# A Tailored Ontology Model for Web Information Congregation

M.Gnanavel, S.Sivamohan, S.Krishnaveni,R.Veeramani

M.Tech(CSE) Student, SRM University,Ramapuram,Chennai,Tamil Nadu,India

Assistant Professor, Department of IT, SRM University,Ramapuram, Chennai,Tamil Nadu,India

Assistant Professor, Department of Software Engineering,SRM University, Chennai,Tamil Nadu,India

Assistant Professor, Department of IT, SRM University,Ramapuram, Chennai,Tamil Nadu,India

**ABSTRACT**: Nowadays it has become very easy to access information and find information from internet via World Wide Web.  In personalized web information gathering for knowledge description ontology widely used to represent user profiles. Mainly ontology use for acquires knowledge, share; reuse an increase relations description of knowledge. In this paper, a personalized ontology model is proposed for knowledge representation and reasoning over user profiles. This model learns ontological user profiles from both a world knowledge base and user local instance repositories. The ontology model is evaluated by comparing it against standard models in web information gathering. The results show that this ontology model is very successful.

**KEYWORDS:** Ontology Model, Personalization, World Knowledge, User profile, Local Instance Repository, Web Information Congregation.

## I. INTRODUCTION

The huge amount of web information available has increased dramatically. How to gather useful information from the web has become a challenging issue for users. Current web information gathering systems attempt to satisfy user requirements by capturing their information needs. For this purpose, user profiles are created for user background knowledge description User profiles represent the concept models possessed by users when gathering web information. A concept model is implicitly possessed by users and is generated from their background knowledge. While this concept model cannot be proven in laboratories, many web ontologists have observed it in user behavior. When users read through a document, they can easily determine whether or not it is of their interest or relevance to them, a judgment that arises from their implicit concept models. If a user's concept model can be simulated, then a superior representation of user profiles can be built. To simulate user concept models, ontology a knowledge description and formalization model are utilized in personalized web information gathering.

This paper shows different problems, techniques and proposed model also future work shows working of five different authors on ontology. The main work of ontology is to gather web information based on keywords that may be local or global repository.

## II. OBJECTIVE AND MOTIVATION

An ontology model simulates users' concept models by using personalized ontologies, and attempts to improve web information gathering performance by using ontological user profiles. The world knowledge and a user's local instance repository (LIR) are used in the proposed model. World knowledge is commonsense knowledge acquired by people from experience and education; an LIR is a user's personal collection of information items. From a world knowledge base, we construct personalized ontologies by adopting user feedback on interesting knowledge. The users' LIRs are then used to discover background knowledge and to populate the personalized ontologies. The proposed ontology model is evaluated by comparison against some standard models through experiments using a large standard data set.

This paper presents the extensive work of, but significantly beyond, an earlier paper published in 2013. The primary motivation of the work in ontology is to gather web information based on keywords that may be large open information spaces and Navigation and search related problems. It can be find out the many (irrelevant) search results based on the keywords of web-information gathering systems. The ontology model is evaluated by comparing it against standard solutions models in web information gathering.

## III. LITERATURE REVIEW

A study of some the existing methodology is done and the results are tabulated. The methodologies and techniques existing until the current year have been considered and studied. The methodologies and the complete information of the approaches indicating whether they used a manual approach or automatic approach or semi automatic approach is done. A total number of 5 different research paper and different techniques, methodologies have been studied.

| S. No | Title of the Paper | Goal | Techniques | Parameter used | Results | Model |
|---|---|---|---|---|---|---|
| 1. | A Personalized User Concept Model for Web Information Gathering. | To define complete user profile techniques using manually data sets . | Global analysis & Local analysis User profile techniques. | Keywords based on semantic relations. | User Behavior search results. | User Context Model, 2D ontology. |
| 2. | Personalized Ontology Model for Web Information Gathering. | Proposed on the knowledge representation and user profiles. | Automatic, Classification. | No. of Keywords. | Re-ranking search results. | TREC Model, Category Model, Web Model. |
| 3. | Personalized Semantic Based Ontology Model for Education Domain Information Search. | Personalized search is to tailor search results to a particular user based on interests and preferences. | Personalized Ontology Model. | Frequent Item set | Ranked through frequent item set. | Ontology Model |
| 4. | Study of Personalized Ontology Model for Web Information Gathering | Provides a solution to emphasizing global and local knowledge in a single computational model | Manual, Automatic, GLUE and used machine learning technique. | Relations of Keywords. | Accurate and good results. | Multidimensional model and OLE Model. |
| 5. | Survey on a Personalized Ontology Model for Web Information Gathering | This paper focus on the ontology is to gather web information based on keywords that may be local repository or global repository. | Search Techniques based on keyword and concept based. | Structured, Unstructured and Semi structured | To increase the system performance and Single Computation Model | Personalize ontology model |

## IV. EXISTING SYSTEM

An user profiles represent the concept models possessed by users when gathering web information. A concept model is implicitly possessed by users and is generated from their background knowledge. While this concept model cannot be proven in laboratories, many web ontologists have observed it in user behavior. When users read through a document, they can easily determine whether or not it is of their interest or relevance to them, a judgment that arises from their implicit concept models. If a user's concept model can be simulated, then a superior representation of user profiles can be built.

The TREC model (Text REtrieval Conference) was used to demonstrate the interviewing user profiles, which reflected user concept models perfectly. For each topic, TREC users were given a set of documents to read and judged each as relevant or non-relevant to the topic. Category model is demonstrated by using non-interviewing user profiles that are it do not involve user at all in particular model. The web model was the implementation of typical semi interviewing user profiles. It acquired user profiles from the web by employing a web search engine.

**Highlights of Existing System:**

- ❖ TREC Model (Text REtrieval Conference) is the topic coverage was limited.
- ❖ Poor performance
- ❖ Web information has noise and uncertainties
- ❖ As a result user profiles were weak in terms of precision

**Comparisons between different models are as follows;**

| S. No | TREC Model | Category Model | Web Model | Ontology Model |
|---|---|---|---|---|
| 1. | Manual user profile acquiring methods . | Non Interviewing user profiles acquiring techniques. | The typical semi interviewing. | Semi automatic method and automatic methods. |
| 2. | Positive documents support and negative document support. | Weighted positive subjects in the ontology with super class and sub class relations. | The positive and negative subjects were identified by users manually. | Positive documents(D+) and negative documents (D-) |
| 3. | Topic coverage of TREC profiles was limited. | Topic coverage is depending upon categorical classification | User profiles were satisfactory. | User profiles acquired by the ontology model is better. |
| 4. | Good precision of data. | Good precision of data. | Weak in terms of precision. | Moderate in precision. |

## V. PROPOSED SYSTEM

An ontology model simulates user's concept models by using personalized ontologies and attempts to improve web information gathering performance by using ontological user profiles. The world knowledge and a user's local instance repository (LIR) are used in the proposed model. World knowledge is commonsense knowledge acquired by people from experience and education. An LIR is a user's personal collection of information items. From a world knowledge base, we construct personalized ontologies by adopting user feedback on interesting knowledge. A multidimensional ontology mining method, Specificity and Exhaustivity, is also introduced in the proposed model for analyzing concepts specified in ontologies. The users' LIRs are then used to discover background knowledge and to populate the personalized ontologies. The proposed ontology model is evaluated by comparison against some benchmark models through experiments using a large standard data set. The evaluation results show that the proposed ontology model is successful.

**Highlights of Proposed System:**

- ❖ Every user has a distinct background and a specific goal when searching for information on the Web.
- ❖ The goal of Web search personalization is to tailor search results to a particular user based on that user's interests and preferences.
- ❖ Effective personalization of information access involves two important challenges:
  - i) An accurately identifying the user context
  - ii) An organizing the information in such a way that matches the particular contexts.
- ❖ Scope to work on local repositories that can match to global repositories.
- ❖ For easily data gathering for single computational model and use global and local repositories at a time.
- ❖ Increase system performance
- ❖ Use searching techniques-i) keyword based searching techniques ii)content based searching techniques in single model.
- ❖ We will investigate the methods that generate user local instance repositories to match the representation of a global knowledge base.
- ❖ The present work assumes that all user local instance repositories have content-based descriptors referring to the subjects.
- ❖ A large volume of documents existing on the web may not have such content-based descriptors.
- ❖ Ontology mapping and text classification/clustering were suggested. These strategies will be investigated in future work to solve this problem.

## VI. CONCLUSION AND FUTURE WORK

In this paper, we study on a personalized ontology model for web information gathering based on the searching techniques such as keyword based and context based information. Moreover, the Ontology model to constructs user personalized ontology's by extracting world knowledge base from user background knowledge based on the experience and education background. In this paper, we study on a personalized ontology model for web information gathering based on the searching techniques such as keyword based and context based information. Moreover, the Ontology model to constructs user personalized ontology's by extracting world knowledge base from user background knowledge based on the experience and education background. The finding in this paper can be applied to the design of web information gathering.

An ontology model provides a solution to emphasizing global and local knowledge in a single computational model. The findings in this project can be applied to the design of web information gathering systems. Ontology techniques, clustering, and classification in particular, can help to establish the reference, as in the work conducted. The clustering techniques group the documents into unsupervised clusters based on the document features. These features, usually represented by terms, can be extracted from the clusters. They represent the user background knowledge discovered from the user. The model also has extensive approach to the field of Information Retrieval, Information Extraction and Web information gathering System.

## REFERENCES

1. Xiaohui Tao, Yuefeng Li, and Ning Zhong, "A Personalized Ontology Model for Web Information Gathering", IEEE Transactions on Knowledge and Data Engineering, Vol. 23, No.4, April 2011.
2. S. Gauch, J. Chaffee, and A. Pretschner, "Ontology-Based Personalized Search and  Browsing" Web Intelligence and Agent Systems, vol. 1, nos. 3/4, pp. 219- 234, 2003.
3. Y. Li and N. Zhong, "Web Mining Model and Its Applications for information  Gathering" Knowledge-Based Systems, vol. 17, pp. 207-217, 2004.
4. Y. Li and N. Zhong, "Mining Ontology for Automatically Acquiring Web User  Information Needs," IEEE Trans. Knowledge  and Data Eng., vol. 18, no. 4, pp.554-568, Apr. 2006.
5. X. Tao, Y. Li, N. Zhong, and R. Nayak, "Ontology Mining for Personalized Web Information Gathering," Proc. IEEE/WIC/ACM Int"l Conf.  Web Intelligence,  pp.  351-358, 2007.
6. A. Sieg, B. Mobasher, and R. Burke, "Web Search Personalization with Ontological User Profiles," Proc. 16th ACM Conf.  Information and knowledge Management (CIKM"07), pp.525-534,2007.

## BIOGRAPHY

**M.Gnanavel** is a M.Tech (CSE) Student in the Department of Computer Science and Engineering, SRM University, Ramapuram, Chennai, Tamil Nadu,India. He received Master of Computer Application (MCA) degree in 1999 from Bharathidasan University,Trichy,Tamil Nadu, India. He research interests are Data Mining and Software Engineering.

**S.Sivamohan** is an Assistant Professor in the Department of Computer Science and Engineering, SRM University,Ramapuram,Chennai,Tamil Nadu,India. He received M.Tech(CSE) degree in 2005 from Dr.MGR University,Chennai,Tamil Nadu, India.He has been professional teaching experience in 9 years. He research interests are Network Security, Data Warehousing and Software Engineering.

**S.Krishnaveni** is an Assistant Professor in the Department of Software Engineering, SRM University,Kattankulathur,Chennai,Tamil Nadu,India. She received M.Tech (SE) degree from SRM University,Chennai,Tamil Nadu, India. She has been professional teaching experience in 8 years. She research interests are Cloud Computing, Network Security, Data Warehousing and Software Engineering.

**R.Veeramani** received the B.E degree in Computer Science and Engineering from University of Madras, Chennai, Tamil Nadu, India, in 1998 and M.E in Computer Science and Engineering from Annamalai University, Chidambaram, Tamil Nadu, India in 2006.He is currently an Assistant Professor at SRM University, Chennai, Tamil Nadu, India. He has more than 10 years' experience in teaching and development of e-commerce applications. His research interests are in Data Mining, Distributed Computing, Cloud Computing, Parallel System and Programming languages. In addition, he is member of Indian Science Congress Association.