

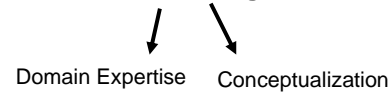
OntoGame: Turning Ontology Building into a Game with a Purpose

Katharina Siorpaes and Martin Hepp
DERI, University Innsbruck, Austria

Problem: Limited user involvement in building ontologies → shortage of domain ontologies

- Incentive structures of ontology construction and usage are widely unclear
- Ontology building requires human intelligence
- Ontologies are supposed to be community contracts

Ontology Building requires Human Intelligence



The Motivational Divide: Web 2.0 is Fun, Ontology Engineering is Not

Great popularity + strong user incentives:

- Tagging ... immediately rewarding
- Wikipedia ... increasingly high number of volunteer contributions leading to a high quality encyclopedia

How about the incentives of Ontology Building?

Luis von Ahn's Games with a Purpose



Some people are playing the game more than 40 hours per week. The game collected more than 10 million consensual image labels.

Idea: Masquerade collaborative ontology engineering behind on-line, multi-player game scenarios, in order to create proper incentives for humans to help building ontologies for the Semantic Web.

Scenarios

Scenario (Task)	Input		Output
	Computational Side	Human Side	
Typing Named Entities	1 conceptual entity	Label super-class or class	Classes
Collecting and typing named entities (attributes)	1 class, data types	Label attribute, data type	Attributes
Adding Relationships	2 classes	Label relationship	Relationships
Creating a Subsumption Hierarchy	1 class	Label for super-class or class	Classes, Taxonomic Relations
Aligning Ontologies	1 element from ontology A and ontology B	Agree on suitable element from B	Mapping
Lexical Enrichment	1 element, lexical resource	Select entity from lexical resource	Extended documentation
Modularization	Domain name	Select relevant elements	Domain ontologies
Ontology Population	Online resource	Select ontology, concepts	Annotation
	Conceptual entity, ontology	Suitable class	Annotation



Preliminary Evaluation

Fun Factor

Player	Summary of the experiences (quotes)
1	Fun but demanding
2	Super, nice game
3	Fun to play, not boring because demanding
4	Fun to play
5	Fun to play
6	Hard to understand at first, had difficulties to grasp the meaning of super-class
7	Once I understood the game, it was really fun to play, addictive
8	Fun to play
9	Hard to grasp the meaning of "a more general term", fun to play

Quality of Output

