

# Language Resources

Water of life for natural language processing

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# Language resources

similar to dictionaries but more general

- knowledge about language
- knowledge about the world

## cat

pronunciation: kaet 

part of speech: noun

**definition 1:** a small, common mammal with four legs and a long tail. People often keep cats as pets.  
*Cats purr when they are happy.*



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## **kočka** -y ž

1. *malá kočkovitá šelma, zprav. chovaná v domácnosti, její samice*
2. *kožešina z (divoké) kočky* **hovor.** kožešina (syno) kabát s kočkou, **[x]** falešný jako kočka *dávat mu najevo svou převahu; je to pro, na kočku, ob. expr. není to k ničemu;*  
**kočičí příd.**

Slovník spisovné češtiny

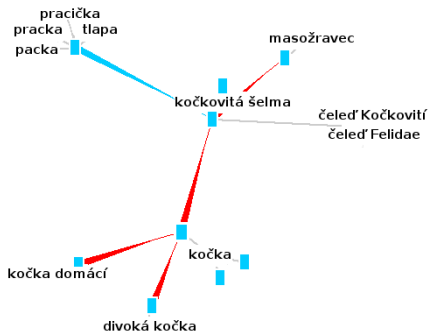
- intended for humans:  
multilingual dictionaries,  
explanatory dictionaries,  
thesauri, encyclopedias
- intended for computer  
programs:  
translation memory, knowledge  
bases, semantic networks

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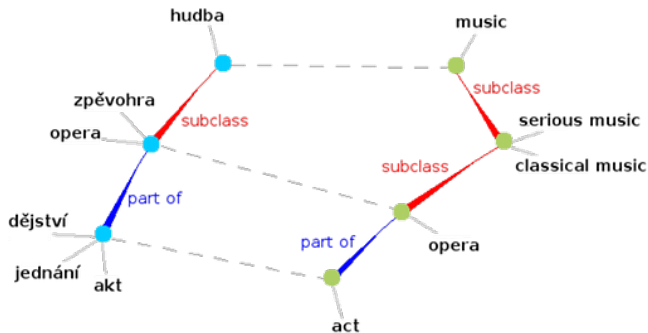
Slovník spisovné češtiny

- intended for humans: multilingual dictionaries, explanatory dictionaries, thesauri, encyclopedias
- intended for computer programs: translation memory, knowledge bases, semantic networks



Czech WordNet

# WordNets



- 85,592 words organized in 40,919 synonymical sets
- several relation types: subclass, part-of, translation, synonymy

# Selected language resources at NLPC

- 6 dictionaries of Czech language, 512,000 of entries
- synonyms
  - Czech synonyms (K. Pala): 23,000 entries, 56,000 synonyms
  - Czech WordNet: 85,592 words organized in 40,919 synonymical sets
  - automatically generated thesaurus (The Sketch Engine)
- translation
  - interconnected wordnets: Czech, English, Dutch, Italian, Spanish, French, Greek, Polish, Romanian, Turkish
- specials
  - contemporary vulgar words (April 2013): 600 words/collocations + rules to detect concealing
  - sign language dictionary with gesture videos

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# Language resource tools: the DEB platform

- platform for dictionary editing and browsing
  - strict client-server architecture
  - basically any XML data
- server
  - server side modules
  - database backend (XML database)
- client
  - lightweight
  - graphical interface
  - web interface
- practically used in 22 international scientific/commercial projects



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# Conclusions

- language resources:
  - dictionaries
  - corpus-based thesauri
  - semantic networks (WordNet)
- flexible and powerful tool for language resources processing:
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Thank you