Software Project regarding the Appearance and Evidence of New Romanian Organic Products

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Abstract

Open source options for software development offer ways to get software projects done during the current brutal economic climate by providing community-based resources and saving users from paying licensing fees. Open-source applications are gaining more approval in enterprises, particularly in the areas of operating systems, infrastructure applications and development tools. In this paper, authors demonstrate how a web database application can be developed with the triad of PHP, MySQL, the Apache web server and ScriptCase, a complete PHP code generator. This software project is proposed for the Ministry of Agriculture and Rural Development Romania (MARD) and it manages the information about Romanian organic products. The program, which can be implemented nationally, keeps an evidence of the assortment and the emergence of new organic products, production and marketing channels of organic food products in Romania.

Key words: organic products, assortment of organic products, organic operator, open source software, internet based databases

JEL Classification: C82, C88, Q56, Q57

Introduction

The need for designing this program lies in the fact that currently in Romania, there is no detailed statistical data on the assortment and quantity of Romanian organic food products. MARD is the responsible authority for organic farming in Romania. Operators, which activate in this area, are required to register their business annually, according to the type of organic operator, organic areas, organic production estimates, and type of organic production.

The ministry's website lists1 are available with all registered operators in organic farming in Romania, assigned to counties according to their type (producers, traders, processors, importers, exporters) and type of organic production (crops, the livestock, beekeeping, snail farming). The program aims to highlight new Romanian organic products, but also their quality characteristics, thus being also a form of promoting them.

1 www.madr.ro/agricultura ecologică
**Computer Program Description**

The program proposes a national prompt and professional evidence of assortment and quantity of organic agricultural products produced and marketed in Romania, tracking the emergence of new organic products. The program can be implemented in the MARD, as a complement to existing database on registered organic operators using existing documents currently required by "Record sheets in organic farming".

With the computer program "Romanian organic products", all actors involved in organic food production system can access information on the nomenclature of organic food products produced and commercialized in Romania, the new organic products emerged, the quantities produced, the types of their marketing channels.

Initially operators (producers and processors) are required to report their existing assortment of organic products, following that every time there is a new organic product, to register the new organic product in the program. In addition, until the end of the quarter, operators are obliged to record in the program data on production and commercialisation of organic products.

**Open-Source Tools for Development of Internet-Based Database Applications**

At the moment, the triad of PHP, MySQL, and the Apache web server is one of the most popular web development platforms. There are several good reasons for PHP's popularity as a web scripting language: it is easy to include PHP scripts in HTML documents, PHP is free in a monetary and open source sense, it has over a hundred function libraries, and it shares syntax with C or Perl-like languages.

The focus of this program is the web architecture since it is the most common architecture in which MySQL (DBMS software) is used.

The easy approach to getting started in a Microsoft Windows environment is to use an installation package that includes Apache, PHP, and MySQL and we used the PHP Triad for Windows².

Afterwards, the ScriptCase, a complete PHP code generator must be installed. Through a friendly interface, the ScriptCase creates web applications extremely fast with quality and team integration, saving time, lowering costs and increasing productivity. ScriptCase supports most used databases, like Oracle, DB2, MS SQLServer, MySQL, PostgreSQL, Sybase, MS Access and more.

The application source code is PHP and JavaScript and uses AJAX technology. The applications run completely independent from the tool and are compatible with Windows, Unix, AS/400 and other systems. The software development was made directly through the browser, also allowing team integration in a distributed environment.

The advantages of using such an instrument are:

- saving time and reducing costs;
- portability and distributed development (ScriptCase is a web application that allows portability and integration for the development team. Using server side platform, ScriptCase allows the team to develop only using the browser (IE, Firefox). It reduces development cost);
- development focused on priority required by the beneficiaries of the product;

The first step in achieving this computer product was to create the database (Figure 1). This application was created using phpMyAdmin, also included in the same triad, and accessed through URL http://localhost/phpmyadmin.

**Fig. 1.** The structure of database „Produse_ecologice”

### The Solution Chosen

For easy access and easy management, in order to implement this software it was chosen a solution on-line, based on a web page server and database on the one hand, and the operators connected to the server via the Internet or intranet on the other side.

Access is via the browser, and all information is on the central server. The application structure on the first page is arborescent with roots, where you can activate all the functions of the platform (Figure 2).

**Fig 2.** Main menu of program
How to Use Computer Program

In order to use the program one must follow these steps:

- **General data**

Access is gained from the top menu, where you can access general information, introduced by
the program manager from MARD existing database as follows:

  - **Nomenclature of organic products.** You can view the list of codes, classes and types of
    organic production, raising the possibility of adding new ones (New) and update (Update).
  
  - **Inspection and certification bodies.** You can view all inspection and certification bodies
    (code and name) accredited in Romania, with the possible addition of new ones (New) and
    update (Update).
  
  - **MARD registered organic operators.** You can view all registered organic operators.
    There is the possibility of selecting the type of organic operator (producer/processor),
    but also sorting them in the alphabetical order of the name of the operator, the locality,
    district (figure 3).
  
  - **Retailers of organic products.** You can view all traders of organic products by name,
    type of trader, with the possible addition of new ones (New), and update (Update).
  
  - **Marketing channels:** conventional store or specialized organic store.

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**Fig 3. Page regarding to registered organic operators**

- **Organic operators**

Access is gained from the top menu and allows adding new organic operators (Insert). Required
fields are the operator’s name, selection of the organic operator (producer/processor) and
selection of the inspection and certification body.

- **Adding new organic products**

Access is gained from the top menu. Initially all organic operators must insert in the program the
existing assortment of organic products. Every time there is a new organic product, the organic
operator introduces new organic product name, selects the class of products from the nomenclature
of the organic products, introduces the term of validity, uploads product photo, enters the unit, the
list of ingredients, the identification lot, the packaging type, the initial stock, the standard and
nutritional value (Figure 4).
Adding operations with organic products: Production and Commercialization

During a quarter, the organic operator is required to introduce both the obtained and the sold organic production by the date of achievement and the sale date (Figure 5).

Fig. 4. Adding organic products in the program

Fig. 5. Adding operation with organic products in the program
• Reports

○ *The assortment of the Romanian organic products.* You can view all assortment of organic product structured by name, product class, operator name, term of validity, list of organic ingredients, packaging (Figure 6).

![Fig. 6. Page regarding to the assortment of Romanian organic products](image)

○ *List of organic products grouped by categories of organic products and operators.* Select organic class product and/or organic operator to view a class of organic products and/or all organic products of an operator (Figure 7).

![Fig. 7. Page regarding to the list of organic products](image)
- New assortment of organic products appeared in a period. Select a time to view the new appeared assortment of organic products (Figure 8).

![Table showing organic products](image)

**Fig. 8.** Page regarding to new assortment of organic products appeared in a period

- Amount of organic products made by classes of organic products. Select class to view the production of organic products (Figure 9).

![Table showing production of organic products](image)

**Fig. 9.** Page regarding to amount of organic products made by classes of organic products
Conclusions

Technology still drives the new economy, the e-economy. The Internet - with the software and communication technologies that drive it - keeps changing everything. Evolving business needs and technology innovations are driving continuous changes in every aspect of the software delivery industry as a whole.

Developing a Web database application based on the open source software is a MARD recommended proposal to easy access to all information related to organic products in Romania.

References

7. www.scriptcase.net
8. www.madr.ro

Program informatic privind urmărirea apariției și evidența noilor produse ecologice din România

Rezumat

Soluțiile open-source pentru dezvoltarea de produse software oferă modalitatea de a obține, cu costuri reduse, proiecte software în contextul situației economice actuale. Aplicațiile open-source câștigă tot mai mult teren în domeniul economic și - în particular - în domeniul sistemelor de operare, infrastructurii și instrumentelor de dezvoltare. În acest articol, autorii demonstrează cum poate fi realizată o aplicație web tip bază de date folosind triada PHP, MySQL, serverul Web Apache și sofletul ScriptCase, un generator complet de cod PHP. Acest proiect informatic este propus pentru Ministerul Agriculturii și Dezvoltării Rurale (MADR), gestionând informații despre produsele ecologice românești. Programul, care se poate implementa la nivel național, realizează o evidență clară a sortimentului și apariției de noi produse ecologice, a producției și canalelor de comercializare a produselor agroalimentare ecologice din România.