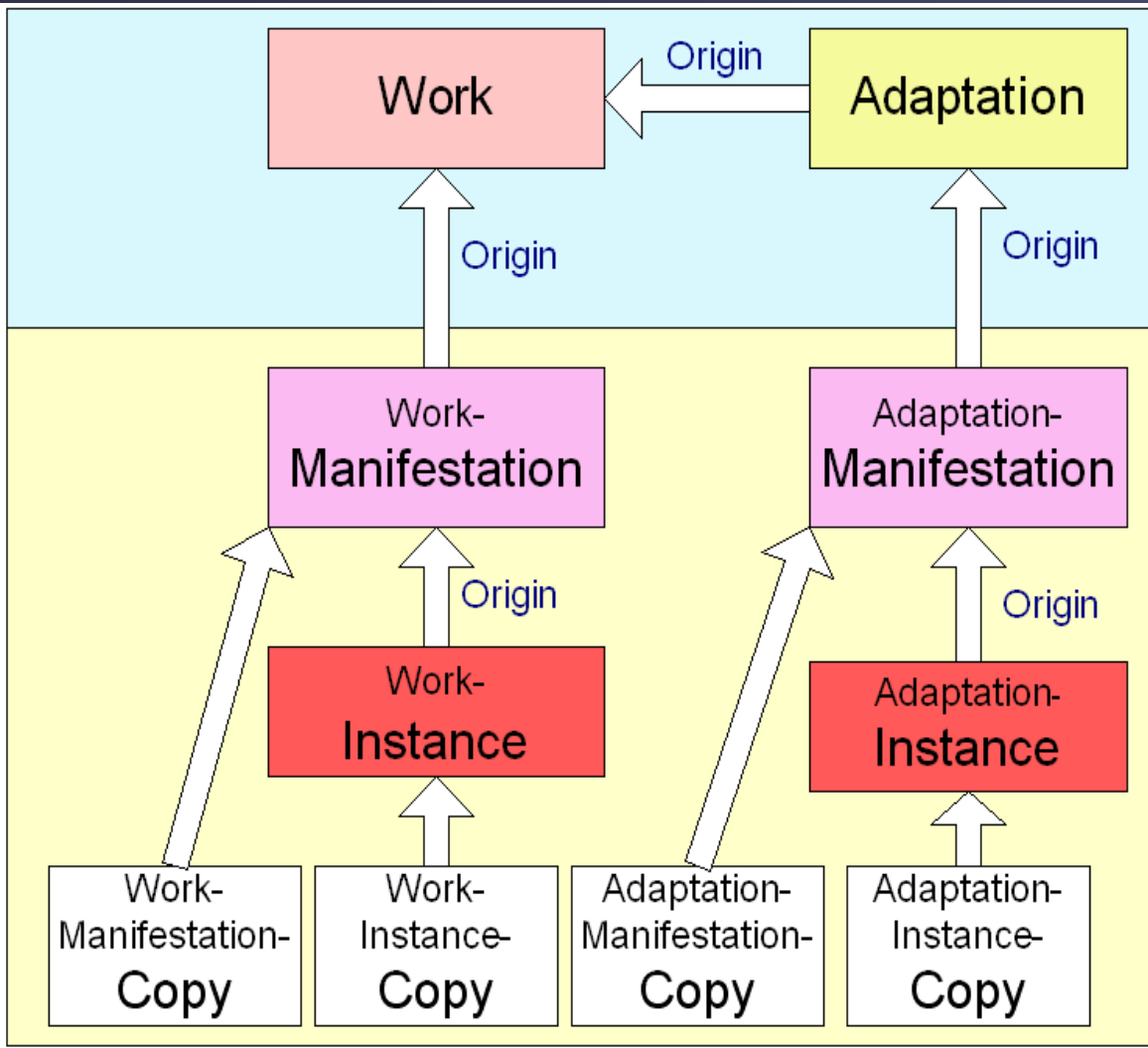
Abstract (In the Mind)



Physical

- “Blocks” →
- Classes
- “Arrows” →
- Relations

IP Entities (2)



In the Ontology

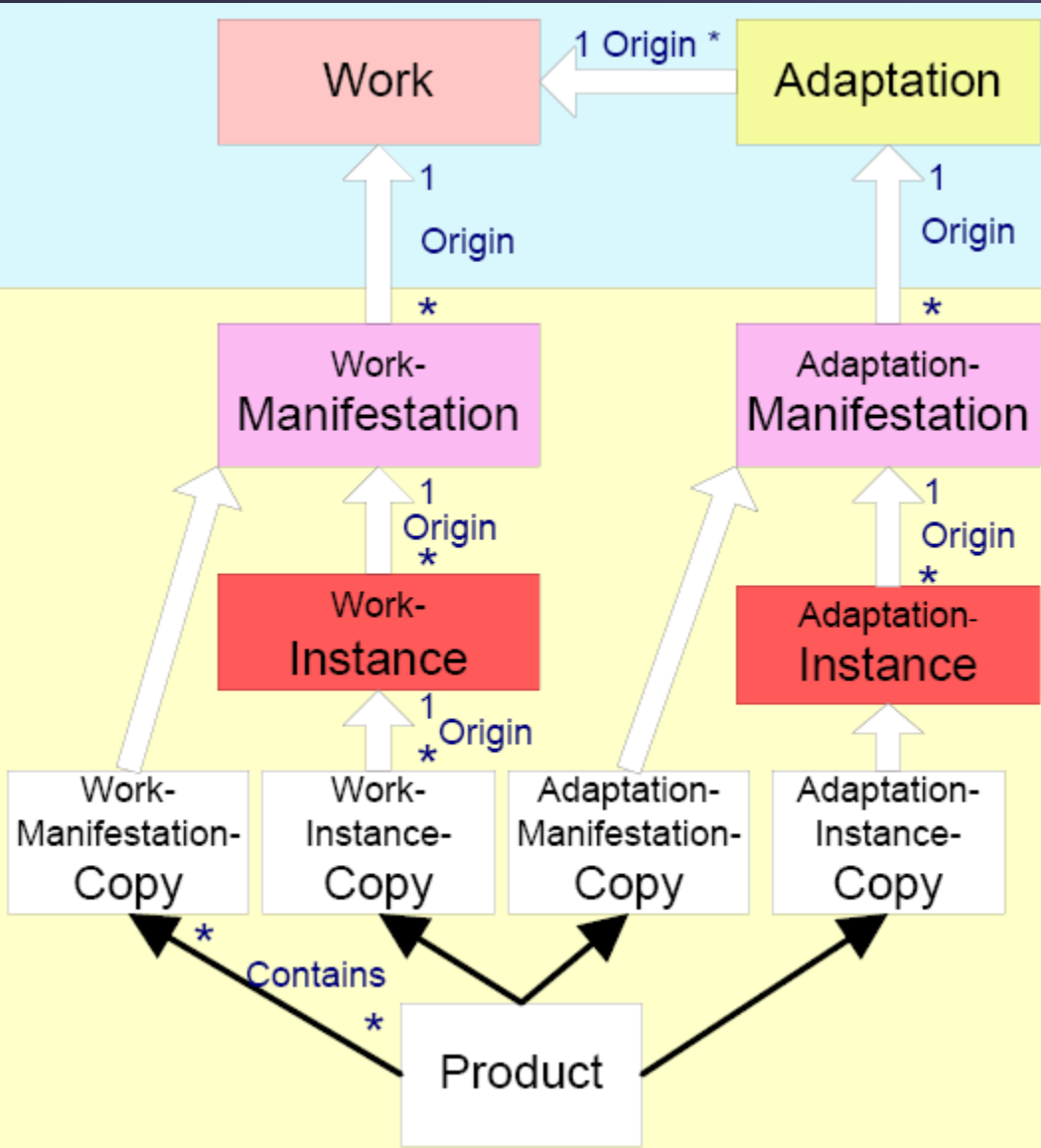
● Hierarchies. Ej:

Manifestation

- *WorkManifestation*

- *AdaptationManifestation*

IP Entities (3)



In the Ontology

Relations:

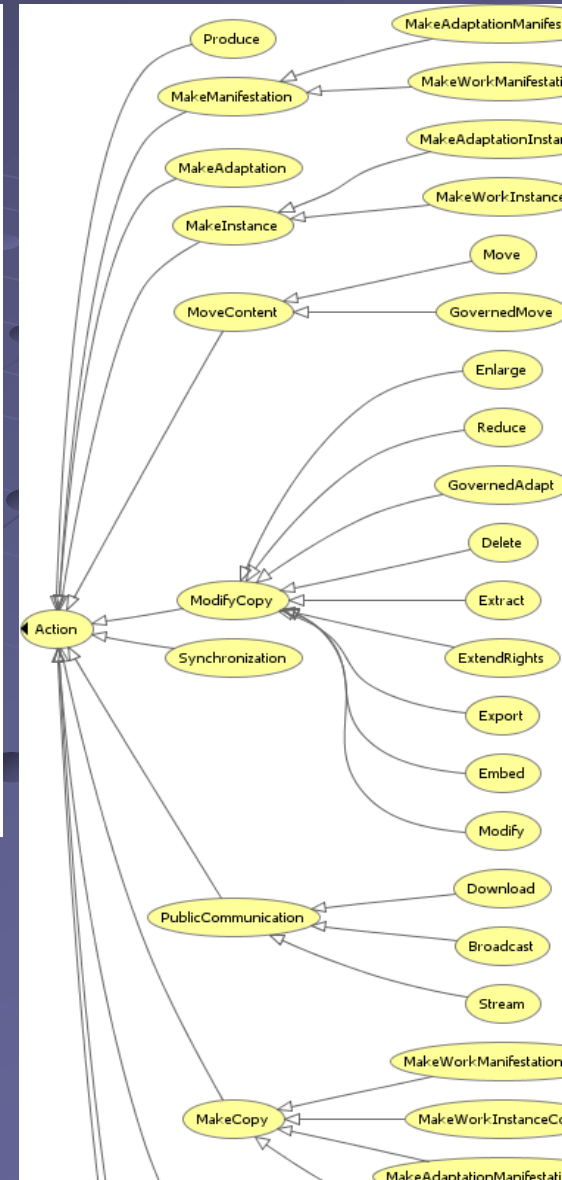
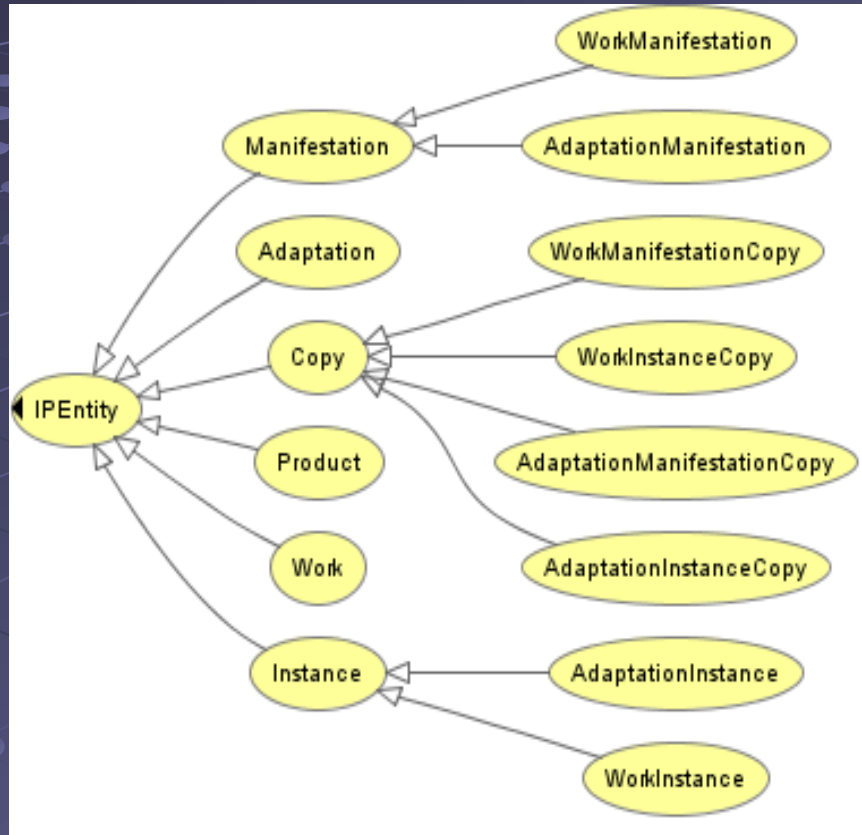
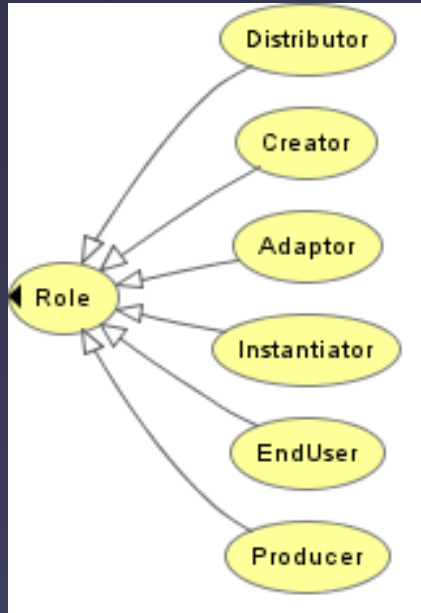
1 – M, 1 – 1, M – M ...

Which are transitive,

Which are symmetric,

Which are inverse...

Main Classes



Editing the RRD Ontology...

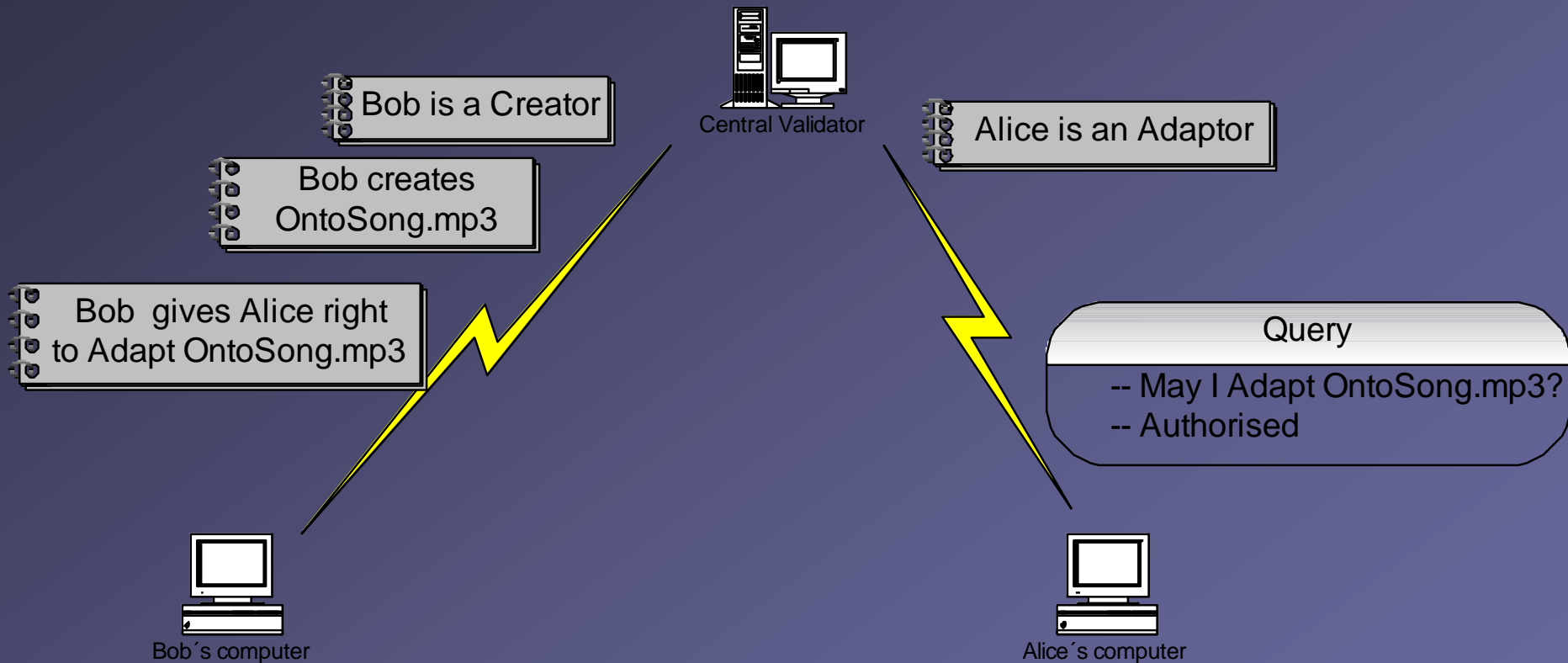
The screenshot shows the CLASS EDITOR window for the class **Manifestation** (instance of owl:Class). The interface is divided into several sections:

- For Class:** A dropdown menu showing **Manifestation** (instance of owl:Class).
- Inferred View:** A checkbox that is currently unchecked.
- Annotations:** A table with columns for Property, Value, and Lang. The table contains one row:

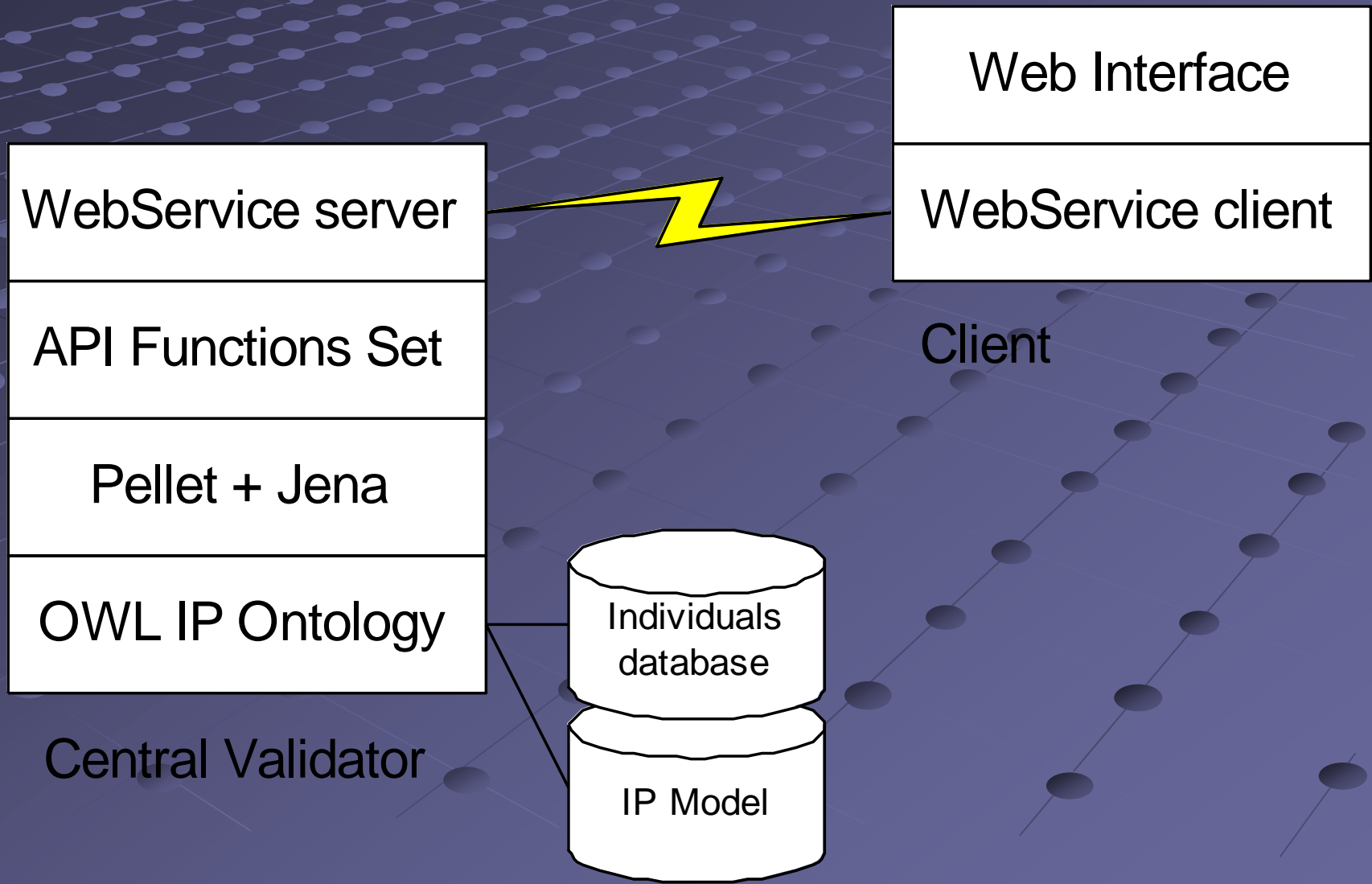
Property	Value	Lang
rdfs:comment	An object or event which is an expression of a Work.	
- Asserted Conditions:** A list of conditions with edit buttons (E) to the right:
 - IPEntity
 - orderInGroup has 3
 - Origin exactly 1 (Work or Adaptation)
 - Supports some MakeInstance
- Disjoints:** A list of classes that are disjoint with Manifestation:
 - Product
 - Adaptation
 - Work
 - Instance
 - Copy

At the bottom right, there are two view options: **Logic View** (selected) and **Properties View**.

Validation of Actions According to the Value Chain



Architecture of an Application OWL Reasoning Based



Conclusions

- Ontologies represent models and knowledge.
- Roles, Actions and IP objects along all its transformations are represented in a model.
- Provenance as the rule for transferring rights
- Class individuals as representation of real agents, real works etc.
- Reasoning and validation
- Neutral representation of the model, different possible applications on top of the OWL.
- A Java API to facilitate programming.
- Digital Media Project, Axmedis.

Questions!

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