



Multilingual Challenges in Semantic Web

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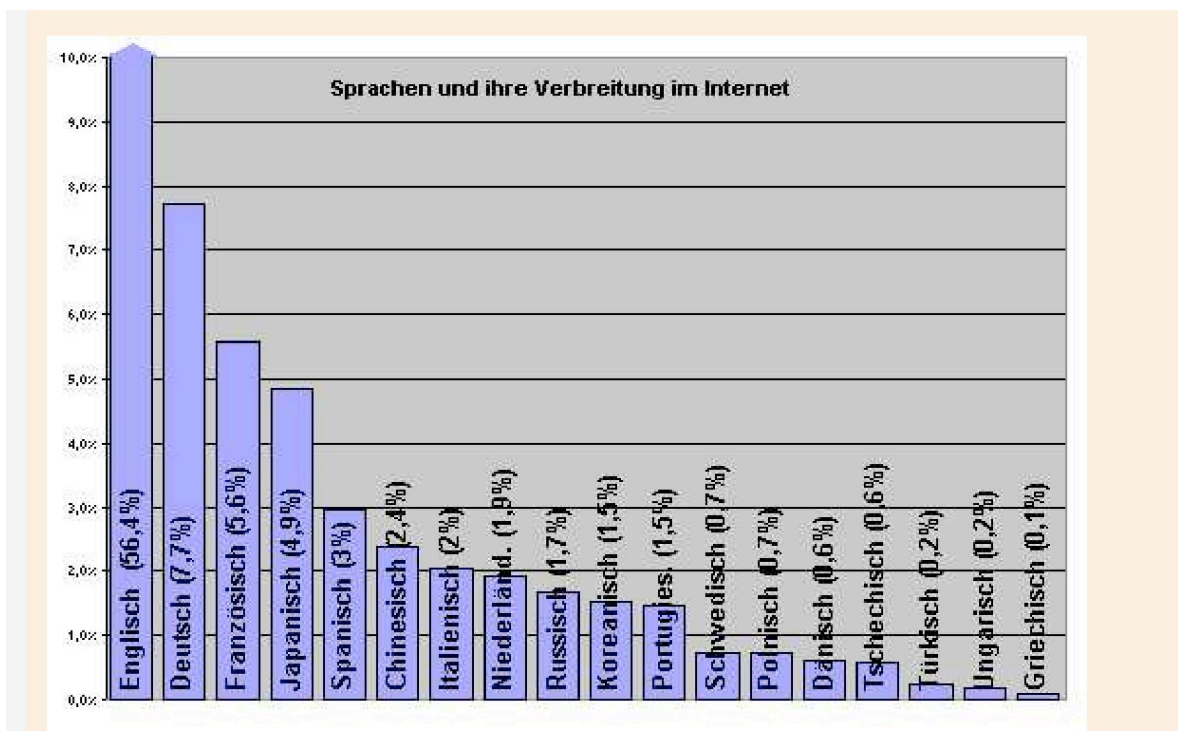
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Languages and their distribution in Internet



Where to use the multilingual Semantic Web?

- The translation of web sites can be supported especially through the use of ontologies. The ontology provides the semantic connection between the represented objects and their properties.
- Knowledge management can be also improved through web sites.
 - E.g. development of resources for group, project or company knowledge, especially in multilingual form for international institutions
- International communication base for industry and commerce. Such an example are international lists of products, names of products or custom regulations

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Ontologies and Multilinguality - current use -

- Either the website makes reference to an English ontology.
 - Advantage: Unambiguity
 - Disadvantage: each non-English site must as a first Step make the mapping from its own language to the ontology. This mapping is sometimes difficult and when dealing with lexical gaps even impossible
- Or an ontology for each language is developed
 - Advantage: no mapping between languages is necessary
 - Disadvantage: no cross-lingual search, except some lexical search is possible.
- Traditional Gruber's ontologies do not distinguish between hierarchy of concepts and labels in each language (names, terms). This is also the case with WordNet.
- Only recent developments in EuroWordnet use another approach, those one of creating a language independent ontology, on which the lexical material is mapped.

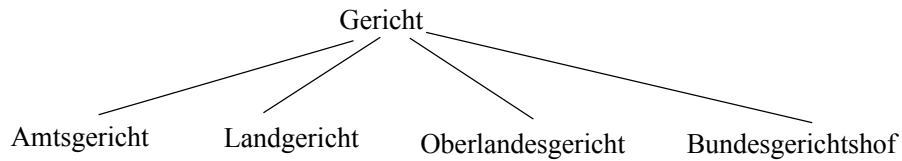
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Lexical/morphological terms and conceptual rules

cultural specific facts (for e.g. in law, terms depending on the local juridical system)



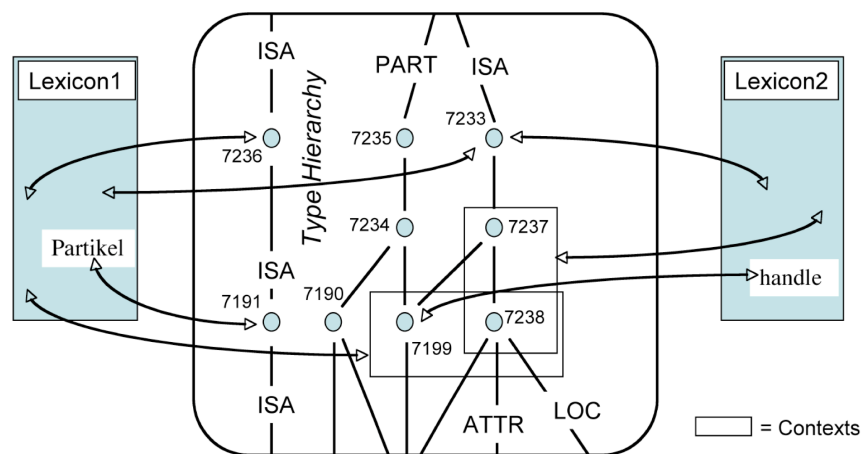
lexical/morphological terms and conceptual rules („Tribunals are classified according to an Instance“, „there is always a national revision tribunal“) cannot be inferred from the ontology

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Different approach - partial mapping of terms on concepts -



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