Phroni: Augmenting Wikipedia Using Mashups

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ABSTRACT

Phroni is a Web-based encyclopedia which enriches the user's Wikipedia experience by using relevant mashups. It enables users to explore relevant content from the entire Web in addition to the Wikipedia content. We develop a proprietary taxonomy that classifies keywords of Wikipedia into 165 categories and associate relevant mashups with each of these categories. When the user accesses Phroni, it dynamically executes mashups and gathers the mashup results into its integrated user interface. Phroni is available online at http://www.phroni.com.

1. OVERVIEW

Phroni is a Web-based encyclopedia, which enriches the user's Wikipedia experience by displaying relevant mashups and enables users not only to understand the concept but also to explore the entire Web within its integrated user interface (see Figure 1). Users can obtain relevant information that is fresher and covers a wider range than Wikipedia, including videos, photos, news, and products, by simply clicking the corresponding tab displayed on the interface.

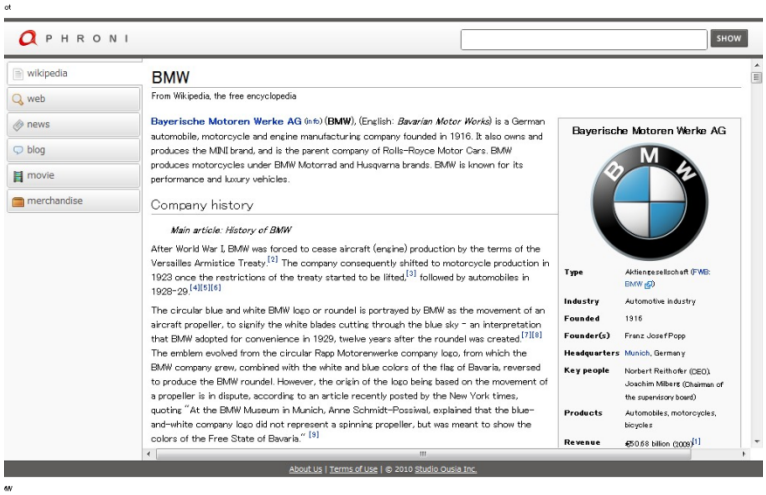

Figure 1. Keyword page of Phroni.

Phroni comprises a simple home page (see Figure 2) and various keyword pages. The home page provides a search form, which helps the user locate the desired keyword page. It also provides the user with several popular keyword links, which have been frequently searched on the Web site.

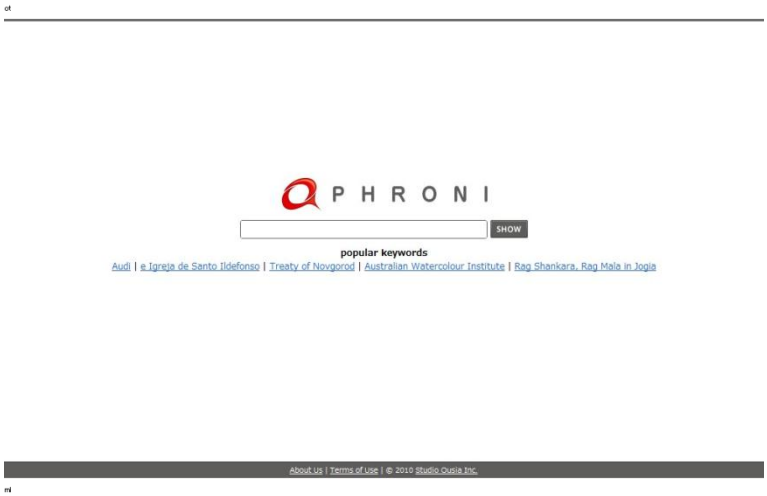

Figure 2. Home page of Phroni.

2. IMPLEMENTATION

Phroni builds the keyword page dynamically when the user accesses the Web site. It builds the page using the following three steps. It (1) recognizes the meaning of the keyword by using a proprietary taxonomy, (2) executes mashups that are associated with the recognized meaning, and (3) gathers the mashup results into the unified user interface.

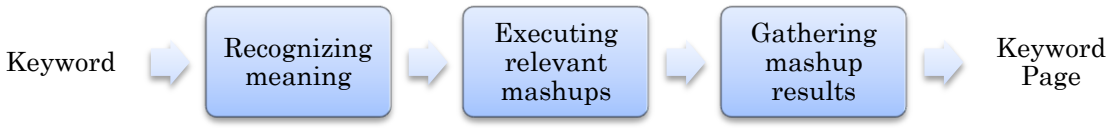

Figure 3. Flow chart for creating the keyword page.

2.1. Taxonomy

Phroni recognizes the meaning of a keyword by using a proprietary taxonomy, which classifies the keywords of Wikipedia into 165 categories. We developed a system that generates the taxonomy from Wikipedia by using the category structure of Wikipedia; the system implements several heuristics similar to those described in [1] and semi-automatically generates the taxonomy from Wikipedia.

The system is implemented using the Python programming language, and the taxonomy contains 1,806,077 keywords and covers almost 55% of the total number of Wikipedia keywords.

2.2. Mashups

We developed a number of independent mashups and associated them with each of the keyword categories. We also created a simple system that associates the mashups with the categories based on several heuristic rules. Additionally, the mashups are created using a visual mashup editor called *Ousia Weaver* [2] (see Figure 4). Phroni executes the mashups using the Python-based run-time environment of the editor.

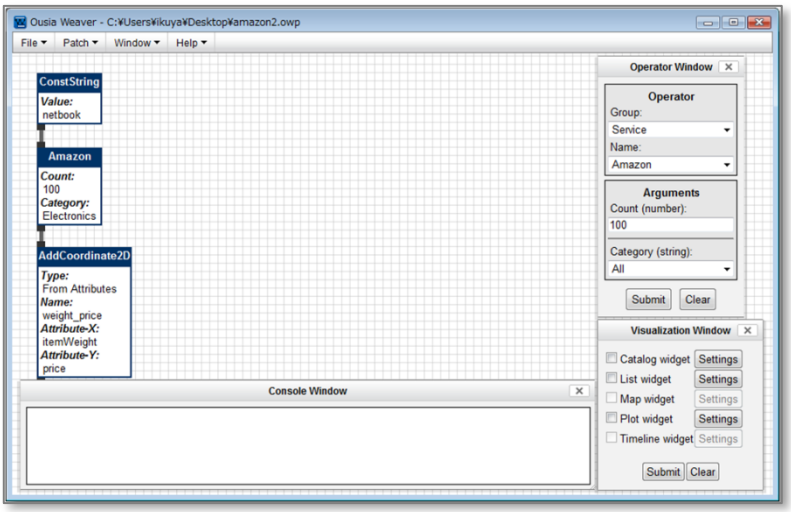

Figure 4. Screenshot of Ousia Weaver.

REFERENCES

1 Ponzetto, Simone P and Strube, Michael. Deriving a large scale taxonomy from Wikipedia. In *AAAI'07: Proceedings of the 22nd National Conference on Artificial Intelligence* (Vancouver, British Columbia, Canada 2007), AAAI Press, 1440-1445.

2 Yamada, Ikuya, Wataru, Yamaki, Hirotaka, Nakajima, and Yoshiyasu, Takefuji. Ousia Weaver: A tool for creating and publishing mashups as impressive Web pages. In *MEM 2010: 3rd Workshop on Mashups, Enterprise Mashups and Lightweight Composition on the Web*, to be appeared in *WWW 2010: Proceedings of the 18th International World Wide Web Conference* (Raleigh, North Carolina, USA 2010).