SITNA GEOPORTAL: TOWARDS THE INTEGRATION OF TERRITORIAL INFORMATION

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Abstract

The territory can be observed in thousands of ways and, as a new aspect, it supports a growing number of services. Dissemination of geographic information shows exponential growth, but users, once their initial needs have been satisfied, are looking for definitive information and services, in order to overcome the limitations of diverse and disperse, although interoperable, information.

Since the SITNA (Navarre Territorial Information System) website was launched in 2000, a wide range of offers have been developed in the region of Navarre (IDENA, IDEPamplona, PCyP,…), which receive more than 25 million requests every year. Departmental information and services (Cadastre, Environment, Urbanism, etc) have also been consolidated in the Government of Navarre.

One of the main challenges for the SITNA Geoportal (http://sitna.navarra.es), as a new meeting point for territorial information users in Navarre, has involved integrating different types of available information (data, metadata and documentation), tools (viewers, search engines, SITNAMAP…), resources (downloads, links, news) and services.

At the same time, SITNA Geoportal has been incorporated into the Government of Navarre portal, where a new topic area dedicated to TERRITORY has been created. Different components of the Geoportal and departmental geographic information can be displayed using the Navarre portal.

Over the Internet, the Geoportal structures the service offer using different supports: Tablet PC, PDA, mobile phones, 'kiosks', Digital Terrestrial TV… with increasing potential and with the specific possibility of expanding the uses of geographic information universally.

The SITNA Knowledge and Participation Portal (Portal del Conocimiento y Participación - PCyP) (http://ww2.pcypsitna.navarra.es), designed to manage knowledge, facilitate work-planning and progress, and users' participation integrates and is integrated within the Geoportal. Its public access is oriented mainly to facilitate top-down, bottom-up and horizontal communication, with, from and among users, and to foster their participation in SITNA's development. Anyone with corporate or restricted access will also find a tool to manage knowledge and participate in the different coordination bodies and participate in managing projects and services.

In this respect, the territory has shown its potential as a tool for modernising public administration and, consequently, improving services offered to society.

SITNA constitutes a new access route for citizens, personalising the attention that administrations are obliged to offer to society; it represents an indisputable push for the Information Society and the e-administration; it requires cooperation and interoperability; it demands horizontal planning, managing and evaluation models of their activities; it configures the territorial model of a Corporate Information System; it requires high quality information, data, metadata and processes; finally, it requires a communication and participation plan, efficient knowledge management, starting-up collective learning processes and sufficient change management.

However, all the above falls into statistical information processing, no matter how occasionally it is updated. In some specific developments, dynamic management of the territorial information (transfers of real estate, forest management, etc.) has demonstrated all its potential to integrate the most diverse tasks needed up to now in a single process. The most efficient service and the quality of data and processes are the most important results for future dynamic integration of geographic information.

Introduction

Navarre is a small region located in the north of the Iberian peninsula; if we analyse the majority of parameters (surface area, population, GDP, etc.) we can see that it represents around 2% of the Spanish state. If we consider the main economic and social indicators, we find that it stands above the European average.

The history of the Foral Community of Navarre shows that it has always had a wide range of highly important competences. These include some decisive aspects when looking at the issues we are covering: cadastre, mapping, urbanism, etc.

Making full use of these competences, the first Mapping Plan for Navarre was approved in 1966 and, midway through the 1960s the first steps were taken towards modernising the Cadastres. The basic and cadastral mapping will give accurate and homogeneous

georeferencing for many other geographic subjects, leading to important departmental developments: the Environment Information System, the Map of Crops and Land Uses, the Urbanism Information System, etc.

This accumulation of basic information and the experience which its processing generates can be added to the availability of technology springing from setting the public company Trabajos Catastrales, S.A. in 1982.

Midway through the 1990s, inter-departmental collaboration experiments began, initially bilateral and occasional and later multilateral and permanent, becoming information integration procedures. These processes consolidated a human team, which presented the SITNA project to the President of the Government in spring 2000, benefitting from solid political support from the very beginning.

In 2001, the Government of Navarre approved SITNA: Territorial Information Systems of Navarre. SITNA is the organised set of human, technological and organisational resources which make up and regularly update, manage and distribute information on the territory of Navarre. These resources have to be coordinated so that they increase the efficiency of the different units which feed the system and allow each user category to receive the information which meets their needs in the most suitable conditions. SITNA aims to incorporate all information referring to the territory of Navarre and make sure that this is available wherever, whenever and however it is required. The internet is one of the most popular distribution channels. In colloquial terms, this refers to everyone's territorial information being available for everyone.

Background

Since SITNA appeared on the INTERNET (http://sitna.navarra.es) at the end of 2000, it has been consolidated as the preferred channel to diffuse spatial information in Navarre. SITNA's website has exhibited the vast majority of territorial information which is generated by public administrations and other public and private entities from Navarre. Since it was set up, it has provided a service not only to society but also to public administrations by providing them with data (orthoimages, different scale cartography and thematic maps, etc.) and tools which they need to make decisions.

The tendency of the requests received over these last few years is clearly growing, although experiencing a certain stagnation between 2006 and 2008, as we can see in the graph. Publishing the Geoportal has led to a significant increase (around 40%) of hits.

In 2003 the 3D version was published, a pioneering initiative which caused great expectation as demonstrated by the requests statistics.

In the second semester of 2004, the SITNA governing body approved the creation of IDENA (Navarre Spatial Data Infrastructure) which is the system's answer to requirements from INSPIRE and IDEE (Spanish Spatial Data Infrastructure). IDENA (http://idena.navarra.es) was presented in spring 2005 and has been receiving more than 200,000 monthly requests to their WMS services (more than a hundred). Developing IDENA has made it possible to substantially expand what SITNA's WEBSITE can offer and it has also involved adopting principles from the INSPIRE Directive. This adaptation also implies that all the data in the system, wherever it is diffused, must have standardised metadata.

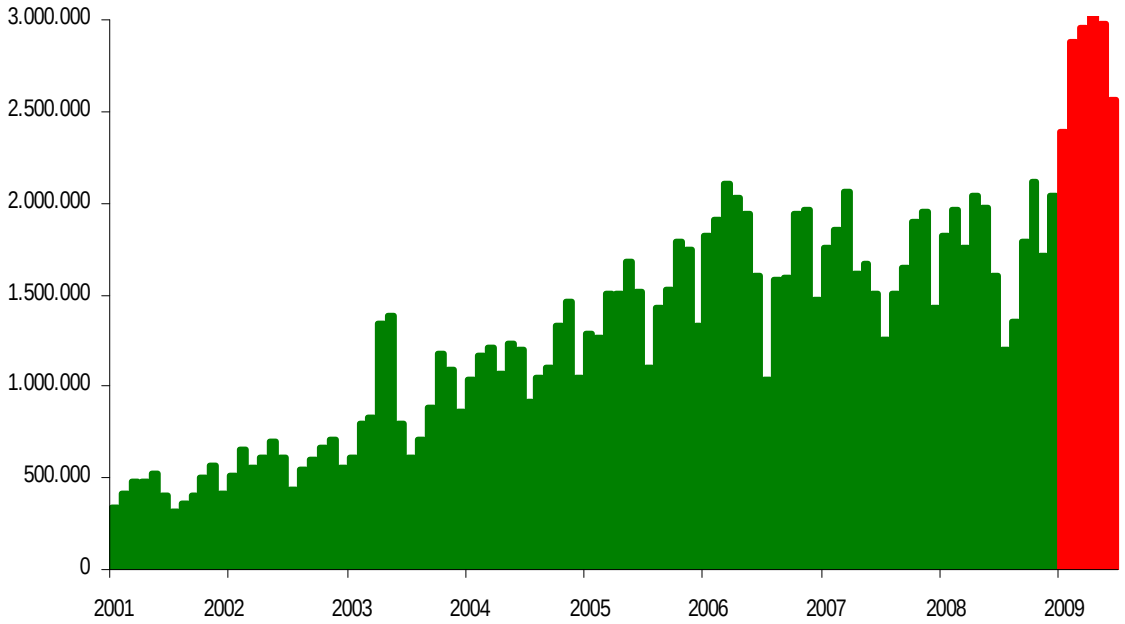

Figure 1: Number of requests to the SITNA web

As a result of the Collaboration Agreement signed between the Government of Navarre and Pamplona City Council, the start of 2006 saw the presentation of IDEPamplona (http://ide.pamplona.es), the second local IDE published in Spain.

A corporate system with horizontal management, one of SITNA's most differential assets, requires efficient knowledge management. A new type of offer aimed at an unknown audience requires communication (upwards, downwards and horizontal) and agile user participation. These requirements aim to be met by the SITNA Knowledge and Participation Portal (http://ww2.pcypsitna.navarra.es) published in September 2006. Its public access is fundamentally aimed at providing communication with, from and between users and strengthening their participation in how SITNA develops. Anyone with corporate or restricted access can also find a tool to manage knowledge, to participate in the different coordination bodies to manage projects and services.

Simultaneously we have also been developing different sector-based offers for information and services over the Internet which respond to different management requirements from the Navarre territory: Catastro, SIUN (Navarre Urbanism Information System), SIGPAC, Mapping Shop, Biodiversity Data Infrastructure, Meteorology and Climatology, Underground Channel Coordination Portal, etc.

SITNA is not just available on the INTERNET. SITNA VISOR is the tool used for management: more than 400 units with 23 specialised profiles for more than 1200 users; their version for Tablet PC (SITUA) has 4 profiles for 30 units; in the Kiosco format it is used in 30 towns. Tools have also been developed for PDA and others are being prepared for mobile phones and for Digital Terrestrial Television which will mean the possibility of expanding the uses of geographic information universally.

The diffusion of Navarre's territorial information which was done exclusively for years through a WEBSITE has been diversifying, aiming to personalise contents, functional features and supports to adapt to the specific needs of the different user collectives.

Within this perspective, SITNA decided to reconsider the role of its geographic portal and move towards a new design for contents, services and technological components. The result has been evolving from an Internet portal, until now centred exclusively on a search engine and displaying information, towards a Geoportal, which compiles and structures the whole data and public service offer for the territory of Navarre.

The territory has shown its potential as a tool for modernising public administrations and, consequently, for improving the service given to society. SITNA constitutes a new access route for citizens, personalising the attention that administrations are obliged to offer to society; they represent an indisputable push for the Information Society and the e-administration; they require cooperation and interoperability; they demand horizontal planning, managing and evaluation models for their activities; they configure the territorial model of a Corporate Information System; they require high quality information, data, metadata and processes; finally, they require a communication and participation plan, efficient knowledge management, starting-up collective learning processes and sufficient change management.

Geoportal

The territory can be observed in thousands of ways and, as a new aspect, it supports a growing number of services. Along with the diversification and personalisation of their offer, mentioned above, the efficient exploitation of geographic information has to make way for a whole host of services, even though their presence might seem invisible. Simultaneously, aiming to resolve an apparent contradiction, this is necessary to centralise the offer so as to make access easier for anyone aiming to find out about any aspect of the Navarre territory. This is the aim of the Navarre Geoportal.

Figure 2: SITNA Geoportal. Home

Since it began, SITNA has been an essentially evolving project, which has grown over the years, adapting to the demands and trends of each moment and, for this reason, it has not escaped the fast evolution if not revolution in the world of geographic

information technologies, both from a conceptual and technological point of view. The current situation clearly paints us a scenario encouraging relocation, access to data and services distributed by means of all types of devices making use of the inter-operability made possible and promoted by the use of common standards and specifications.

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AIMS

Diffusion of geographic information is growing exponentially, but the users, having already satisfied their initial needs, look for definitive information and final services, to overcome the limitations of different and disperse information.

The main aim of the Navarre Geoportal (http://sitna.navarra.es) can be summarised in one idea: integration. This idea also presents different focus points:

- Integration of information (data, metadata and documentation), tools (viewers, search engines, SITNAMAP, ...), resources (downloads, links, news,) and services. The Geoportal thereby becomes a “one-stop desk” which gives access to the territory of Navarre.
- At the same time the Geoportal is part of the Navarre portal, which has opened a topic-based area dedicated to TERRITORY. Different components of the Geoportal and the departmental geographic services are visible from the Navarre portal. This integration is a specific expression of one of the characteristics of SITNA: being aligned with the Government’s strategic aims: Modernisation Plan, Information Society Deployment Plan, Navarre Internationalisation Plan, Navarre Territorial Strategy, etc.
- The Geoportal is designed to integrate and be integrated by state offers and services (IDEE, SIOSE, CARTOCIUDAD, etc.) and European offers and services, mainly linked to deploying the INSPIRE directive.

We are also looking at the possibility of integration as an aim to overcome inter-operability. From this point of view, one of the requirements for integration is the unique nature of the information, linked to holding competences:

- We avoid situations where information can be presented in several versions, even though they might be inter-operable. For example, there cannot be two Museum layers, one for Culture and the other for Tourism, but a single responsibility for the holder of the competence (in this case Culture), available for everyone. Each of the agents involved can assign it attributes which concern them.

- When information brings together components from different holders, each of the holders is responsible for their own and, jointly, they offer a unique subsystem. For example, the Postal Address Directory includes municipal and cadastral data (plus other information) which is the competence of Statistics and the Post Office, but this Directory is unique.
- We aim for information referring to a single topic, with different origins and definitions, to eventually be able configure unique subsystems which are universally useful. Roadways are different entities for Cadastre, Public Works and the Floor Space Use Information System. For example; we aim for a single subsystem to unmistakably identify each road and be able to attribute the peculiarities of each administrator to it.

However, all the above falls into statistical information processing, no matter how occasionally it is updated. Dynamic management of the territorial information has already demonstrated in specific developments (transfer of real estate, forestry management, etc.) all its potential, integrating the most diverse administrations required up to now in a single process. More efficient service and high quality data and processes are the major results expected from future dynamic integration of geographic information.

Other specific aims of the Geoportal are as follows:

- adapting to the corporate image of the Navarre portal and SITNA
- modernising the map viewer, obviously improving the visualisation window.
- including new information layers
- including new tools and services
- adding the viewer to different browsers.

Contents

The contents of the Geoportal can be grouped into six major blocks:

1. Presentation:
    - Presentation of SITNA: mission and vision, principles and characteristics
    - INSPIRE European Directive IDEE: Spanish Spatial Data Infrastructure
    - Geoportal contents
    - WEBSITE map
2. Maps:
    - SITNA WEBSITE viewer
    - IDENA viewer
    - Catalogue of Government of Navarre map visualisation services
3. Searches:

- by town
- by postal address
- by place name
- of layers per topic
- of layers per owner
- advanced

4. Resources:
    - SITNAMAP, free GIS tool allowing users to create their own maps.
    - Metadata
    - IDE services
    - Downloads
    - Personalisation of links
    - Norms and standards
5. Current issues:
    - SITNA news
    - SITIA calendar Both this and the previous content are provided by RSS from the SITNA PCyP
    - Information in real time
        - Meteorology
        - Situation on the roads
        - Air quality
6. Find out more:
    - Glossary
    - FAQ
    - Contact us, although this functional feature is present in the whole WEBSITE map
    - SITNA Knowledge and Participation Portal (PCyP)
    - Projects where SITNA participates

Future

Once the Geoportal consolidation phase is complete, which has been very intense given its topic breadth, we will be translating its contents into Basque (language originally spoke in our area), English and French.

We have to improve the integration of geographic information downloads that are currently offered by IDENA, the Mapping Shop, the Cadastre WEBSITE, etc.

The wide offer of raster and vector layers obliges us to take another look at its reorganisation so that they are more easily visible to whoever wishes to use them.

The interest aroused by SITNAMAP obliges us to run a specific deployment of this resource, to compile and diffuse its best practices and incorporate improvements in its future versions.

But, above all, we are interested in exposing our experience to our colleagues' criticism with the well-founded hope of continuing to learn from them. This is why we are giving this presentation and inviting you to visit the Geoportal and take a look at our ideas. Any criticism or suggestion can help us to improve the service given to thousands of people.

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