

GOALS

Using TimeML Annotations for an Information Extraction Approach to Support
the Modeling of Clinical Guidelines

Reinhardt Wenzina
refereed by

Univ.Prof.in Dr.in Silvia Miksch – Vienna University of Technology, Austria
Assoc. Prof. Mor Peleg, PhD – University of Haifa, Israel

Clinical practice guidelines and protocols aim at raising the quality of healthcare. They are written in a narrative style and have to be translated into a computer-interpretable format to be usable in clinical software applications. In order to ease this challenging and laborious task for the modeler we developed a methodology called GOALS¹. It is specified independently from the target computer-interpretable guideline language and uses a guideline's text annotated with temporal concepts provided by TimeML as a starting point. It describes step-by-step how parts of the guideline's model can be generated and finally assessed by means of an evaluation scheme.

Information extraction techniques – machine learning algorithms and knowledge engineering methods – are applied to support the different steps in order to generate parts of the model automatically. A scenario-based application of GOALS shows the translation of temporally-related sentences of a clinical protocol into the corresponding semi-formal model.

Evaluation results are clear indicators for the GOALS methodology's easing of the time-consuming modeling process.

¹GOALS is an acronym of the verbs defining the individual steps of the methodology