

Toward a building an Ontology of artefact

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SUMMARY

- Ontology is a highly informative form of subject area presenting, since it gives an image of roles and importances of objects and their relationships, presenting them in the context of a specific situation.
- Requirement is an aspect projection of some object ontology onto considered subject area in the project purpose context.
- The task of requirements tracing is reduced to the task of project ontology constructing based on documentation (identifying objects and their place in the life cycle of project), constructing an ontology of its properties (having the role of entities) and constructing an aspect projection.

INTRODUCTION

One of a tools for streamlining the processes of generation and knowledge using is a schema, which defines a connection between an object and concept. Schemas perform several functions: they organize and reorganize activities, collect meanings that were not previously related to each other, and promote to new objects detection. Structural schemas compress the content, highlight the causal and functional relationships required by subject. That is, the schema does not reflect the form, but the relationships and interactions of objects. By schematizing of activity, we are able to represent the diversity of its relations in a formalized form, store and reproduce, manipulate individual elements. In this regard, a promising direction for making the unified view that takes into account the organizational and semantic activity components is the use of ontologies. Unification here arises due to the functional relations typification and use of standards for objects representation and their binding to documents that arise due the activity process. Ontologies themselves in this approach will play the role of a predetermined possible trajectory for search space expanding and can be used as pattern for searching of adjacent within the project life cycle objects.

APPROACH

The ontology of an activity organizational-objective model allows us to consider it as a search tool for projects analyses. For example, the works / objects of any project are regulated by certain normative documents (state standards, industry standards, recommendations, etc.).

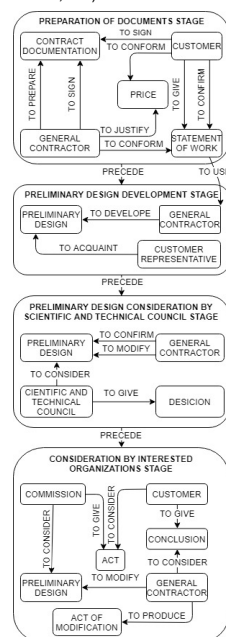


Fig.1. Fragment of organizational scheme metagraph of development work implementation.

RESULTS

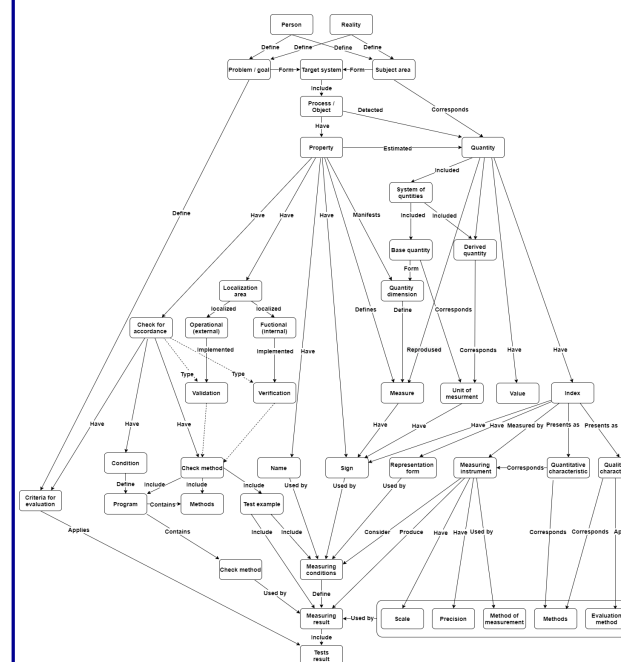


Fig. 2. The ontology of an activity object.

DISCUSSION

In general, use of ontology allows to ensure the completeness and accuracy of identification of factual information, which, in turn, will provide the possibility of more adequate automated processing and analysis of technical and scientific information.

Besides tracing of requirements, i.e. matching of one or another parameter values, the prehistory of the requirement, the measurement conditions, system of measurement units, etc. are important. We can say that on the whole it forms a classical ontology (the logic of existence), since it reflects all aspects of properties manifestation and measurement, as well as the assessment of what is received. And considering that requirements are represented by a subject-specific conceptualisation system, this means that we have an information ontology.

CONCLUSIONS

1. The another view to the problem of requirements tracing is proposed. It is stated that for successful requirements management it is necessary to reveal the image of rational activity object, not its individual properties.
2. A model of the activity object ontology, as a system of functionally and logically interrelated concepts, quantities and methods, is developed. Proposed model combines an ontology of quantities and measures and an ontology of means, "technologies" of assessment.

ACKNOWLEDGMENTS

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