INTRODUCTION

The aim of this poster is to show the current work to expose existing functionality in The Reuse Company Inc. tools as OSLC-based services. More specifically, the poster will explain the advantages of the OSLC protocol and how it can improve knowledge sharing and reusability in complex systems engineering environments.

OBJECTIVES

According to the previous introduction, the following specific objectives have been gathered:

- Study and analyze the necessities of knowledge management in complex systems development.
- Design of the proper specifications, components and OSLC-based interfaces to support KCSE (Knowledge-Centric Systems Engineering).
- Implementation of OSLC-based services to ease and reuse data, information and meta-information generated during the development lifecycle through text-based interfaces (cross-cutting services).
- Encompass existing OSLC specifications and services using a knowledge-based approach.
- Re-use of RDF-based vocabularies and Linked Data.
- Expose, “as OSLC,” the main services of the aforementioned tools & technology by the Reuse Company Inc to build data-driven applications.
- Create awareness of collaborative engineering through the validation, experimentation and dissemination of results.

OUTCOMES AND ON GOING WORK

Currently we are involved in the improvement and development of new services to empower the concept of Continuous Engineering by applying a Knowledge-Centric approach. Main outcomes and on-going work can be summarized as follows:

- Services for naming and quality checking through an OSLC interface that are already available on top of the tools provided by The Reuse Company Inc.
- A prototype has been implemented to deploy services in the IBM Jazz platform and to publish RDF data in the Apache Mammnta Linked Data platform.
- The semantic indexing and retrieval systems through OSLC is being now implemented.
- Knowledge organization through breakdown structures is available in the knowledgeMANAGER tool and can be exported as SKOS/RDF.
- A quality index for models and graph-based structures in being designed and implemented. Naive examples are already available.
- A Knowledge Management specification for OSLC is being written.

CONCLUSIONS AND FUTURE WORK

The emerging concept of Continuous Engineering is gaining momentum in the development of safety critical systems. OSLC-based services are also considered the cornerstone to enable a fully interoperable environment allowing the collaboration between different parties. In this context, some cross-cutting services have been identified to boost this new approach for developing systems with special focus on knowledge management and reuse of information through natural language interfaces. Future research and innovation lines must cover the publishing of all type of data, information and knowledge through OSLC interfaces. Furthermore, the OSLC support in The Reuse Company Tools Inc. is now being implemented to support knowledge-centric systems engineering (KCSE). Finally, the analysis of the development of a critical system as a collaborative activity is being designed and implemented to find new hidden relationships and knowledge through the interactions among people, products and processes.

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