How to transform a CPW Subject Object Relationship Diagram into an Entity Relationship Diagram ERD?

Bernd J. Schneider

IC Informatica Consulting GmbH

Zurich, Switzerland

Email: Bernd.Schneider@ICInformaticaConsulting.com

URL: http:// www.cpw-method.com

16 December 2017

What is introduced so far with the CPW Method is: (www.cpw-method.com) [1] the CPW Process method but also the CPW Context Diagrams with the CPW Subject Context Diagram, the CPW Object Context Diagram and the CPW Subject Object Context Diagram. [2]

But there is also the CPW Subject Object Relationship Diagram (Schneider 2014) [3]. The CPW Subject Object Relationship Diagram is quite similar to the Entity Relationship Diagram [4,5,6] with the difference, that at a CPW Subject Object Relationship Diagram the relationschips are described between the CPW Subjects and the CPW Objects, and at the Entitiy Relationship Diagram are described the relationships between the entities.

The following Figures shows the Entity Relationship Diagram and the CPW Subject Object Relationship Diagram of the patent application (Schneider 2014) [3].
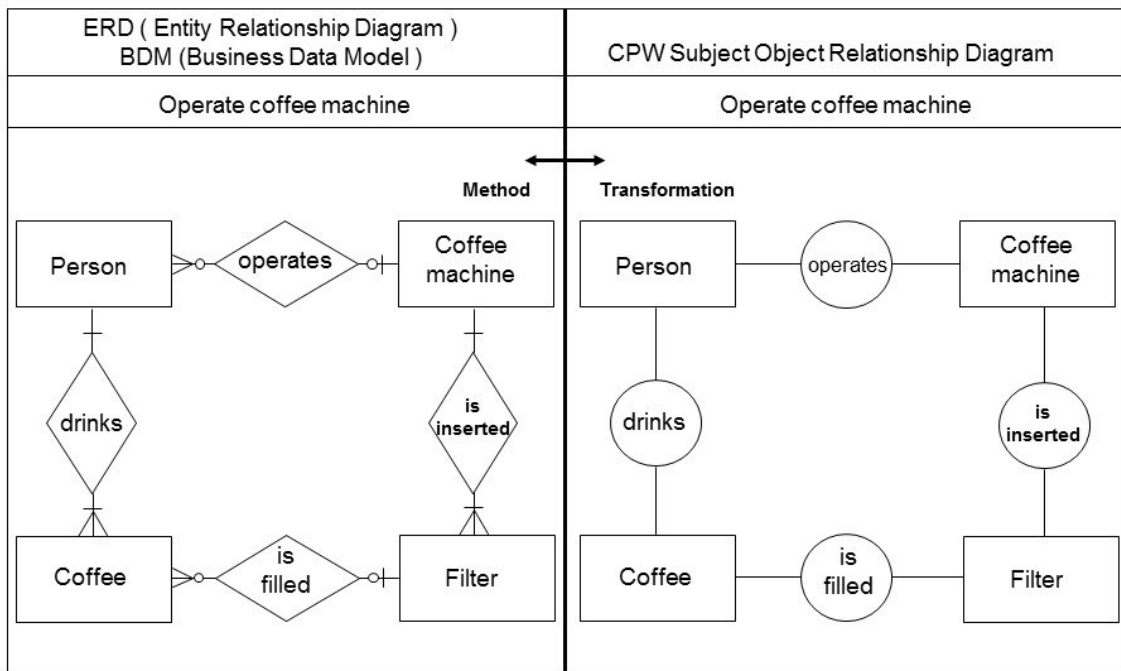

Fig. 48: BDM / ERD and CPW Subject Object Relationship Diagram

The Figures of the patent application (Schneider 2014) [3] shows on the left side the Entity Relationship Diagram with their Relationships and on the right side the CPW Subject Object Relationship Diagram with their Relationships. What you see in the figures is also, that a Method Transformation is possible, where can be transformed from the CPW Subject Object Relationship Diagram a Entity Relationship Diagram and of course also the other way around where can be transformed from the Entity Relationship Diagram a CPW Subject Object Relationship Diagram.

Therefore it is possible to transform a CPW Subject Object Relationship Diargam into an Entity Relationship Diagram. And from the Entity Relatinship Diagram can be derived and created a Business Data Model BDM, a Logical Data Model LDM and a Physical Data Model PDM.

And now coming back again to the CPW Process method, where every process step with the CPW Process is represented as simple sentence with a CPW Subject, a CPW Predicate and a CPW Object, is every process step with the CPW Process an abstract Use Case of a certain level of the CPW Subject Object Relationship Diagram, where is described the relationship with a CPW Predicate between a CPW Subject and a CPW Object. And also again with the possibility of the Method Transformation from a CPW Subject Object Relationship Diagram to a Entity Relationship Diagram, is also every process step at the CPW Process a abtract Use Case of a certain level of the Entity Relationship Diagram, where are described the relationships between two entities.

There are so many business analysts, they don't know so well the data modeling or the modeling of an Entity Relationship Diagram, but they become quickly familiar with the modeling of business processes with the process modeling method the CPW Process method. Experienced data modeler or entity relationship modeler can derive then from the work results of the business analysts, which realized on one hand the End to End business processes with the CPW Process method, and in addition they created also the appropriate CPW Subject Object Context Diagrams, the appropriate CPW Subject Object Relationship Diagram and then furthermore they can also realize the Entity Relationship Diagram, what is again then the basis to realize a business system or an application.

The data modeler sees at every process step at the CPW Process an abstract Use Case of the CPW Subject Object Relationship Diagram and the Entity Relatinship Diagram. This approach can be named as Agile CPW Subject Object Relationship Diagram Modeling or as Agile Entity Relationship Diagram Modeling and furthermore can be named the approach with the CPW Process method as Agile CPW Process Method Modeling or as Agile Process Method Modeling. The work with the CPW Method supports overall furthermore the methodical realization and translation from the Process Reengineering according to Davenport (Davenport 1992) [7].

Business analysts are working with the CPW Process method initutive and they are not so familiar with the data modeling on the one hand, but on the other hand they lay with their results the foundation, so that then it is possible from these results to

derive and to realize then the CPW Subject Object Relationship Diagram and the Entity Relationship Diagram.

References

1. CPW Method. CPW Process method. Available: http://www.cpw-method.com.
2. Schneider, Bernd. Method, System and Program Product for Modeling with CPW Method. U.S. Patent 13/986,242 filed April 15, 2013, and issued October 16, 2014.
3. Schneider, Bernd. Method and Apparatus for Modeling with CPW Method applicable in an Application System. U.S. Patent 12/312,671 filed May 16, 2009, and issued April 29, 2010.
4. Chen, P. (1983) English Sentence Structure and Entity-Relationship Diagram. Information Sciences, Vol. 1, No. 1, Elsevier, May 1983, Pages 127-149. Available: https://doi.org/10.1016/0020-0255(83)90014-2 [20 May 2003].
5. Chen, P. (1997) English, Chinese and ER diagrams. Data & Knowledge Engineering, Vol. 23, No. 1, June 1997, Pages 5 – 16. Available: https://doi.org/10.1016/S0169-023X(97)00017-7 [12 May 1998].
6. Chen P. (2002) Entity-Relationship Modeling: Historical Events, Future Trends, and Lessons Learned. In: Broy M., Denert E. (eds) Software Pioneers. Springer, Berlin, Heidelberg.
7. Davenport Thomas H. (1992) Process Innovation: Reengineering Work Through Information Technology. Harvard Business Press.