

Menu-based natural language interfaces to databases are software systems that allow their users to edit a query by composing fragments of generated natural language. The fragments available for this purpose are provided by the system through contextual menus.

This thesis discusses the development of such a system, called Query Tool, which interfaces knowledge bases, and relies on a description logic reasoner to determine the available fragments, and on natural language generation to produce them. The focus is on the language model and on the resources needed to represent a query in any knowledge domain, meeting the constraints imposed by the query language and by the interaction model.

This thesis also documents two techniques we experimented with to produce automatically the resources needed to interface the system with a new knowledge base. The first technique mines a corpus for natural language expressions describing a semantic relation. The second technique produces a generation template from a natural language expression assembling the appropriate lexical and syntactic elements supported by the natural language generator.