

Abstract

The purpose of work

The purpose of the work is research of existing technologies of knowledge management in organization and management technical and project software development documentation domain.

Urgency of spent researches

Software development as a work contains lots of project's architectures and technical decisions. During all phases of development lifecycle the project success (terms, quality, budget etc) depends on project knowledge management, analysis and collecting tools usage efficiency and usefulness.

Often keeping documentation up-to-date task has the lowest possible priority thus making appear problems with further passing the project to another team for testing, maintenance, modernization etc. The problem is that software developers and architects face the absence of knowledge and data needed for their work. Solving such knowledge delegation problems adds an overhead (time, budget) and significantly reduces the efficiency of developers and architects team on the early project phases.

The actuality for researches have been made is based on searching and analyzing software project knowledge management methods that take the domain model details into account and represent them in human-readable model (including declarative text descriptions of requirements, business logic etc and structural layers diagram and so on).

Tasks solved in work

The work contains theoretical data on knowledge management methods and tools (including enterprise level), theoretical and practical aspects of software development process. The analysis of software development process and lifecycle have took place in the work, thus extracted entities that are included into software project document model and assembled software development ontology for object-oriented design method.

The presentation structure (in format of wiki-website containing semantical labels in nodes) and persistence structure (database schema) of a software project model have been designed.

The achieved results

Result of researches is the software development domain ontology and representation and persistence approaches of software project document model.

Scientific novelty

The innovation of executed work is using meta-information, domain knowledge represented as ontology, for assembling document model and its representation (in human-friendly format) and persistence approaches.

Practical value

The practical value of the work consists if assembling the software development domain ontology and based on it software project model with respective representation and persistence approaches.

Conclusions and recommendations

Having systematized and analyzed data on software development process and lifecycle, on knowledge management methods and tools, the software development domain ontology have been designed as well as software project model.

The results of researches have been executed can be introduced into software development process on requirement gathering and development stages. Designed project model can enlarge collecting and passing project knowledge efficiency, thus reducing respective overhead.

Nevertheless the designed software project model should not and must not completely substitute the project documentation and should be used as additional tool for organizing and managing project knowledge.

The work cannot be considered integral in sphere of project knowledge management and project documentation management. For estimating efficiency of using designed software project model extra researches have to be performed in order to define if such

model is applicable for concrete project or group of projects taking the model integration and project workflow into account.

Work on 90 sheets, contains 1 table, 6 illustrations. During preparing the work the literature from 28 different sources was being used.

A list of keywords:

software development, software documenting, software development lifecycle, knowledge management, knowledge management system, ontology.