

ออนโทโลยีการจำแนกความต้องการของผู้ใช้ในห้องสมุด Ontology for Library Requirements Classification

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Abstract

An ontology is an information descriptions. It uses to describe the user requirements in the library environment. According to the massive of the requirements, an hierarchy of requirements will help librarians understand and response in time. However, it is very difficult to find and meet the intelligent tools to capture those requirements and also information from the users will increase everyday usages which come from different ways. In this research, it introduces the method to capture, analysis and classify the requirements as “**feedback concepts**” from the library users. Ontology approach is applied for Information classification and presents the understandable feedback as ontological framework in the XML tags format. Therefore, this framework could be used to monitor the library services and problems. The model of the requirements will be also represented as hierarchy structure which programmers use to develop the application for users monitoring systems in the resources managements.

Keyword: Information Classification, Knowledge Management,
Library Requirements, Ontological Framework, Semantic Web

Introduction

The range and quantity of information available via the Library today has created well-known problems of information overload, including difficulty of access and problems of responding feedback that is appropriate and reliable. To address these problems, ways were required to

categorise and organise requirements for access by users. The idea of using multiple sources can facilitate the reliability of knowledge, but increases the need for effective knowledge management.

Objectives

This research introduces an approach that can help the users to classify their users requirements and to represent it with a well-formed structure. The approach provides an ontological framework to structure one individual existing domain. This work focuses in particular on the requirements in the Library within a library need to be accessed for different purposes. Experiences from both individual librarian and users help forming the common understanding, which could used or reused to develop new understanding knowledge. Therefore it needs to be made shareable and reusable.

In fact, individual requirements are a very important source of knowledge. For examples, library used the requirements to organise their requirement framework, librarians use this framework to find the suitable resources such books, medias, learning materials and e-materials, teachers collected the directly resources from library and so on to prepare their courses. Finally, students are mainly users in the library will meet their accurately resources.

Methodology

To capture the Library Requirement Classification (LRC), flexible or new concepts are extracted from the Library domain. It extracts the users requirements as the concepts or keywords to describe the information. This presents these requirement concepts as Metadata and uses to develop ontology. This research proposes the development cycle with four basic methods: Requirements identification, Concepts extraction, Ontology development, and Requirements representation.

The similarity approach will be applied to construct an ontological framework. It measures the simility between concepts that extracted from the users. An ontological framework will be represented as concept trees. Finally, this framework uses XML,RDF(s) and CSS to describe the Library domain. The semantics web is the results of this research.

Results

This research contributed various terms or methods to this research. For example, the term “Library Requirements Classification (LRC)” was introduced to represent the crucial information that is extracted from both librarians and users in the library. These requirements have been captured and described based on the individual perspectives as ontological framework.

It is very useful information, especially for the library that requires the resources related to their requirements. This framework contains the requirement concepts that would be described the users behaviors in the individual library. It is shared and reused as knowledge management.

A framework is hierarchy structure formed in the XML(s) tags format called “concept”. It consists with properties. Academic Resource and Information Technology (ARIT) of Valaya Alongkorn Rajabhat University has been introduced as case study of this research. The web-based application is developed to flexible access, share and describe the requirements information. For example, “<concept> requirements</concept>” is the format of this hierarchy structure.

Conclusion and Future works

LRC classifies the knowledge based on the individual topics. Therefore, flexible requirements will be represented in different ways. Similarity methods are needed to resolve the problems of inconsistency in the Ontological Framework. To perform at its best, LRC needs a lot of information about the Library domain. More knowledge information will produce more Metadata to describe the domain.

Therefore, LRC needs a way to integrate Ontological Frameworks, and it improves by applying results from the ontology community working on Ontology merging, Ontology mapping, and Ontology alignment methodologies.

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