THE USE OF WEB APPLICATION CADGEN FOR DATA SUPPLIERS RESULTING FROM GENERAL CADASTRAL SURVEYS

Andreea Nicoleta LĂZĂROIU, Denisa Izabela BARBĂLATĂ, C. BÂRLIBA

*Banat's University of Agricultural Sciences „King Michael I of Romania"
and Veterinary Medicine Timisoara - Faculty of Agriculture
E-mail: <u>andreeeanicoleta@yahoo.com</u>

Abstract

WEB CADGEN application is a part of the informational tools package for data migration from General Cadastral in the system integrated by Cadastre and Real Estate Register. General Cadastral is the unitary and mandatory system of technical, economic and legal records of real estate throughout the country. A Cadastral survey is a project developed on a certain period of time, and has as a purpose collection, approval, correlation, aggregation and delivery to the beneficiary of his own technical and legal data of General Cadastral record. The realization of cadastre is not only a mapping of real estate but also actual determination of property right and collection of the data necessary for property and possession rights certificate. The process needs a permanent interaction with citizens both at their residence and in the field. During cadastral surveys the contractor will retrieve information of a legal nature that take in the account identification of all real estate owners and registration of property right in real estate register, based on transfer, constitutive or declaratory deeds, as well as documents that provide possession. The owner is the legal part that contracted service realization from general cadastral survey; in the current situation, the owner of general cadastral surveys is ANCPI. The supplier is the legal part that provides general cadastral survey service realization, performing measurements, data collection, approval and correlating to deliver them to the owner a full cadastral data package on the contracted area. The supplier can retrieve from eTerra database all the information corresponding to an UAT, to a set of selected properties, etc. for which he will prepare the general cadastral survey. He will process in his own production system the extracted data and the rest of information gathered from the field, etc. and will generate a new actualized data set.

Key words: WEB application, general cadastre, Digital Real Estate Register.

INTRODUCTION

WEB application is part of data migration tool in general cadastre and allows data extraction from eTerra system in digital format .cgxml, similar to format .cpxml utilized in occasionally cadastre.

The supplier has the obligation that the resulting data from general cadastral survey to be handed over to ANCPI in electronic format .cgxml.

The .cgxml file type are similar to .cpxml file type and represents the standard electronic format of cadastral-legal, textual and graphical information, corresponding to a land that needs registered in cadastral and real estate advertising evidence managed by ANCPI.

Real estate represents neighboring plots with or without building that belong to the same owner, with the mention that, in the context of general cadastre, in a real estate can be

condominium buildings, so the ownership of the land and building (shared parts) can be shared between the owners of the individual units.

The component of a real estate can be: land, permanent building and individual unit.

All resulting data from general cadastral surveys are handed by the suppliers to ANCPI in .cgxml format, these files were checked/approved previously using WEB CADGEN tool provided by ANCPI.

ANCPI uses a desktop application for validation of data handed by the suppliers both from the technical point of view (geometry / graphics and textual / descriptive data) and legal (data on property and other). The data that are validated to be correct are "promoted" on the active real estate layer of eTerra system.

The eTerra computerized system manages technical and legal information regarding Real Estate Property within ONCPI/BCPI and centrally in ANCPI.

WEB CADGEN application is intended to facilitate the access to existing data in occasionally cadastre in area of concern for suppliers of cadastral surveys and to allow them to verify/validate the files resulting from their own production system, before they handed to ANCPI as delivery within general cadastral project.

MATERIAL AND METHOD

Web application cadGEN is intended for providers of cadastral works to facilitate access to existing data from cadastrul sporadically on the area of interest and to enable them validation/verification system files resulting from their own production, before you submit ANCPI that delivery under the project the cadastral reference general.

User Log In

Functionality "Login User" user access to the application.

After a successful authentication the user will have access to application functionality present in the right menu page: functionality for " SUPLIER " or management functionality providers / users in the menu "ADMINISTRATION".

Figure.1 – User Login

For Log in the user will fill the fields: *'User', 'Password'*.

Then push the '*Log in*' button.

In case the name or the password of user are incorrectly introduced, it will appear an error massage that will notify the user to reinsert the name and password.

SUPPLIER MENU

After the user is logged in the system, based on his assigned roles, that regulates the access to application functionality, the menus will activate automatically for his assigned roles.

If the user has the supplier role, in the right bar he will activate the menu for the suppliers.
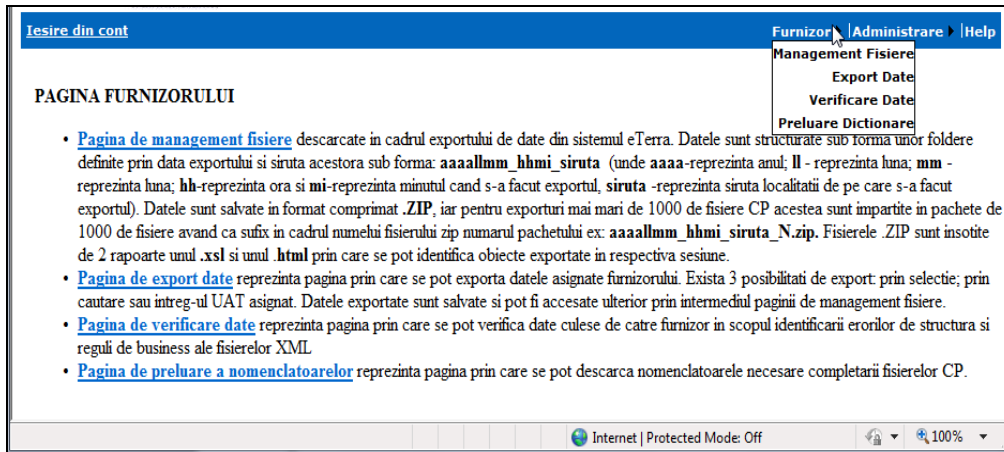

Figure 2 - Page Provider

- ***File management page downloaded*** under data export from eTerra system.
- ***Export data page is the page*** in which it can be exported data assigned to the user. There are 3 possibilities of export: by selection; by search or the whole UAT assigned.
- ***Verify data page*** is the page in which it can be verified collected data by the supplier for the purpose of indentifying the structural errors and rules of business of the XML files.
- ***Nomenclature pick up page*** is the page in which it can be downloaded necessary nomenclature for completing CP files.

File management page

The cadastral data extracted from eTerra by the supplier logged in the system are structured in the form of folders defined by the date of the export and SIRUTA in which they are part, under the form: aaaallmm_hhmi_SIRUTA.

(Were: aaaa-year

ll-month

mm-day

hh-hour

mi-minute when the export was made,

SIRUTA- is the code of the town from where the export was made.)

The data are saved in .ZIP format, for exports bigger than 1000 files CP then these are divided in packs of 1000 files having as a suffix in the name of the file .zip the number of the pack ex: aaaallmm_hhmi_siruta_N.zip.

The files .zip are followed by 2 reports, one .xls and the other .html, which can identify the objects exported in the session.

Selecting a folder from the right side of the page, in the left it will be displayed the files that are in that folder:
- The archive .zip with all CGXML corresponding to that UAT
- A report .xls that contains a list of all the real estate exported in that session
- A report .html that contains a list with all real estate exported in that session.

Figure 3 - The content of a report. Export html data provider

Export data page

Data Export page is the page that can export data eTerra appropriate cadastral system areas (lots) assigned to the respective provider according to certain criteria for searching / filtering.

The data exported in CGXML format serve to the supplier for realization of the survey.

There are 3 possibilities for export: through selection, searching or through all the selected UAT.

The exported data are saved and can be accessible after through the file management page.

The "*Search after Elements*" section allows filtering real estate from eTerra database after some critters:

Address: district, city/village/municipality

Searching type: modify from…, etc.

The "*Searching after Address*" section allows searching real estate from eTerra database after address data:
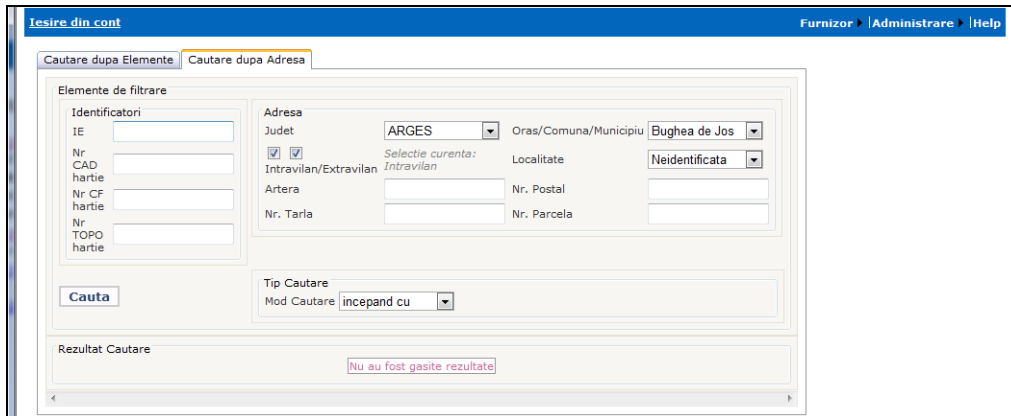
Figure 4 - Page Export data provider

Verify data page

Is the page in which it can be verified the data collected by the supplier within general cadastral survey.

This check is necessary for the purpose of identifying the error structure of the XML files that will be handed over to ANCPI and to ensure that the business rules of cadastre and real estate registry are followed.
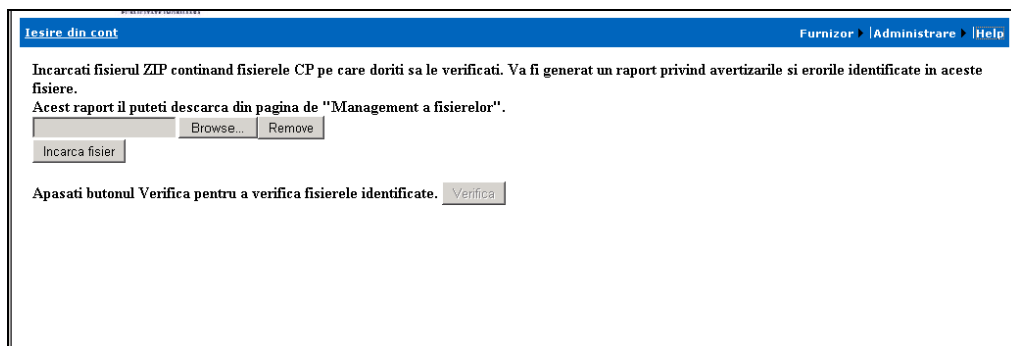

Figure 5 - Page data verification

The "Browse" button is pressed for accessing the .zip archive that contains .CGXML files that need to be verified.

After selecting the file that contains .CGXML file needed to be verified, click on the "Attach file" button.

Click on "Verify" button to start the verifying of each file CGXML.

Based on the number of the files that needs to be verified and the content, the time of processing can be shorter or longer. The process can be tracked on the window:
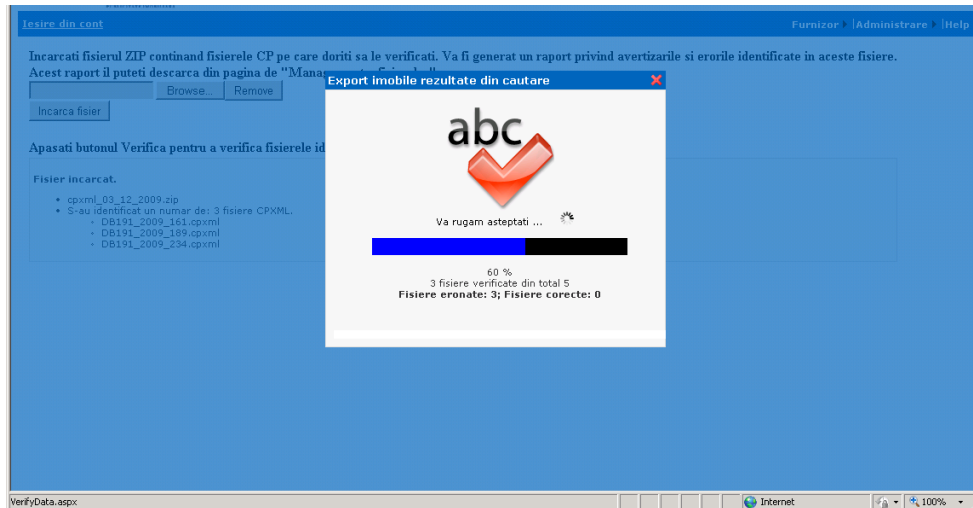
Figure 6 - The progress of the verification process

After the verifying is done for all the files from the .zip archive, a message of confirmation will appear:
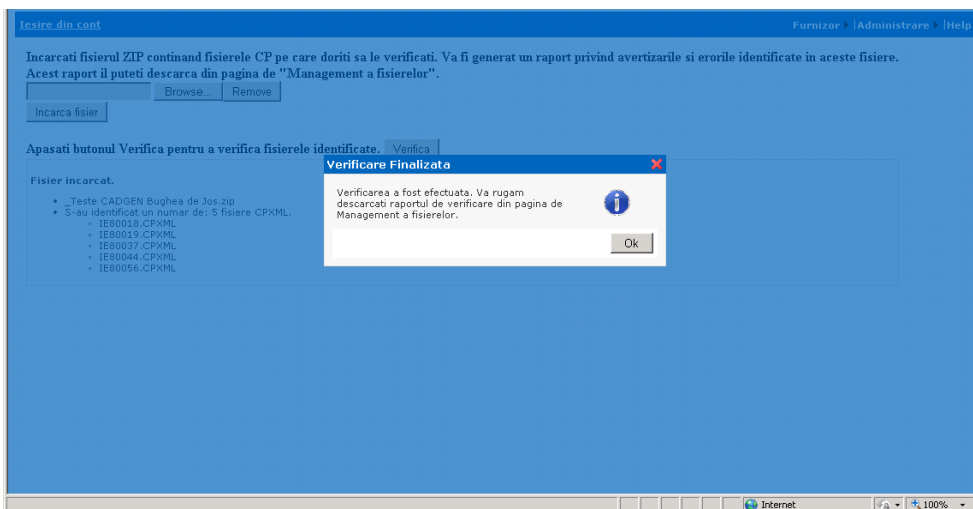

Figure 7 - message confirming completion of the verification process of the archive. Zip

Nomenclature pick up page
Allows the extraction from nomenclature database, the list of codes from eTerra and the export of them in XML files necessary to supplier for completing CGXML for the real estate that are the object for general cadastre.

RESULTS AND DISCUTIONS

Web cadGEN application is destined to cadastral surveys done by the suppliers for facilitate the access to existed data in occasionally cadastre in that area of interest and to allow them to check/validate the files resulted from their own production system, before handing them over to ANCPI as a delivery withing general cadastral project.

Principal objective of WEB CADGEN application are:

- Efficiency and automation of the process of existent data delivery in eTerra system to executors of general cadastre survey, so that it can be actualized and integrated in data set delivered at the end of the survey.
- Efficiency and automation of the process of validation/verifying of the .cgxml files with cadastral data and by real estate registry, resulting after the survey.
- Standardizing the documents: the standard format of the files "bearing" cadastral data.
- Securitization the information
- Following the events in system

Also the XML file utilized by ANCPI at the reception of data delivered to be registered in the cadastral-legal record it needs to follow some rules of verifying and validating regarding the structure and content:

- Rules regarding the components of the real estate and belonging relation
- Rules regarding the structure of the components in the real estate
- Rules regarding graphic representing
- Rules regarding numbering the components in the real estate
- Rules topological about representing graphic data
- Rules regarding the relation between the components of the real estate and registration
- Rules regarding the structure of the registration

CONCLUSIONS

WEB CADGEN application is a part of the information tool pack for migration of data delivered from general cadastral system.

The application allows extraction of data from eTerra system in digital format .cgxml, similar to .cpxml file type and represents the standard electronic format of cadastral-legal, textual and graphical information, corresponding to a land that needs registered in cadastral and real estate advertising evidence managed by ANCPI.

All resulting data from general cadastral surveys are handed by the suppliers to ANCPI using this application.

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