Knowledge Engineers are „Specialists“... and so are physicians. They just don't understand each other very well.

Situation:
This knowledge engineer is to process a clinical guideline into a computer executable model, unfortunately he does not understand the medical concepts.

Help:
The MMTx program (a semantic annotation system) creates a mapping of free text to corresponding concepts in the UMLS Metathesaurus (the largest thesaurus in the biomedical domain).

Problems:
- sometimes the mapping is not correct or ambiguous
- the complete reliability of results is crucial
- the MMTx program is hard to handle for physicians who need to confirm or correct the results

Solution: the MapFace editor

1 & 2 Generating a Correct Mapping
Object:
- creating a correct mapping of the text of a clinical guideline to UMLS concepts

Example:
For patients above five years with mild asthma inhaled steroids are the most effective preventer drug.

MMTx:
- tokenizes the sentence into phrase chunks and concept chunks
- maps the medical concepts in the text to corresponding UMLS concepts

Corrections:
- splitting the phrase chunk „with mild asthma inhaled steroids“
- choosing the correct UMLS concept in ambiguous cases
- merging the two concept chunks „five“ and „years“
- assigning a UMLS concept with the semantic meaning of „age“ to the new chunk

3 Providing Visualized Information
Object:
facilitating the correct interpretation of the guideline

Available Information:
- the corresponding UMLS concept of each concept of the text,
- semantic type, semantic collection, and semantic group of each concept or phrase
- relations between concepts or phrases

Enhanced Visualization:
- color-coding of semantic types
- highlighting concepts or phrases accordingly
- highlighting relations between concepts or phrases

Conclusion
Generating and providing reliable information about the concepts of a medical text, MapFace is a first step towards the realization of a computerized guideline.