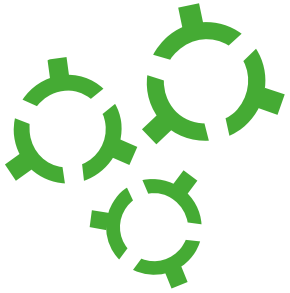
Terminology extraction as a tool for MT output assessment and improvement

Proposition of a new metric method, called the Terminology Recall Index, for evaluating more accurately the edit distance between two translated documents.

Presented by Jean-François Richard
President, Terminotix
jfrichard@terminotix.com

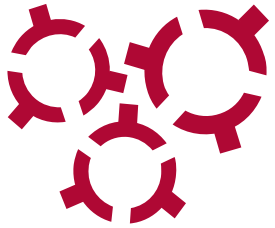
Context and assumptions

- Averagely, between 30 to 40 percent of linguists' time is dedicated to searching tasks.
- Searches are launched against different sources for all sorts of reasons.
- Concepts and noun groups are the query types that is the most time consuming for linguists to get results for.
- Sentences comparison algorithms (BLEU score, fuzzy matches, post-edit effort, edit distance, etc.) are not concept aware. The real translation effort calculation is theoretically biased.



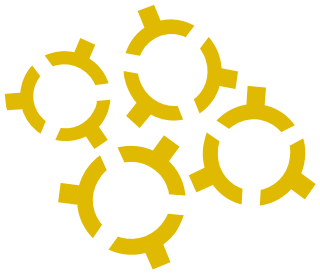
Term extraction of noun groups

- Statistical term extractors useful for quickly identifying repetitive phrases or sub-segments. Quite noisy.
- Taggers useful for identifying words' grammar information and for stemming. Needs to be filtered for POS patterns.
- Feed taggers with phrase extractions to obtain a "Semantic" term extraction engine.



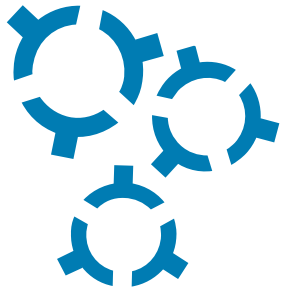
TRI calculation

- Sum total occurrences of noun groups.
- Collect occurrences of cross checked noun groups.
- Calculate TRI.



TRI applications

- Comparing a human translated document with a MT translated document.
- For bench mark purposes, allows to identify which MT is best.
- For identifying which translation memory should be used.
- For creating a job glossary.
- For identifying unknown noun groups.
- For determining the domain for automatic task assignments.
- For QA purposes at the end of the translation process.
- In building an ontology model for automatic document archiving.
- Automatic text summarization.



Limitations

- Retains only noun groups comprising two words or more.
- Adding some specific languages could represent a tedious task.
- Tested with a limited set of languages.