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Presented by Max Völkel, FZI

Expert Finding as Informal Learning Support: Competency-Aware and Socially-Aware



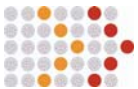
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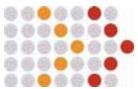


- Expert finding in knowledge management
 - restricted to identify and locate experts for specific topics
- Problem: neglected role of usage context



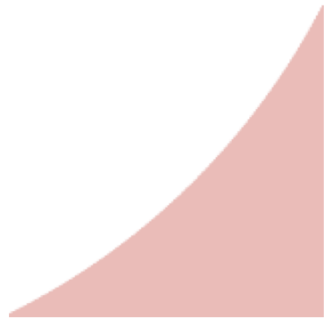
Motivation: Personal and Social Context Matter!

- Expert finding embedded in informal learning activity
 - we learn through communication and interchange with others
 - e.g. looking for a colleague to ask about a problem at hand
- ... but only locating an expert is insufficient
 - it does matter "who is the other side"
 - and do you always need an „expert“?
- Our focus:
 - social awareness in expert finding
 - competencies and expert finding

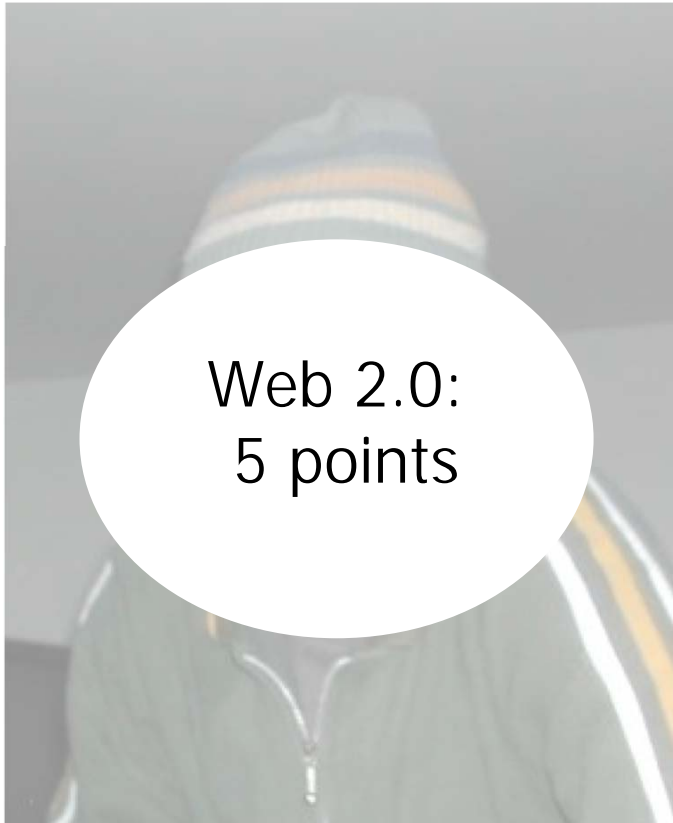




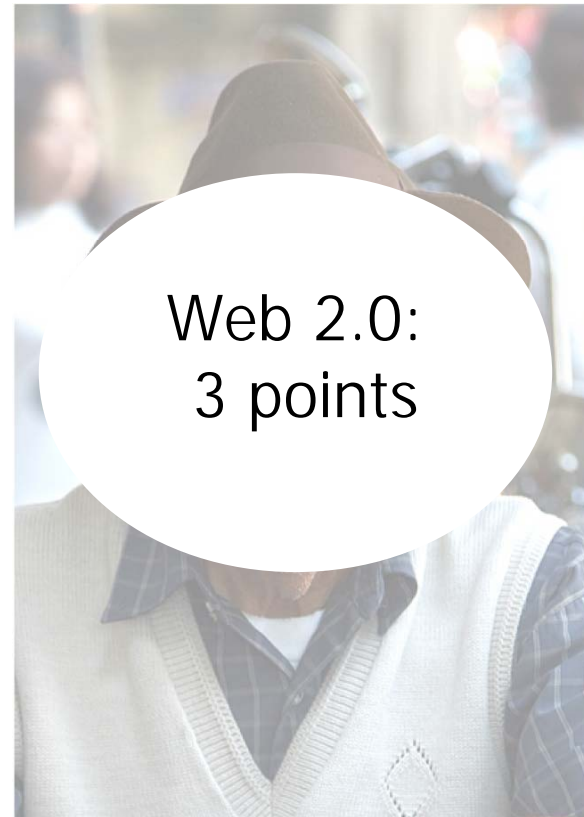
Social Awareness in Expert Finding



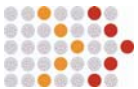
Want some info about Web 2.0?



Expert A

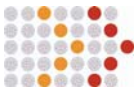


Expert B



Social People Finding

- First set of shortcomings of expert finder applications
 - do requester always want to have experts?
 - doesn't the social relationship towards the expert matter?
- Social factors
 - asking for help means admitting a weakness, exposing vulnerability
 - subjective relevance matters
 - not: the ultimate expert (objective relevance)



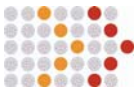
Socially-Aware Mediation

- Second set of shortcomings of expert finder applications
 - the side of the expert is not appropriately considered
 - annoyance of the expert because of overload
- But ...
 - it is not objective overload and bad timing
 - rather: missing consideration of how the expert views the quality of social relationship
- In consequence, we need to ...
 - balance the “expert status” with the quality of the social relationship
 - take into account interests of both sides to avoid annoying forms of communication

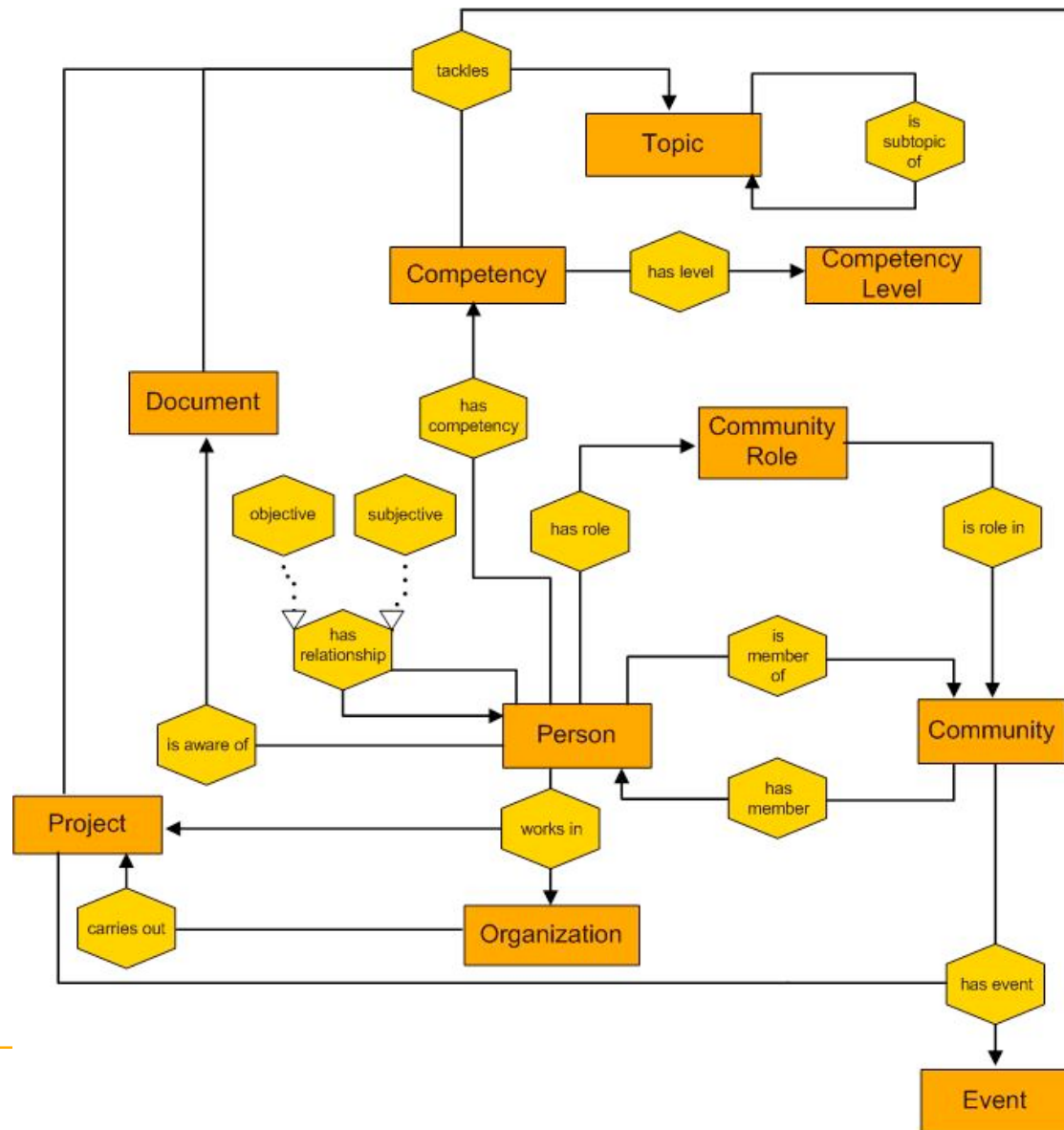


Social Relationship Ontology

- Describe the quality of social relationships
 - at different levels of abstraction
 - along different criteria
 - trust, loyalty, expectancy of reciprocity, reliability ...
 - **extending property <foaf:knows>**
- ... from a subjective(!) point of view
 - subjective opinions about the quality
 - it does not matter how it „is“, but how you see the relationship
 - this view is often not symmetric

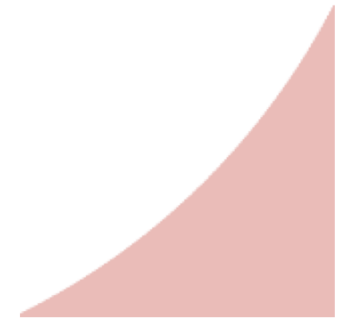
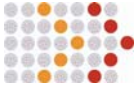


Top-Level Ontology for Social Relationships and Community Management





Competencies and Expert Finding



Competencies

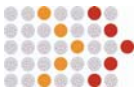
- Competencies
 - bundles of knowledge, skills and abilities
 - differentiated along competence scales (beginner, experienced, expert)
 - have relations (hierarchical or taxonomic, subsumption, similarity)
 - related to actual work processes

- Necessary to describe
 - an „expert“ (where is she expert in?)
 - the purpose of interaction (what an expert is needed for?)
 - which competence level is needed?

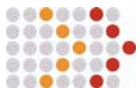
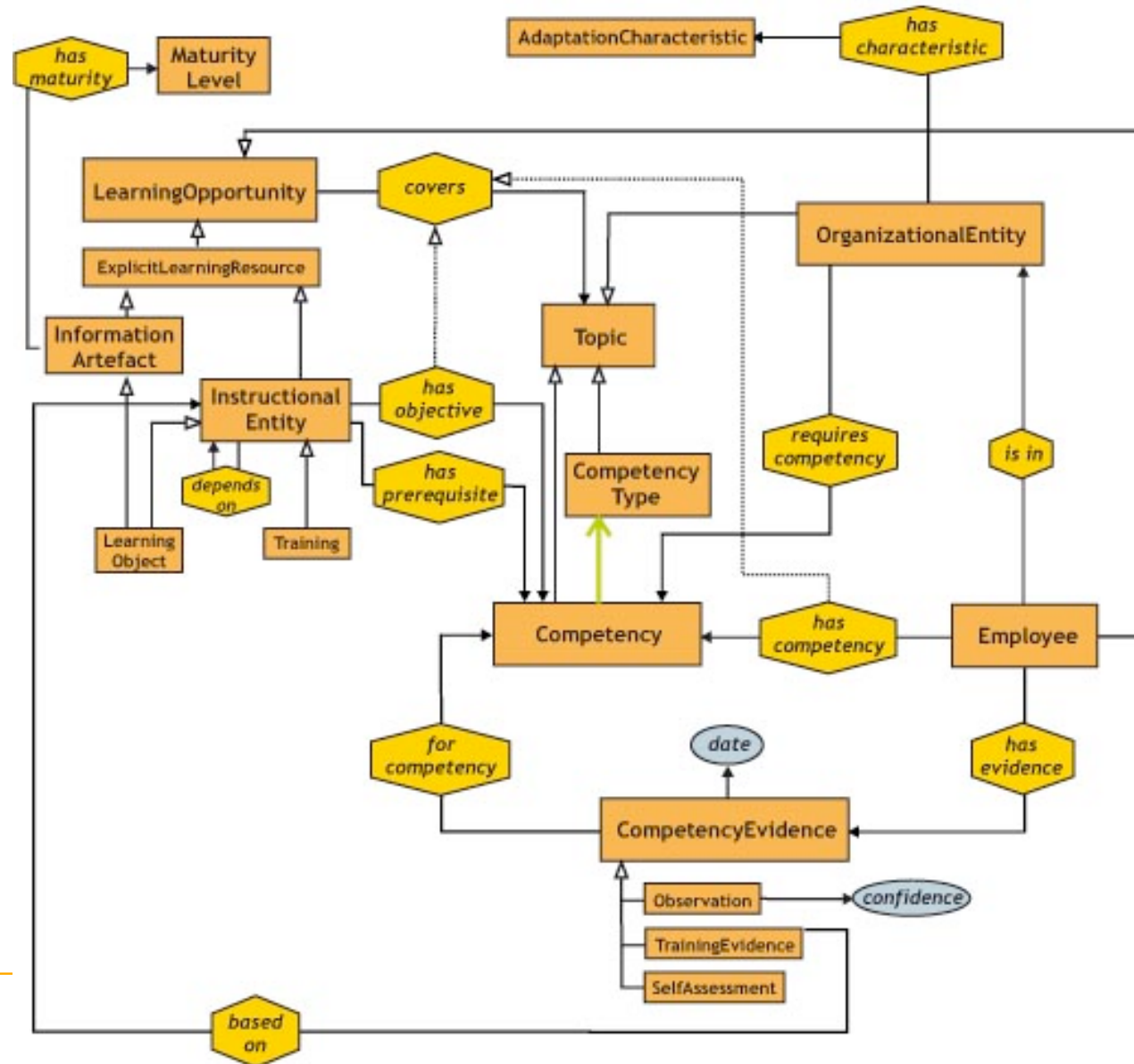


Competence Ontology

- Competence ontologies as part of expert descriptions
 - standardization (IEEE Reusable Competency Definition initiative and HR-XML)
 - our ontology for professional learning

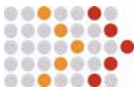


Top-Level Ontology for Competence Management and Technology-Enhanced Workplace Learning



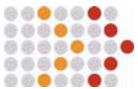
Competence Ontology

- Enables competency-aware services
 - locate the “expert”
 - exploit competency relations
 - map competencies between different ontologies
 - aggregate individual into organizational competencies



Conclusions

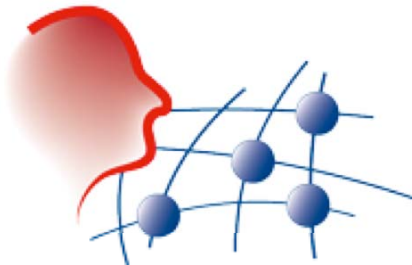
- Competency- and socially-aware expert finding has the potential to provide more (subjectively!) relevant recommendations
- Integration with competence, skills and learning management is important



Conclusions

- Challenges:
 - social relationship mining for **acquiring social context**
 - interdependence of contextual factors concerning the impact on „relevance“
 - **privacy** preservation with respect to damaging effects
 - **interoperability** of competency definitions
 - competency mining for **detecting employee competencies**
- Further explored in scientific collaboration processes in the project „Im Wissensnetz“ (*in the knowledge web*)

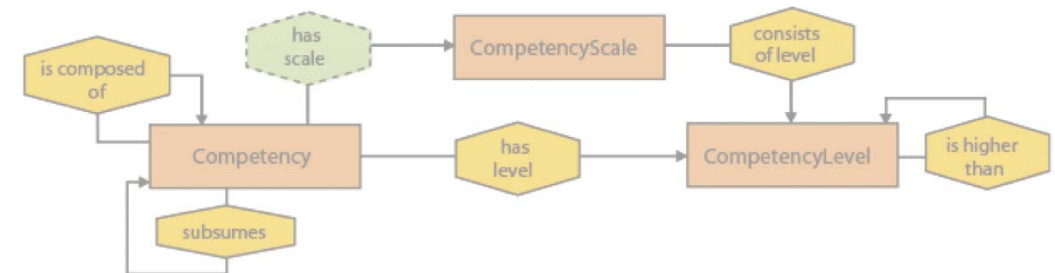




Im Wissensnetz

Vernetzte Informationsprozesse
in Forschungsverbänden

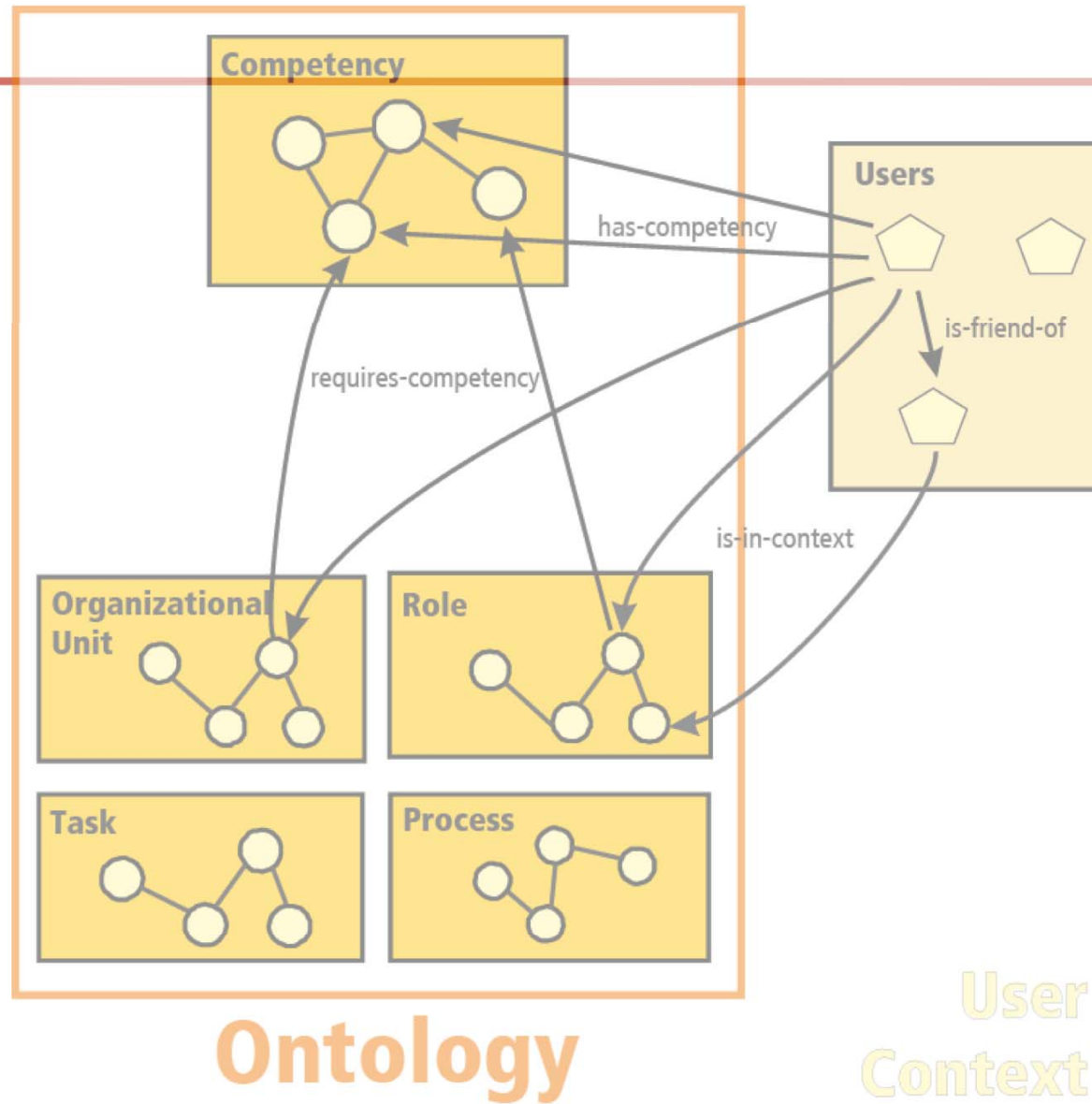
<http://www.im-wissensnetz.de>



<http://www.professional-learning.eu/>

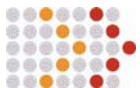
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Ontology

**User
Context**



Embedding It into the Enterprise

