Web-based Ontology Discussion

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What is the message …

- Ontology design, harmonization, refinement, evolution is a complex process and **requires COMMUNITY DISCUSSION**

- Traditional ways of debate (e.g., e-mail) **are not effective enough** …

- Web-based collaborative discussion tools have been developed in the past, but we still use e-mail for the debate (**Why?**)

What is the message …

- If a web-based **DISCUSSION TOOL is essential** (a question to the SIG members), what are **the must-features?**

- Our **work in progress**: **MicroWeb** – a web-based tool for Collaborative Ontology Discussion and Design

Ontologies require Debates …

- … By definition

- Google returns **74,000 records** in response to the search phrase "ontology+discussion"

- Ontology discussion was arranged to prepare the agenda for this SIG meeting ("**Let's discuss the notion of ROLE**…")

- Is there anobody within the SIG, wo never took part in such discussions? Electronically?

Traditional ways are **not Effective**

- An example: …**the notion of ROLE** (partial)

Communicated infromation is **extremely redundant**

	21.11	22.11	25.11	26.11	Total
Participants	5	4(+3)	3(+2)	4(+0)	**10**
Messages	7	6	5	5	**23**
Text(brutto)					
pages	23	16	17	6	**62**
symbols	35,937	23,198	29,393	8,447	**96,975**

E-mail debates are not Effective

- An example: ...**the notion of ROLE**

Communicated infromation is **extremely redundant**

	21.11	22.11	25.11	26.11	Total
Duplicates (symb.)	20,450	14,287	23,194	3,108	**61,039**
MAX Times	3	3	5	6	6
Portions dubbed 2+ times (symb.)	10,471	13,594	20,005	3,108	**47,178**

E-mail debates are not Effective

- An example: ...**the notion of ROLE**

Communicated infromation is **extremely redundant**

	21.11	22.11	25.11	26.11	Total
Useful info (symb.)	11,863	7,206	3,868	5,677	**28,614**
Useful duplicates (symb.)	214	2,363	303	3,107	**5,987**

More details at: **http://eva.zsu.zp.ua/totals.pdf**

E-mail debates are not Effective

- Use of <u>Plain Texts</u> (E-mail, or Web Chat) **lacks unifying representation framework** (…) – leeds to Babylonic mess

- **Summarizing**, **recapturing**, **consolidating views is** really **TIME CONSUMING** and **does not** necessarily **produce correct results** (may appear to be **erroneous**)

- **Argumentation** and **Negotiation** patterns and mechanisms are not adjusted (frankly, **are not used effectively**)

Suppose, there is the **THING** ...

... not in philosophic sense – a discussion tool

- Than there might be a kind
  of an **ONTOLOGY** for Debate
  (formal) representation

- And it should serve as:
  - The **unifying representation framework** for Discussion Tool
  - The **unifying convention** providing patterns for **Argumentation** and **Negotiation**

- Let's see how a Discussion might look like ...

Suppose, there is the **THING** …

- An example: …**the notion of ROLE** – marked up and structured from e-mail source

Participant	Positive Statements		Negations, Objections	
Joost Breuker, 21.11.2002, 1	1. **Let's discuss** the notion of **ROLE** 2. A **PERSON** may play different **ROLE**s at a time **E.g.**: a \<STUDENT\>, a \<TEACHER\> **Question**: Is **IS-A** instantiation possible? 3. **ROLE** is the **SET-OF REQUIREMENT**s **on BEHAVIOUR** of an **INDIVIDUAL** (**AGENT, IS-A**)	↓ 1 n \<\> ? name ↓ 1 n	1. Answer (**Statement 2, Question**):No. It is not entirely exclusive as an **IS-A** relation should be.	☹

More details at http://eva.zsu.zp.ua/marked-up-summary.pdf

Suppose, there is the **THING** …

☐ An example: …**the notion of ROLE** – the same in graphical notation

Legend:

- Initiated by…
- **name** — Class
- `<>` — Instance
- **name** (n → m) — Relation, doubtful, alternative
- **!** — Implies distinct "possible world" of the theory
- ⇒ Implies alt. branch
- (name) ↓ (name) — Alternative branch
- **?** — Question
- ☺ — Support, argument
- **e.g.** — Example
- ref — Reference (to **DOLCE** in this very case)
- ☹ — Objection, argument

Colleges' shoulders …

- OU KMI **Tadzebao** and **WebOnto** Suites
  - Support for **discussions** on ontologies based on a NotePad paradigm
  - Support for ontology **browsing**, **creation** and **editing**
  - Based on **OCML**

- FZI & AIFB **KaON** Tool Suite
  - **Storage** of RDF models in **relational databases**
  - A tool for ontology **creation** and **evolution**
  - **RDF** - based

New Features required …

- A Discussion / Debate **Ontology**

- A **Language** for graphical representation of a Debate

- A **Metrics** and a **Polling Mechanism** for the assessment of Ontology parts vitality

- An **Instrument for** incorporating **Ontology Cleaning** Methodology (at least partially)

- **Import/Export** facilities to Semantic Web ontology language(s) – **DAML+OIL**, **OWL**

Our **Progress** and **Call** for **Inputs**

- Debate **Ontology** – draft conceptualization in progress (inputs appreciated)
- **Language** for graphical representation - in progress (inputs appreciated)
- **Metrics** and **Polling Mechanism** - in progress (inputs appreciated)
- **Import/Export** facilities (DAML+OIL) – close to completion
- **Storage in Relational Database** – implemented (prototype)
- **Graphical Web Interface:**
  - Browser – draft prototype implemented
  - Construction/Discussion/Polling – in progress