Title of Paper:

The research on semantic search of urban features based on Oracle Semantic Technology

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Abstract:

1. Introduction

With the development of the Internet technology ,Web-map applications becoming increasingly popular. People visit increasingly frequent to web maps to help the basic necessities. Traditional web-map queries are keyword-based, which to some extent ,limit the search efficiency and convenience. Along with the emergence of semantic web, ontology-based semantic query has some smart features to improve the efficiency and the quality of user queries.

This study intends to use Oracle's semantic technology to develop a FOI query system, which can provide a more friendly and convenient query tool and gives users better query experiences.

2. Method

First, this paper studies the organization, storage and query strategy of the Oracle11g semantic model. Oracle semantic package provides storage support, query retrieval and reasoning capabilities of RDF/OWL and its rules and provides some the ontology-based rational-database query functions. Build semantic models of administrative divisions of Wuhan and classification of urban features. Using Oracle's semantic technologies, establish the ontology of administrative divisions of Wuhan and the ontology of classification of urban features into Oracle 11g.

Then, in the Oracle-Spatial platform, using Oracle-Spatial Semantic packages, a

large number of experiments on the union of semantic ontology search and traditional keywords query of various regions of the hotels ,restaurants , and hospitals and other public features of interest are performed.

3. Design and Implementation of Prototype System

According to Wuhan city map features and the requirements of the semantic retrieval system, perform analysis and design of the system and determine the system's implementation framework and technologies.

Some of the key technologies are as follows:

1) The construction of semantic ontology: the software protégé provides some help.

2) Load the semantic ontology into Oracle 11g and some relevant managements and queries：the Oracle semantic technology provides the storage, query retrieval and reasoning capabilities of semantic ontology.

3) Spatial data is managed by Oracle-Spatial.

4) Web 2.0：it makes the user-input possible ,so that you can build the user's semantic ontology to improve search process.

5) Ajax(Asynchronous JavaScript and XML): it improves the user experience of the search process.

Prototype system has primarily been completed. The following diagram shows the system's main web interface:
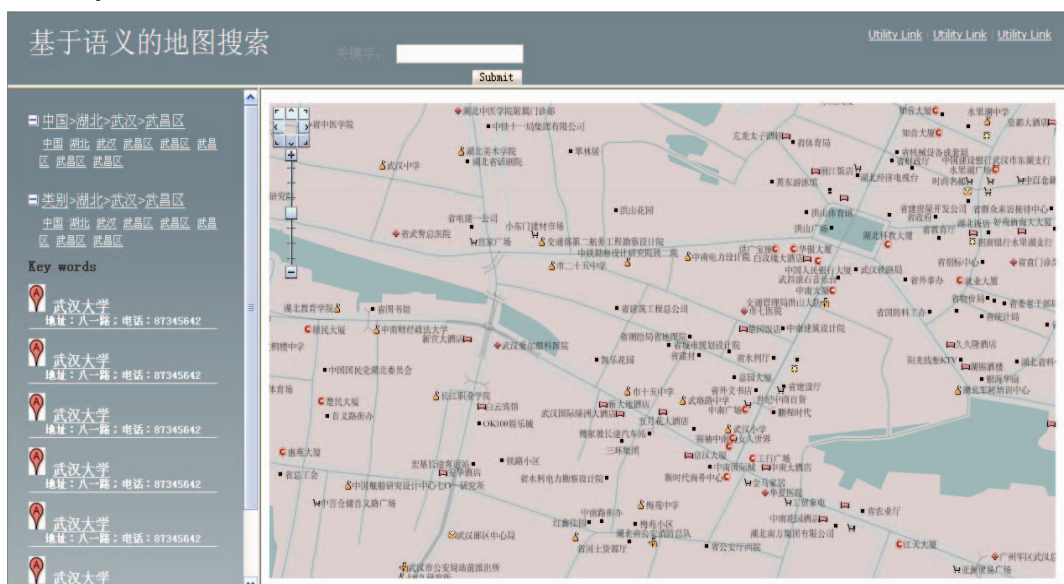
4. Conclusions

Through the Comparison between the prototype system and the traditional keyword query system，the Wuhan urban features query system based on semantic technology can improve the query quality and provide better user experience , so as to promote the further application of the web maps.

References

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