Abstract

In today's digital society, information systems play an important role in many organizations. While their construction is a well understood software engineering process, it still requires much engineering effort. Since each new information system requires the same kind of operations, but for different types of data, much of this effort consists of repetitive programming work.

In this thesis we explore how generic programming in Clean can be used to reduce this effort. The presented approach uses Object Role Models to systematically derive both the relational model of a database, and the types of the data structures that represent entities in that database. In doing so, a clear relation between these types and the database is maintained, which enables automated mapping between them.

To support this approach, a prototype library, which implements this mapping, and an example information system have been implemented.

Keywords
Generic programming, relational database, object role model, Clean