

## **Abstract**

Certification in telecommunication equipment is needed in getting customer satisfaction and loyalty. One of the certification bodies from PT. Telekomunikasi Indonesia Tbk, namely the Digital Service Division. The Certification Body serves telecommunication equipment certification in telecommunication equipment testing laboratories which are under the control of the Infrastructure Assurance (IAS) field. The Infrastructure Assurance (IAS) field has a website that serves to present information on testing and issuance of certification for telecommunication equipment products that are carried out in accordance with established standards. This website handles a lot of data information in the form of companies, applicants, devices, types of tests, actions and test status. One of the function that is needed and often used by users is the data search function. This data search function is useful for displaying data that matches the keywords entered by the user. The user expects the data search function to display data that matches the entered keywords. Which keywords contain sentences containing several words from company data, applicants, devices, types of tests, actions and test status. Therefore, in this study a semantic-based search system prototype was developed on the data on the website using the Semantic Web Filtering System (SWFilter) method. Each sentence inputted by the user will be carried out by the keyword indexing process entered by the user. Then proceed with the filtering process to quickly determine the keywords with the web service through the Ontology Information and Ontology Composition that need IR System program. In addition, the SWFilter method also supports Semantic Matching between keywords inputted by the user and the web service that has been applied to the system. The results of the tests conducted show that the SWFilter method can be used as a solution to the obstacles faced in conducting semantic-based searches on the website and has a fairly high accuracy in providing search results.

**Keywords: Filtering, Information Retrieval, Ontology Composition, Ontology Information, Query, Searching Data, Semantic Matching, Semantic Web Filtering System (SWFilter), telkomtesthouse.co.id, User Queries, Web Service.**