

Collaborative enterprise integrated modelling

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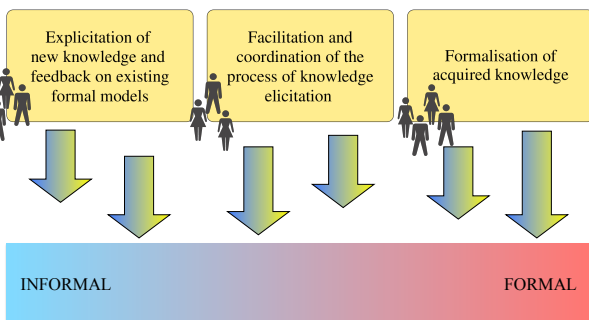
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Enterprise modelling. Enterprise modelling refers to the creation of an (integrated) enterprise model, that is, the structured description of one or more aspects (business domain, processes, goals, etc) of an enterprise and their mutual relations. Focusing on many **different aspects of an enterprise** (each one requiring specific modelling skills), and involving a **team of modelling actors**, enterprise modelling is truly a **collaborative activity** carried on under some collaborative protocol.



The asynchronous collaborative approach. The different actors involved in modelling **asynchronously collaborate** towards the construction of an integrated enterprise model by:

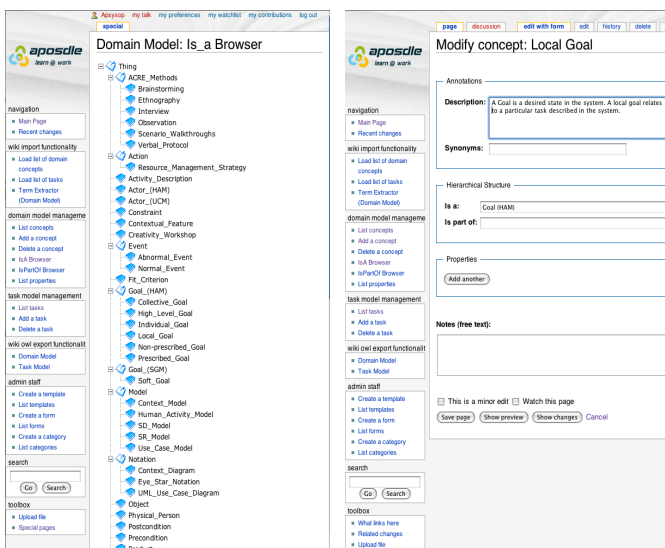
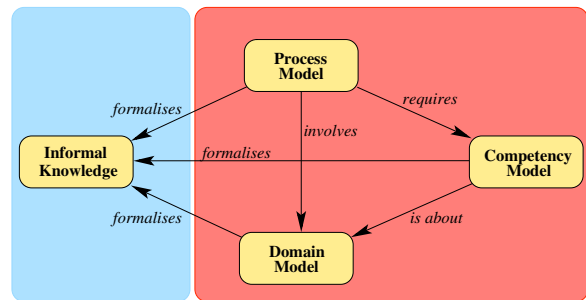
- inserting knowledge (either formal or informal);
- transforming knowledge (from informal to formal);
- revising knowledge.

The system supports **automatic translation** of the informal specification into a formal model and vice-versa.

The Enterprise Metamodel. The Enterprise Metamodel is structured in two main components:

- the **formal** representation of the domain, the processes, and the competencies of an enterprise (formalized in OWL);
- the **informal** knowledge (stored as pages in a Semantic MediaWiki.).

A tight **integration** between the informal and formal part is retained.



MoKi: the Modelling Wiki. Each element of the formal model is described, in an informal but structured way, in a wiki page.

The features currently available in **MoKi** are:

- the users can easily edit a wiki page by means of **forms**;
- preexisting formal models can be **imported** in the wiki;
- list of elements organized according to predefined semantic structures (e.g. a **taxonomy** or a **mereology**) can be easily imported;
- a **term extraction** functionality allows to add concepts extracted from digital documents;
- browsing/editing of the models is supported by means of a **graphical interface**;
- the informal models described in MoKi can be easily **exported** in the appropriate formal language.

Application of our approach. The collaborative approach here presented and the MoKi have been successfully applied within EU-project **APOSdle** (www.aposdle.org) to develop five integrated enterprise models in the following domains: environmental consultancy, electromagnetism simulation, innovation and knowledge management, requirements engineering, and statistical data analysis.

The MoKi is currently applied as a modelling tool also in application that goes beyond enterprise modelling: (1) for modeling medical guidelines encoded in ASBRU (**OncoCure**) and (2) for collecting data for the Personal Health Record in the Province of Trento (**TreC**).