Roleoriented software development in practice

Tamás Kókai and Tibor Csiszár

We are developing a frequently changing information system that handles a huge amount of data. At the beginning we tried to complete the task with the Object Oriented (OO) paradigm and Unified Modelling Language (UML), but we often faced problems that we could hardly solved or couldn't solve at all.

Having experienced these problems we started to work out a new software development method in which we attempted to merge the advantages of Relation Database Management (RDBMS) and Object Oriented Programming (OOP).

In the introduction of our article we describe the characteristics of problem domain and the known deficiencies of current methods.

Instead of giving a detailed description of the method our primary goal is to attract attention. According to this we give a brief view of our software development method. We describe the steps from modelling through defining queries until planning views. We mention the operation of the client program and we also introduce an example.

The last part summarizes the advantages and disadvantages of the method and we forecast the future work.

Comment: We recommend the presentation called "The basics of roleoriented modelling" that gives a short review about the theoretical basics of our method.

References

- [1] Andersen, Egil P. Using Roles and Role Models for the Conceptual Modelling of Objects www.ifi.uio.no/~trygver/documents/index.html
- [2] Casanave, Cory Requirement for Roles Revision 1.0 OMG Object & Reference Model Sub-Committee Green Paper
- [3] Csiszár, Tibor Kókai, Tamás An approach of complex information system's modelling Lecture of "Fourth Joint Conference on Mathematics and Computer Science" Baile Felix, Romania 2001.
- [4] Fowler, Martin Dealing with Roles Proc.of the 4th Annual Conference on the Pattern Languages of Programs, Monticello, Illinois, USA, Sept. 2-5, 1997 (www.martinfowler.com/apsupp/roles.pdf)
- [5] Fowler, Martin UML Distilled Second Edition, Addison-Wesley, 2000.
- [6] Graham, Ian, Simons, Anthony J H 37 Things that Don't Work in Object-Oriented Modelling with UML ECOOP'98 WS pp.209-232
- [7] Hornyik, Katalin Szereporientált elemzés és tervezés, Diplomamunka ELTE TTK 2002 (only in Hungarian)
- [8] Mili, F. On the Formalization of Business Rules ECOOP'98 WS pp.122-129
- [9] Wieringa, Roel A Survey of Structured and Object-Oriented Software Specification Methods and Techniques ACM Computing Surveys, Vol. 30, No.4, pp.459-527