Ontology and HR: a Return on Experience

Pr. Christophe Roche
Condillac Research Group – University of Savoie
roche@univ-savoie.fr – http://www.ontology.univ-savoie.fr

2. Competency

3. Industrial Applications

4. Return on Experience

C. Roche – roche@univ-savoie.fr
1. Condillac Research Group

Knowledge Economy

Knowledge Management

Competency Management

Knowledge Engineering: Methods and Tools

How do we express knowledge and competency?

C. Roche – roche@univ-savoie.fr
1. Condillac Research Group

- Each practice defines its own language

- Knowledge and Competency are defined in Enterprise language

  ⇒ To define words (technical words) and their meaning

Colloque: Terminologie et ontologie : descriptions du réel
Paris 1er décembre 2006 (http://www.ontology.univ-savoie.fr)

C. Roche – roche@univ-savoie.fr
1. Condillac Research Group

**CEM**

Corporate Enterprise Memory

“La gestion de l’information par le sens métier”

**Terminology - Ontology**

Entreprise Language

CEM “Corporate Enterprise Memory” est à la fois une modélisation et un environnement logiciel pour l’entreprise. CEM offre un ensemble de services dédiés à la gestion de l’information, des connaissances et des compétences: veille, recherche d’information, cartographie métier.

C. Roche – roche@univ-savoie.fr
1. Ontologos corp.

- Condillac : Technical Research Group

Ontologos corp.

- Knowledge Management : Os-Doc
- Competency Management : Os-Skill
- Semantic Cartography : Os-Map

Terminology - Ontology

C. Roche – roche@univ-savoie.fr
2. Competency

- Need for a common language

🔗 Ontology

- Need for a clear definition

“a measurable capability carried out in a given context for a given task”

🔥 contextual definition!

directly linked to enterprise, jobs and collaborators

- Defined by a set of attributes (contextual and not contextual)
2. Competency

- **Not contextual attributes**: can be reused and shared
  -- definition *in “natural language”? in “formal language”?*
  -- required resources: diplomas, knowledge

- **Contextual attributes**:  
  -- levels of mastery (assessed or required)

- **Building and maintaining competency catalogs**
  - Difficult problem
  - Need for a methodology
    - Ontology
2. Competency

- Linguistic diversity
- Enterprise language
- Job – competency – enterprise activity

contextual approach!
3. Industrial Applications (Ontologos corp.)

3.1 Diplomas and Competency

- Swiss federal project on Education
- How to describe diplomas in terms of required competencies
- Multilingualism
3. Industrial Applications (Ontologos corp.)

- Professional demand oriented approach
- Competency-oriented but the notion of Job remains
- Multilingualism problems
- Words of Usage versus Conceptualization
- Need of Methodology
- Need of Cartography
- XML format
3. Industrial Applications (Ontologos corp.)

3.2 Network of Experts & Project Management

- SADEC: A network of chartered accountant agencies
  > 200 experts in 15 offices in France
- No more offices but competency poles
- Enhance collective competency by networking experts
- Accounting project management
- Yellow pages: where is the competency and who bears it

**Competency Ontology**

**Mission Ontology**

C. Roche – roche@univ-savoie.fr
3. Industrial Applications (Ontologos corp.)

- More competency portfolio oriented than job oriented
- Knowledge and Competency are strongly linked
- lots of usage words
3. Industrial Applications (Ontologos corp.)

3.3 Enterprise Competencies & Knowledge Management

- CIH (EDF) : Waterworks Engineering Centre
- Incompatible point of views : Job Catalogs (*Répertoire National des Métiers du CIH*), Projects, CVs,
- Linguistic diversity,
- Knowledge capitalisation : Know-how, REX

Enterprise Activity Ontology

C. Roche – roche@univ-savoie.fr
3. Industrial Applications (Ontologos corp.)

- Large activity ontology
- Projects are classified on the ontology

C. Roche – roche@univ-savoie.fr
3. Industrial Applications (Ontologos corp.)

- Large competence ontology
- Activity-oriented approach
4. Return on Experience

- Sharing and reusing competencies

Need for a common language: **Ontology**

Diagram:

- Industry
- Competency
- Education
- Individuals
4. Return on Experience

- Knowledge and competency are more and more linked
- Shift from jobs to competency portfolio
- Enterprise activity oriented
- Linguistic dimension

\[ \text{contextual approach!} \]

\[ \text{as many ontologies as enterprises!} \]
4. Return on Experience

- A common competency catalog

C. Roche – roche@univ-savoie.fr
### ROME : Répertoire Opérationnel des Métiers et des Emplois

<table>
<thead>
<tr>
<th>Job Card</th>
<th>32321 Computer Analyst</th>
</tr>
</thead>
<tbody>
<tr>
<td>Libellé</td>
<td>Responsable d'exploitation (informatique)</td>
</tr>
<tr>
<td></td>
<td>Responsable support technique (production)</td>
</tr>
<tr>
<td></td>
<td>Opérateur/Opératrice d'exploitation</td>
</tr>
<tr>
<td></td>
<td>Opérateur/Opératrice manipulant</td>
</tr>
<tr>
<td></td>
<td>Préparateur/Préparatrice (technique)</td>
</tr>
<tr>
<td></td>
<td>Analyste</td>
</tr>
<tr>
<td></td>
<td>Analyste-programmeur/Analyste-programmeuse</td>
</tr>
<tr>
<td></td>
<td>Administrateur/Administratrice de site Web</td>
</tr>
<tr>
<td></td>
<td>Webmaster (conception/realisation de site Web)</td>
</tr>
<tr>
<td></td>
<td>Administrateur/Administratrice de site Web</td>
</tr>
</tbody>
</table>
4. Return on Experience

- **Definition**
  
  - Not contextual definition of a competency: its **semantics**
  
  - Natural language?
  
  - Formal language?