



Use Case 2 in Technology Provider – Business Cases Specialized Web Portals for Businesses

KW Partner: UPM

1. Overview

Challenge

Robotiker, as a Technology Centre, develops hardware and software in different areas. We only have one general Website in which you have to navigate through different sections to get to the desired area. Individual Websites need to be created so that clients can access their desired information directly.

Solution

To generate specialized Web portals automatically using the information about the company stored in different storage media.

Why a Semantic solution

The use of metadata and ontologies will enable to model the company organization and to relate these concepts to the company information. With additional software development this can be used to generate the Web portals automatically.

Key Business Benefits

We have specialized Web portals for our clients generated automatically and with the update information at every time.

Business Partners

None.

The creation of specialised Web portals is becoming necessary in the enterprise world as well as in the administration area.

This is the case of ROBOTIKER, where we develop hardware and software in different areas (energy, telecommunications, automotive, and so on). We only have one general Web site (Figure 1) in which you have to navigate through different sections to get to the information about one area. We find it necessary to create specialised Web sites (one Web about telecommunications, and so on) so that our clients can access to the information they need directly.

There already exist tools that allow in some way to create Web portals automatically with pre-selected contents. Those tools generally are complementary to specific content management systems, so that previously you must acquire those systems. Those tools are very expensive, and can only be acquired by big companies or national administrations. This is the case of the most popular content management systems providers as Interwoven, Vignette, BroadVision, Documentum. All of them provide the Web portal generation tool, together with their content management systems. For example, Vignette offers Application Portal and Interwoven TeamPortal.

The SME-s (Small and Medium Enterprises) and regional or local administrations have the same information publishing needs, but the cost of these tools is too high for them.

Keys components

Existing Software

Commercial Web portal building tools

Research and development

*Authoring tool based on ontologies
Web portal generation from metadata,
ontologies and data repositories.
Repository access modules.*

Technology locks

*Ontology development
Knowledge extraction*

The proposed system based on semantic technologies would offer the following advantages:

- Efficient look to the world, because of the speed of their presence in Internet.
- Prestige, because of offering updated contents, removing the expired and inappropriate contents.
- Time and resources saving. The enterprise is dedicated to its business, and not in worrying about its presence in Internet.

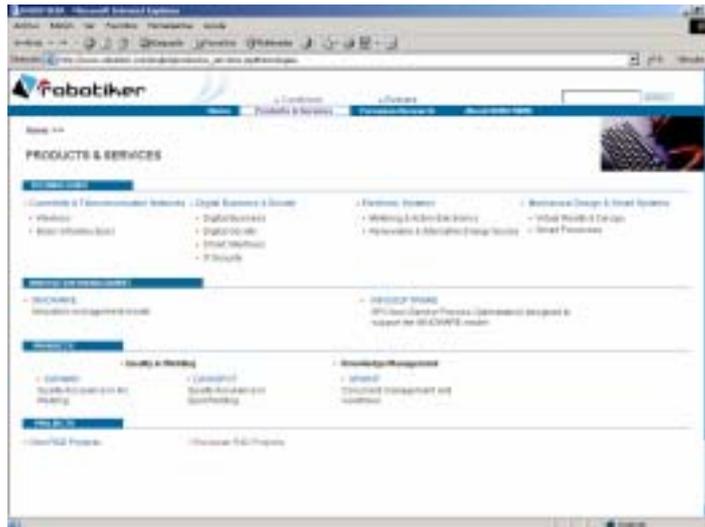


Figure 1 – The Robotiker Web Portal

2. Current Practices and Technologies

2.1 Typical business practices

ROBOTIKER has a general Web site in which you have to navigate through different sections to get to the information about one area. It would take us time and money to create specialised Web portals for our clients and then maintain them up to date.

The ideal situation would be that these specialised portals were created automatically and dynamically extracting the information from the different information sources in Robotiker. The Web administrator should only select the concepts that must appear in each Web portal and its appearance.

2.2 System requirements Analysis

To get to the ideal situation described, firstly an ontology of our organisation should be created, as well as the metadata to associate the concepts of the ontology with the information sources in Robotiker.

Then, some Web components should be designed and developed that enable the automatic generation of Web portals depending on the concepts of the ontology selected.

Another requirement would be to develop several connectors to the different information sources to access to the information to show on the Web.

2.3 Review of the current systems

Nowadays to generate specialised portals from a general Web portal, or to create specialised portals starting from the contents, most of the software providers offer software tools based on the use of their content management system. As an example, the following three content management systems providers offer the following tools to publish the contents on the internet:

- Interwoven: Team Portal.
- Vignette: Application Portal
- Broadvision: One-to-one Portal, One-to-one Commerce, One-to-one Content.

Microsoft offers Microsoft SharePoint Portal Server that allows the users to search, share and publish information on their corporate, departmental and group portals, and the possibility to customise these portals using HTML code modules called Web Parts. This is based in the powerful search machine developed within Microsoft Content Management Server.

Red Hat Enterprise Portal Server is an open source software, but not free software, that allows to join local and remote content in a configurable platform that supports multiple languages for its user interface, and different devices as WAP, XHTML and VoiceXML. The portals can be built and oriented for specific persons, working groups, people with a common interest and for big organisations. There is also some open source software, and with no cost, such as XOOPS and OpenCMS.

The Institute AIFB of the University of Karlsruhe has also published several papers about a framework called SEAL for building semantic portals [1,2].

References

- [1] A. Maedche, S. Staab, N. Stojanovic, R. Studer, and Y. Sure: SEMantic portAL - The SEAL approach. In: *Spinning the Semantic Web*. D. Fensel, J. Hendler, H. Lieberman, W. Wahlster (eds.), MIT Press, Cambridge, MA., 2003, pages 317-359
- [2] A. Maedche, S. Staab, R. Studer, Y. Sure and R. Volz. SEAL - Tying Up Information Integration and Web Site Management by Ontologies. In: [IEEE Computer Society Data Engineering Bulletin](#), Special issue on "Organizing and Discovering the Semantic Web", Vol. 25, No. 1, pp. 10-17, March 2002.