

A Wireless Natural Language Search Engine

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Abstract

Web search using stationary (desktop) computers has become a pervasive activity. The mobile user in need of information, however, faces several problems in his or her quest to satisfy an information need. Mobile devices have small displays, and mobile user interfaces are often less than usable, because they impose the desktop Web search paradigm on the mobile user. We present a wireless search engine based on natural language queries transmitted via popular Small Message Service (SMS) text messages. Besides traditional keyword based queries, the system can accept questions or phrases and returns responses that contain likely answers (Figure 1) instead of traditional lists of hyperlinks. The additional precision gained from performing a linguistic analysis of the query helps extracting answers from Web pages directly, which requires no navigation. The system is implemented using a NLIR system residing on a server, which can translate questions or phrases into search engine queries or queries to SOAP Web services, where a gateway mediates between the mobile network and the Internet (Figure 2). Whereas on the desktop keyboard-based search still prevails, we find that in a mobile context question answering techniques can help overcome the output constraints.



Figure 1: Query and response in natural language question form.

Categories and Subject Descriptors

H.3.3 [Information Systems]: Information Storage and Retrieval—*Information Search and Retrieval*; I.2.7 [Artificial Intelligence]: Natural Language Processing

General Terms

Algorithm; Design; Human Factors

Keywords

Wireless search engine; mobile search; mobile information access; open-domain question answering; SMS; WAP

1. REFERENCES

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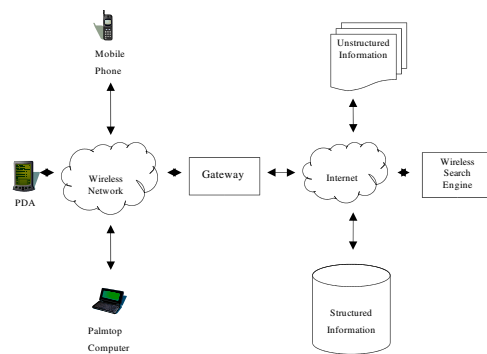


Figure 2: Wireless search engine architecture.