ABSTRACT

Network production system can't be avoided to face the global competition. Application of network production system to be supported also by a good information network or information exchange. Internet has provided an extraordinary support for the information exchange, though also spawned a diversity of information from the source. This diversity must be addressed to facilitate interoperability of information, the semantic web and ontology approach will be applied to solved them. Peer agreement modeling with the weighted tree similarity algorithm is a key element in achieving interoperability in this final project.

Peer agreement approach utilizing ontology model as a form of knowledge representation and reference of P2P community, the community divides into 3 peers, they are request peer, super peer and provider peer.

Implementation of weighted tree similarity algorithm into semantic search is intended to calculate the similarity between data representation tree and user queries tree. The tree has a label in its branches and nodes, and its branches has weighted to indicate the importance of the branch. Article representation tree serves as a metadata. System design consists of the indexer and the retrieval. Indexer consists of the generation and storage metadata. While the retrieval consists of user interface and weighted tree similarity algorithm.

This final project presented the analysis of the accuracy level using precision and recall of results given by search engines using weighted tree similarity algorithms for string matching. The more number of peers, documents and terms, system gives the average value of precision and recall of diminishing, with some of the causes which will be discussed in this Final Project. However, the decline in the value of its precision and recall while maintaining the ranking of relevant documents provided by the system. It's seen from the relevant documents according to user and system are always in the top ranking positions, although the value of precision and recall its decline.

Keywords: *agreement, interoperability, semantic web, ontology, network production system, weighted tree similarity, P2P*