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Portal for knowledge of agricultural informatics

Róbert Szilágyi¹, Péter Lengyel², Miklós Herdon³

Abstract. The Hungarian Association of Agricultural Informatics (HAAI) executes the project "The dissemination of innovative information technologies, agro-economic research and development, adaptation results" as a part of the Social Renewal Operational Program, New Hungary Development Plan. The scientific information portal (<http://tamop.magisz.org/>) assures possibilities for the dissemination and awareness of higher education research and development, innovation results in the agri-foo sector. Moreover, it gives an opportunity for members and teachers, researchers and professionals of this field to ensure their active participation in professional fields. It offers services to individual and corporate members, as well as for those interested

Keywords: portal, knowledge, dissemination.

1. Introduction

The Hungarian Association of Agricultural Informatics (HAAI) executes the project "The dissemination of innovative information technologies, agro-economic research and development, adaptation results" as a part of the Social Renewal Operational Program, New Hungary Development Plan.

Objectives:

- Development of a scientific website, that will disseminate the R & D and innovation results reached towards the economic sector. Furthermore, the aim is to provide information on the site's operational awareness.
- The foundation of the electronic journal "Agrárinformatika/Agricultural informatics (Information technology in the agricultural sector)".
- The publication of research results, publishing books of agricultural information topics.
- Scientific international conferences, organization of national events.
- Support the scientific work of students and young researchers.
- The results of the project receiving a range of two broad categories:
- One target group of the project is those higher education institutions, departments, which are deal with relevant research topics and they are the legal members of the HAAI, furthermore we consider potential members as well as teachers in higher education / research persons and doctoral students of schools. The personal and legal members of the Hungarian Association of Agricultural Informatics are from academic institutions in which higher education is based on academic major, graduate school education in the context of the sciences dealing with research topics, and cultivated. These institutions are the University of Debrecen, Budapest Corvinus University, Szeged University of Sciences, Róbert Károly College, University of Pannonia, St. Stephen University, University of West Hungary. The project will enable the opportunity to provide these

¹ Róbert Szilágyi

University of Debrecen, 4032 Debrecen, Böszörményi út 138., Hungary
szilagyi@agr.unideb.hu

² Péter Lengyel

University of Debrecen, 4032 Debrecen, Böszörményi út 138., Hungary
lengyel@agr.unideb.hu

³ Miklós Herdon

University of Debrecen, 4032 Debrecen, Böszörményi út 138., Hungary
herdon@agr.unideb.hu

teachers / researchers / students to the scientific results are published, peer-reviewed publications of research results recognition and dissemination.

- The another target group of the project are the government of agriculture, specialized administrative and corporate actors who can utilize the research results more effectively. The governance, public and specialized administration an important task using information systems they can give more efficient operation of the e-services to its users within the organization and external partners, customers, operators and farmers. In this task, participants in the systems and services development, operation researchers to take advantage of the results of studies. The farmers in these systems, their own economic development activities, more efficient, the necessary information is very important that the portal is to provide information support.

2. What is a Portal?

First of all we have to declare the narrow and tight definition of the portal. Initially, the term portal was used to refer to well-known Internet search and navigation sites that provided a starting point for web consumers to explore and access information on the World Wide Web.

The original portals were search engines. The initial value proposition was to offer a full text index of document content and a chance to take advantage of the hyperlinking capabilities built into the web protocols.

Internet navigation sites, represented the next phase of portal development. The term "Internet portal" (or "web portal") began to be used to describe the mega-sites because many users used them as a "starting point" for their web surfing. The term "search engine" had become inadequate to describe the breadth of the offerings, although search and navigation are still pivotal to most people's online experience. Compared to the original Internet search engines, Internet portals offer a more structured, navigable interface. Browsing an organized hierarchy of categories developed by people (rather than computers) who scoured the Internet for relevant and useful Websites is more effective than issuing a keyword search against the entire Web.

While these public Internet portals continue to flourish, the market for portal technology is increasingly focused on the better delivery of corporate information. Portal technology has significantly matured since the public search sites were first built, and has been used to build a diverse range of portal types, including specialized portals, workspace portals, marketpace portals, knowledge portals, etc.

2.1. Definition of Today's Portals

Traditionally, a portal denotes a gate, a door, or entrance. In the context of the World Wide Web, it is the next logical step in the evolution to a digital culture. Web pages are not completely self-referential anymore, but allow for personalization, workflow, notification, knowledge management and groupware, infrastructure functionality, and integration of information and applications. The idea of a portal is to collect information from different sources and create a single point of access to information - a library of categorized and personalized content. It is very much the idea of a personalized filter into the web.

Portals are often the first page the web browser loads when users get connected to the Web or that users tend to visit as an anchor site. They offer users a surplus value of service based on the features of classic search engines: a well trained concierge who knows where to search and find; a well-assorted newspaper kiosk that keeps the latest market information about the surfer's personal stocks ready; free communications possibilities like email or discussion boards. Thus, the traditional virtual roadhouses -the search engines- become feel-good entrance halls, a gateways to the internet, easy, one-stop embarkation points for the daily Web-surfing sessions. The hope behind the idea of a portal: surfer start their voyage into the web in a modern entrance hall, and preferably find their way back to the starting point without major difficulty.

2.2. Major Functions of Portals

According to the analyst and consulting company Ovum - as described in their study "Enterprise Portals: New Strategies for Information Delivery", 2000 - the ideal portal is based on eight functionality areas:

- search and navigation
- information integration (content management)
- personalization
- notification (push technology)
- task management and workflow
- collaboration and groupware
- integration of applications and business intelligence
- infrastructure functionality

Although most of the functionality is not new, what is new is the idea that the business value of the whole is considerably more than the sum of its parts. Thus, a successful portal does not only consist of either a good collaboration support or a good integration of the information sources. Rather it consists of - just like a successful cooking recipe - a well-integrated mixture of the basic portal functionalities.

2.3. Architecture of Portals

The basic architecture of portals is depicted in Figure 1. The middle part encompasses all the functionalities and services of an ideal portal, the horizontal portal. These functionalities should at least in part be fulfilled by any portal, no matter how narrow its focus. The bottom part - connectivity services - should be able to integrate any data type that comes into question. Finally, the upper area corresponds to the user interface which enables the presentation of all data and applications.

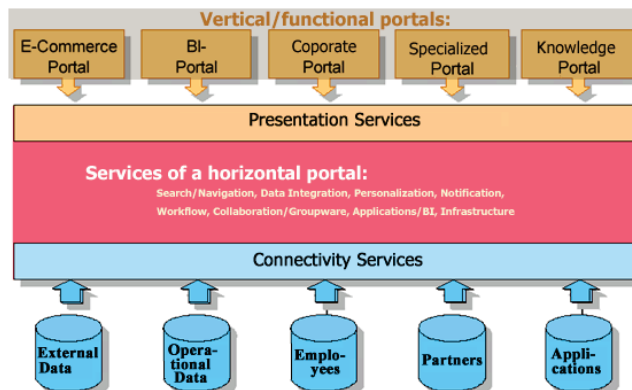


Figure 1. The basic architecture of portals

2.4. HAAI Portal

The scientific information portal assures possibilities for the dissemination and awareness of higher education research and development, innovation results in the economic sector. Moreover, it gives an opportunity for members and teachers, researchers and professionals of this field to ensure their active participation in professional fields. It offers services to individual and corporate members, as well as for those interested.

The structure of HAAI Portal is illustrated by Figure 2. The portal content and functionality reflects the HAAI and the activities undertaken in the project objectives. Accordingly, we developed the structure of menu. The registered users of the portal reached all the functions depending on the user rights.

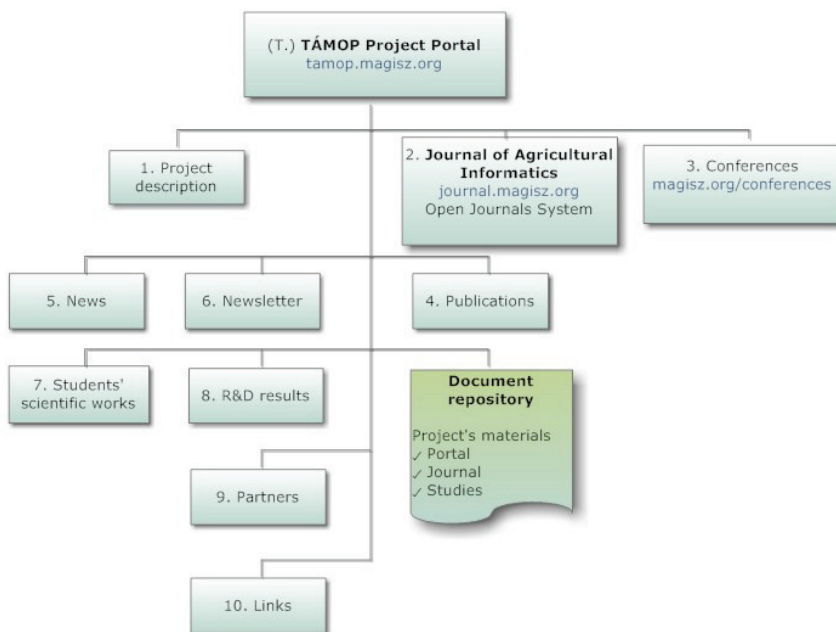


Figure 2. Structure of HAAI TÁmop Portal

The scientific information portal (<http://tamop.magisz.org/>) assures possibilities for the dissemination and awareness of higher education research and development, innovation results in the agri-foo sector. Moreover, it gives an opportunity for members and teachers, researchers and professionals of this field to ensure their active participation in professional fields. It offers services to individual and corporate members, as well as for those interested.

The main menu of the portal:

- *Project description*: we publish the objectives of the project.
- *Journal of Agricultural Informatics*: this is a link to the scientific journal.
- *Conferences*: this side shows our conferences, partner conferences and professional meetings.
- *Publications*: here we can find studies an Agricultural Informatics, conference proceesings, edited issues' Journal of Agricultural Informatics and other proceedings and books.
- *News*: we can tell the latest news here.
- *Message board*: this is possibility for the users to send message event notification to the editors.
- *Partners*: this is a list from the associated organizations and legal members.
- *Document repository*: this is a system for the documents with different user rights.

In the portal development we tried to meet the up to date requirements:

- Interoperability
- Scalable
- Modular portal
- Easy to use
- Social network
- Web 2.0 applications (Facebook, RSS)

The portal image intended to express the activity of the Hungarian Association of Agricultural Informatics and it can be harmonized with the objectives of TÁMOP project (“Innovative Information Technology, Agro-economic research”).

2.5. Document repository

We have used an open source, sophisticated storage and archiving system called PolDoc which enables users in a network to upload and download files that are associated with meta data stored in a MySQL database. Thus users can easily search for documents and files via the quick search bar or an embedded search engine.

Open-source software (OSS) is computer software that is available in source code form for which the source code and certain other rights normally reserved for copyright holders are provided under a software license that permits users to study, change, and improve the software. Open source licenses often meet the requirements of the Open Source Definition. Some open source software is available within the public domain. Open source software is very often developed in a public, collaborative manner. Open-source software is the most prominent example of open-source development and often compared to (technically defined) user-generated content or (legally defined) open content movements. The term open-source software originated as part of a marketing campaign for free software.

System Features:

- **User Management:** the Administrator can set particular roles for users and control where they may upload files.
- **Categories:** the document store can be subdivided into a hierarchical tree and populated with documents.
- **Cat-From-Dir:** you have already a bunch of files in a complex directory structure? Use Cat-From-Dir and the PDDMS recursively descendants into the subdirectories and adds them to the database.
- **Submit Links:** if you just want to give a pointer to a resource you can upload links. No files are submitted to the system, only an entry in the database is made.
- **Set document expiration time:** sometimes you want to signal that a document is outdated and needs an update. The field "expires" takes care of this. Just enter a date and if it's exceeded the document is tagged with an expiration warning and added to the list of documents expired.

2.6. Journal of Agricultural informatics

The Hungarian / English language electronic journal (<http://journal.magisz.org/>) publishes research and application results in advanced information technologies in agriculture. This niche journal improves scientific knowledge dissemination and innovation process. In Hungary in recent years, primarily for development and application of macro-systems (the EU information systems: IACS, Statistics, FADN, Market Price Information System, ...) there have been major achievements in this domain. However the companies and a significant part of farmers are lagging behind it. The aim of the journal is to fill this gap by delivering results of research and best practices to the companies and farms. The task of the journal is to assist the publication of the farm management information systems and technologies, applied methods and knowledge. In addition, besides a number of other application possibilities, the food safety, the internet and mobile application are also important domains for the agri-food sector. A number of research institutions, university doctoral schools work on related topics to agricultural informatics. The journal will be a medium to ensure publishing the research results and help the information exchange between researchers and practical professionals. The peer-reviewed journal is operating with editorial board and trustees-advisory board.

3. Conclusion

In our essay we would like to show few existing agricultural scientific portal. We have to recognise the useable parts and we have to follow the current best practises. Our main goal to create a useable, farmer-friendly scientific portal.

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