e-Romania – A Citizens' Gateway towards Public Information

Doina Banciu

National Institute for Research and Development in Informatics – ICI, Bucharest

8-10 Averescu Avenue, Bucharest 1, România

doina.banciu@ici.ro

Abstract: The paper presents the concepts and implementation for the portal e-Romania. The "e-Romania" concept, launched in June 16, 2009 by the Romanian Ministry of Communications and Information Society is the mandatory and necessary starting point for the development of *e-Romania* Portal. For testing purposes the configuration of e-Romania portal was based on a Content Management System (CMS).

Keywords: management of digital content, culture of knowledge, national retrospective bibliography, biblioteconomy, multimedia, database.

Professor Doina Banciu, General Director of the National Institute for Research – Development in Informatics, ICI Bucharest, and chair of Applied Computer Science at the Bucharest University, has important contributions in the progress of Romanian information society, with special achievements on *e-Government* issues. She coordinates the *e-Government* master degree program at the Bucharest University. Prof. Doina Banciu holds a Ph.D. in System Engineering, is author/co-author of 15 books; 9 textbooks, courses, guides; over 100 articles and studies, published in Romania and abroad. Her research interests include the theoretical and practical aspects of nation-wide information systems, in particular, the development of electronic documentation resources.

1. Introduction

"An information society for all" has represented a European motto since as early as 2002, when the action plans "eEurope", "eEurope+" (the latter was dedicated to EU adhesion candidate countries at that time) and "e-Europe 2005" were launched. In the same period, the Lisbon strategy, re-launched in 2005 within the European Council, was aimed to make the EU a strong and competitive knowledge-based economy by 2010.

The 2010 strategy had three main priorities:

- Creation of a single European information space meant to promote an open and competitive digital economy that may capitalize on the European market and services related to the information society;
- Support for innovation and investment in IT&C research in order to promote the economic development;
- Creation of a comprehensive information society which will ensure the economic and work force development that will further lead to better quality public services and better quality of life;

digital information has undoubtedly gained an unprecedented leading role in the development of all domains of activity as well as of each individual.

As early as the end of the past millennium, when the EU concept "e-Government" or new technology-based government was launched, central and local public administrations from various countries started to create suitable information tools for the citizens to find what they were looking for. These tools have been developed on products and services specific to digital information.

Starting with the widely known "info-kiosks" which offer information services and even ticket-issuing in various public places and ending with interactive portals, the relationship between citizen and administration is frequently based on digital services. As was the case with the digital cultural information, the wide spreading of information has triggered some undesirable side effects, out of which the most important is probably the citizen's feeling of "getting lost" in the tremendously large volume of digital information often accompanied by "the information noise".

Hence, various initiatives were taken in many countries of the world with a view to creating single access points to digital information at

national level (e-Austria [2] initiative or e-Mexico Portal [3], etc.).

2. e-Romania Concept

In Romania, in the recent years, the public administration, libraries, museums, tourism offices, church organizations, etc. have developed their own web sites which comprise a significant volume of digital information. The previously mentioned effects of "getting lost and informational noise" have started to show up frequently for the Romanian users as well when they look for information in the Romanian language. Therefore, setting up a unitary portal of single access to the digital information in Romania represents an initiative that has been necessary in Romania for so long.

The "e-Romania" concept, launched in June 16, 2009 by the Romanian Ministry of Communications and Information Society is the mandatory and necessary starting point for the development of *e-Romania* Portal. The creation of *e-Romania* Portal proves to be an elaborate work which entails significant time and resources as well as relevant professional competence on at least two levels:

- information technology competency that may enable the development of e-Romania Portal, and
- competency on the digital content.

Competency in information technology can be ensured with certainty by companies that activate in IT&C area, while the Ministry for Communication and Information Society (MCIS) is supposed to manage the whole quality system for the central public administration, which has, by law, abilities to coordinate activities in the field of information technology.

Competency regarding the digital content is an issue that concerns all digital information suppliers appointed. It is obvious that, for instance, the local administration of a given county has to take responsibility for the content published on the e-Romania portal.

ICI has been involved in designing the concept for the e-Romania portal as a result of numerous research and development projects conducted by this institute since 2000. Thus, competency in IT&C fields, forged ahead by these projects has been directly reflected in the e-Romania system, proving once more, that "products" of research activity can be used at any moment given that will and determination are shown.

3. e-Romania Implementation

For testing purposes the configuration of e-Romania portal was based on a Content Management System (CMS). This system allows organizing, controlling and publishing of documents or any other type of content (images, multimedia resources). Such a solution was employed given the facilities a CMS offers:

- importing and generating documents and multimedia material;
- identification of key-users and their role in the process of content management;
- ability to assess roles and responsibilities to different types of content;
- ability to follow up and organize several versions of the same type of content;
- ability to publish the content into a library (relational database) that can process inquiries from users based on vary criteria;
- editable content including WYSIWYG (what you see is what you get) tools, allowing authorized users to create and edit types of content;
- templates that can be personalized;
- possibility of extending the functionality using plug-ins or modules;

The system runs on an Apache server offering controlled access for different types of users such as administrators, editors, content creators. The content upload can be achieved through a web interface upon login (ID and password protocol). Creators upload the content into the system; editors accept it or reject it, than arrange the layout for the site. The chief editor is responsible for publishing the content on the site. All these

operations can be tested in the test version of e-Romania.

The system uses for database processing MySQL and PHP (Hypertext Preprocessor) [1]. Data is "compiled" in html pages and transformed using CSS (Cascading Style Sheets – standard for formatting elements within an HTML document).

With these characteristics as a starting point, a testing system has been set up, aiming to verify the functions that need to be provided within the e-Romania portal. The framework is presented in Figure 1.

The system will have all functions previously presented, and, in addition a high-performance security module dedicated to protect against data breach.

The e-Romania portal, as concept, will provide two categories of information, each corresponding to a different execution level:

- National level – information of general interest, broad enough to allow shifting to a different degree of details;
- Regional level – connected portals – detailed information of regional interest (county, city).

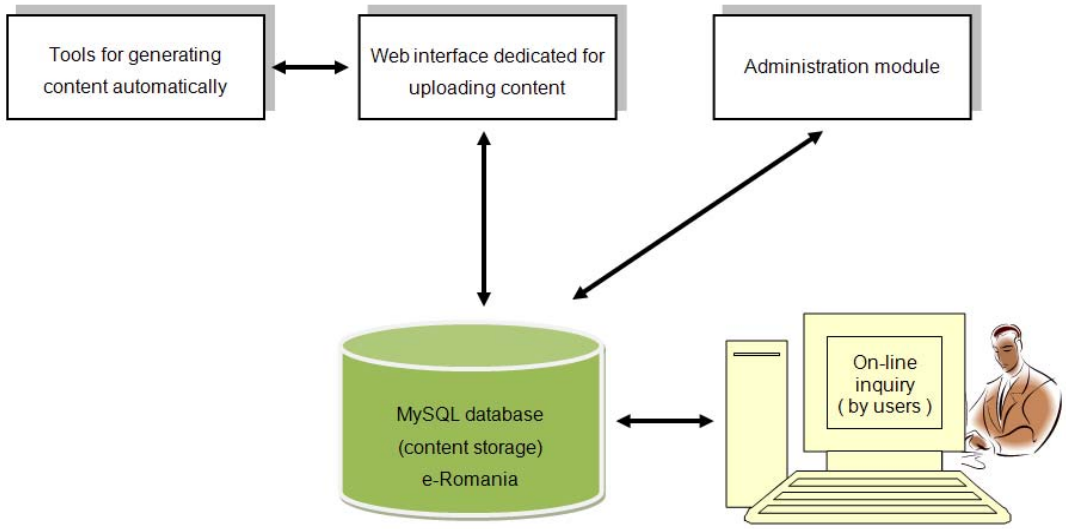

Figure 1. e-Romania portal – concept design

For a timely response the system has two cache levels, one internal on site, avoiding interrogation of MySQL [10] database on each inquiry, and one for the Apache server.

The platform has three-level architecture:

- Interface
- Relational coding
- Database

Presently, the system is functional and installed on a dedicated server at *ICI* Bucharest. This is going to operate until the whole e-Romania system has been functional.

The structure of the portal is a hierarchical one, from the national to the regional level, as well as, an opened one, so it allows input of new subjects of interest, depending on the evolution of the content.

Presently, for testing purposes, the main interface of e-Romania portal uses only Romanian language. The structure of the portal is presented in Figure 2.

Figure 2. e-Romania portal

Some of the main topics and part of the information structure are presented below:

- Home
- About Romania
  - Etymology, National Symbols, Romanian History
  - Geography
  - Demography
  - Economy
  - Culture
    - Language and literature, humor
    - Arts and cinematography
    - Traditions and beliefs
    - Artists
    - Monuments and Architecture
  - Government
    - Politics and administration
    - Prefectures
    - Judicial system
    - Foreign policies
    - National defense
- e-Government
  - Citizen
  - Companies
  - Employment
  - Statistics
- e-Religion
  - History of Christianity in Romania
  - Religious cults in Romania
  - The Church and the State
  - Churches and Monasteries
- e-Business
  - Macro-Economy
  - Business environment
  - Small and Medium Enterprises
- e-Culture
  - Virtual Libraries
  - Virtual Museums
  - Virtual Galleries
  - Virtual Performances
- e-Education
  - Legislation
  - Services
- e-Justice
  - Legislation
  - Services
- e-Environment
- e-Involvement
- e-Healthcare
  - Legislation
  - Services
- e-Sport
- e-Transportation
  - Legislation
  - Services
- e-Tourism
  - Services
- e-Prefecture

Generally, the provisionary execution stages are as follows:

1. Define the structure of the e-Romania portal and outlining the "access points" in the main menu (national level).

2. Identify the official portals of the administrative apparatus, centrally and regionally, eliminating redundancies (if such cases occur) and ensuring that each piece of information has its unique location.

3. Define the structure of connected portals (county, city) and the "subject points", broad enough to allow description of specific activities. The system will allow input of new subjects (topics) if such cases occur.

4. Establish categories of data to appear on the national level of the portal and means of collecting / introducing data in such way so information would be coherent, consistent and official for the main menu related to the structure and the defined degree of detail.

5. Establish the generic information for the regional level; "the structuring of the content" for each of the administrative regional units (area, cities, geographical position, etc.) as to ensure consistency of the information.

6. Define the ways of access – links, starting points, number, and structure of information referred to.

7. Estimate the volume of information and the technical resources (servers, software, license), as to ensure the necessary technical background needed for the proper functioning of the portal.

8. Ensuring a high level of security.

The final technical solution for e-Romania portal will be settled by the end of 2009, within a project financed by MCIS, known as "e-Romania Strategy". Aside from the IT&C solutions it is necessary to elaborate definite procedures regarding the data exchange methods and the responsibilities regarding the content.
All details concerning implementation will be set within the project mentioned above, from which details it must emerge both, the managing framework, as well as the legal framework related to the very administration of the site.
Regardless of the technical solutions employed, the base structure for the portal will be as presented in Figure 3.

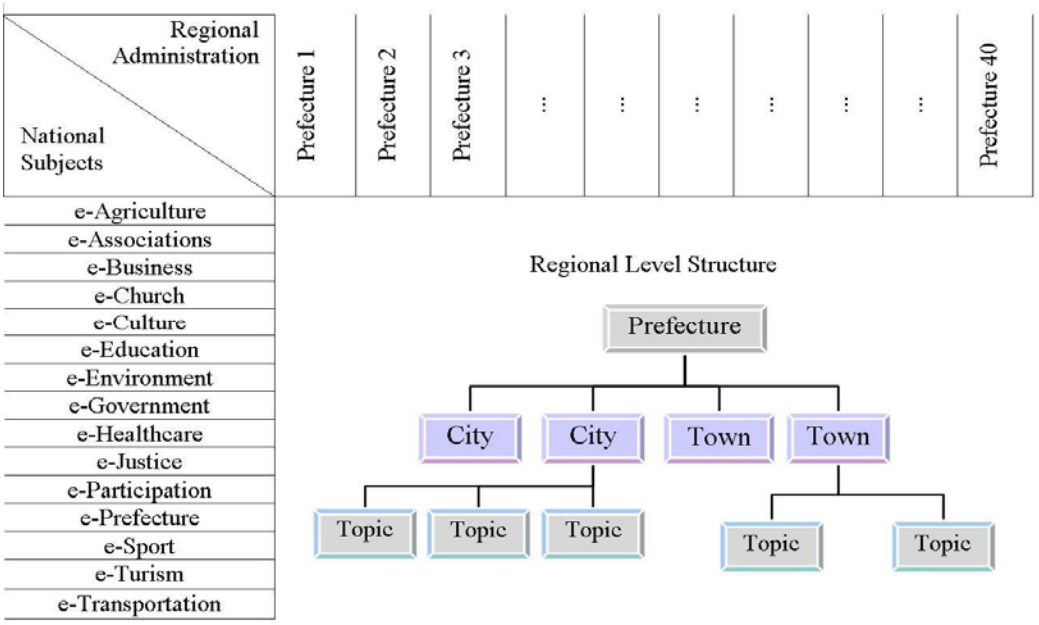

Figure 3. The base structure of e-Romania portal

4. Conclusion

The mainframe of the portal is presented at http://romania.gov.ro.

The concept presented has shown that structuring of the information on national level needs to be done in a logical, consistent, coherent and accessible manner, so that any user, without Internet surfing knowledge may gain information and use on-line services.

The e-Romania portal is an ever accumulating system; information contained can become active at any moment (digital information on e-Romania portal is permanently potentially active). For these reasons, responsibility concerning the digital content is the duty of institutions with competencies in each domain / sub-domain designed within the portal.

Only in this way the e-Romania portal can become an instrument of genuine interest for each citizen, and can prove its utility in the context of the contemporary information society, as stipulated as early as 2005 by the i2010 Strategy.

REFERENCES

1. * * *: Les sessions en PHP, http://php.developpez.com/cours/sessions/
2. * * * : http://www.eaustria.org/
3. * * * : http://www.e-mexico.gob.mx
4. * * *: NUSIDOC-S&T - Unified national system for scientific and technical information and documentation – unification of library networks [Research project, POLITEHNICA University of Bucharest, 2008].
5. * * *: SINRED - National system for management of digital resources in science and technology, system based on GRID structures [Research project, University of Bucharest, 2007].
6. * * *: SIPADOC - Integrated system for digitization and capitalization of cultural documentation patrimony [Research project, University of Bucharest, 2008].
7. ANDERSEN, K. V., **E-Government and Public Sector Process Rebuilding: Dilettantes, Wheel Barrows, and Diamonds**, Kluwer Academic Publishers, Boston, 2004, p. 223.
8. MONSON-HAEFEL, R., **J2EE Web services**, Addison-Wesley, Boston, 2004, p. 887.
9. NARDELLI, E., M. TALAMO, **Certification and Security in Inter-Organizational E-services**, Springer, New York, 2005, p. 149.
10. RIVEREAU, N., A. PICHOT, **MySql**, Micro Application.
11. TRAUNMÜLLER, R., **Electronic government**, Springer, New York, 2004, p. 584.