A Web-Image Retrieval Agent with Visual Automatic Query Expansion Ability

蕭清標、楊豐兆

E-mail: 319780@mail.dyu.edu.tw

ABSTRACT

This study aims to study a web－image retrieval agent that integrates the automatic query expansion and the information visualization. The agent with autonomy offers an image retrieval method different from the image retrieval methods on the existed web site.This paper adopted PASSI to analyze and design the multi-agents system. PASSI uses UML to describe the system requirement model, the agent society model, the agent implementation model and the deployment model. We use Java to implement the code model. The idea of automatic query expansion is exploit WordNet to obtain the synonyms. The MasterAgent is in charge of reorganizing retrieval requests then designating IRAgents to the assigned perform tasks. Information visualization uses prefuse library to show the relationship between the keywords, the synonyms, the synsets and the agents. The first contribution of this paper is that we use automatic query expansion to reduce the times of retrieval. The System will reorganize the request by user and submit several requests that using the synonyms to the retrieval engine. The second contribution of this paper is that improving retrieval performance by using the multi-agent that distributed on the several hosts. The third contribution of this paper is that we use the method of information visualization to show the result of automatic query expansion.

Keywords : Agent、Automatic Query Expansion、WordNet、Information Visualization、Image Retrieval

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