Research Information System (RIS):

General principles and applications for Information Management



OPEN SCIENCE & THE HUMANITIES **CONFERENCE 2018**

June 21st Universitat de Barcelona, Aula Magna

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Ref. territorials

Àmbit / relació

The changes occurred within paradigms of research processes have turn open data into a key element that requires reconsidering the way our work is done and information is dealt with. This overhaul also aims at developing new crosscutting and transdisciplinar approaches. Research based upon a single source of information is not possible, particularly when information can be gathered from multiple sources such as written texts, archaeological evidence, paleoenvironmental data, material sciences lab results, etc.

The Research Information System introduced in this poster has been successfully applied since 1997. It was designed as a response to ten system requirements and structured from two underpinning concepts.

SYSTEM REQUIREMENTS Independent data treatment regardless the source origin Data spatial association Data spatial description description Data chronological reference Metadata register and data Sequence description contextualization description Partial, multilevel and multitask Data restitution to the original Shared work allowance data gathering, if required information source

Data independence assurance with regard to the informatics

resources and long-term preservation.

UNDERPINNING CONCEPTS

Topographic Unit [TU]

Indicator of an action or place that can be located in space and time, regardless the specificity of the source of information and its biotic, abiotic or anthropic origin.

Examples: The existence of living species in a determined area, the written evidence for a church consecration, the written evidence for a property acquisition, the archaeological evidence for a necropolis, or a road, etc.

Actor [AC]

Individual or collective author of an action

Examples: Enyec Bonfill, the monastery of Sant Cugat del Vallès,

The concept of Topographic Unit [TU] is so closely linked in origin and first definition to the archaeological research (Stratigraphic Units) but it is not conceived at all to be limited to this kind of information source.

TU and AC are the two types used for data classification and register. Both of them are single and unequivocal data identifiers able to be located in time and space and able to be related if needed.

In nomine Domini. Ego Semplizia 1 et sorori mea nomine Cixolo 2, nos simul in unum uinditores sumus tibi Guilara 3 presbiter emptor. Per hanc scriptura uindicionis nostre uindimus 1 tibi terra 2 et uinea 3 et arboribus et oliuaria, hec omnia francum nostrum (pro)prium qui nobis aduenit, ad me Semplizia per ienitores meos et per compara et ad me Cixolo per ienitores meos et per ullasque uoces. Et est hec omnia in comitatum Barquinona infra termine de Terracia in locum uocitatum Monte Agudo . Afrontad ipsa terra et uinea cum ipsos arboribus qui ibi sunt fundatos de oriente in aragallo 9 et in terra 1º de Godmar 1 et suos eredes, de meridie in terra 11 de Ego 5 femina, mulier de Eruiio 6 et de Guisado 7, de occiduo in uia 12 et in terra 14 de te emptor, de circi in terra 14 de Guisad.8 Quantum istas afrontaciones includunt, sic uindimus tibi ipsa terra el uinea et arboribus, in ipso aragallo ficulnea I cum pruneras 16 et uides 17, in alios locos prunera 16 I et ficulneas 16 II et nogaria 26 et pecera 21 et glandifero 22 I et oliuera 23 I ab integre cum exios et regresios earum ad tuum proprium propter precium solidos VI et denarios IIII ex moneda grossa, quod manibus nostris accepimus et est manifestum, et de nostro iuro in tuo tradimus dominio et potestatem ad faciendum quod uolueris. Quod si nos uinditrices aut ullusque homo qui contra hanc ista carta uindicione uenerit pro inrumpendum aut nos uenerimus, non hoc ualead uindicare, set conponad aut conponamus tibi oc quod supra insertum est in duplo cum omnes illorum inmelioraciones, et in antea ista carta uindicione firma permanead omnique tempore.

Facta carta uindicione VI kalendas februarii anno XXII regnante Rodberto rege.

Sig+num Semplizia. Sig+num Cixolo. Nos, qui hoc fecimus et firmare rogauimus. Sig+num Godmar. Sig+num Mir. Sig+num Issarno

SS. Ansemundo presbiter scripsit cum literas superpositas in uerso V die et anno quod supra.

Data incorporated to TU or Ac registering files can be gathered from any kind of information source. Within the example at the left the transcription of a document is shown and the identified data to be registered are highlighted. Minimum information units (TU or AC) are identified with a unique and sequential number both for TU and AC. Information related to values (e.g. the price of a transaction), chronology and relation between actors are also registered.

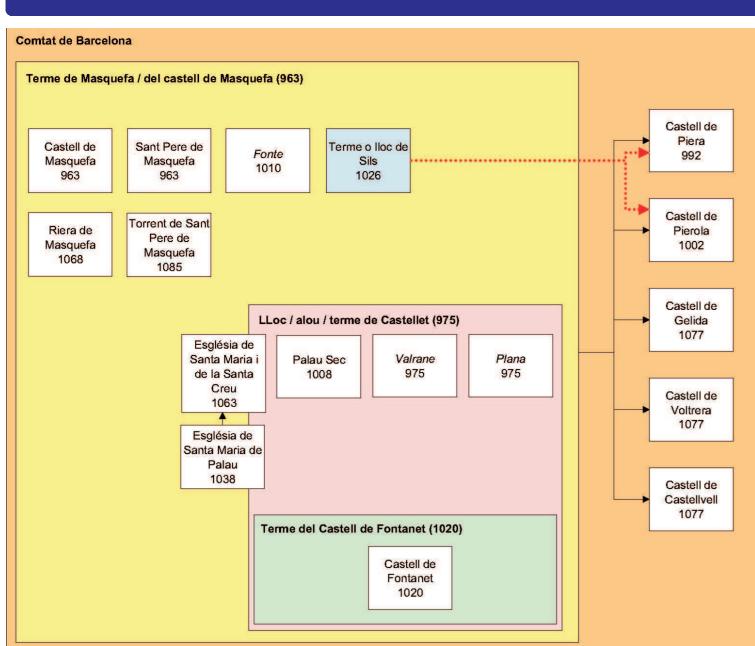
Data identification within the document

Values, chronology or relations

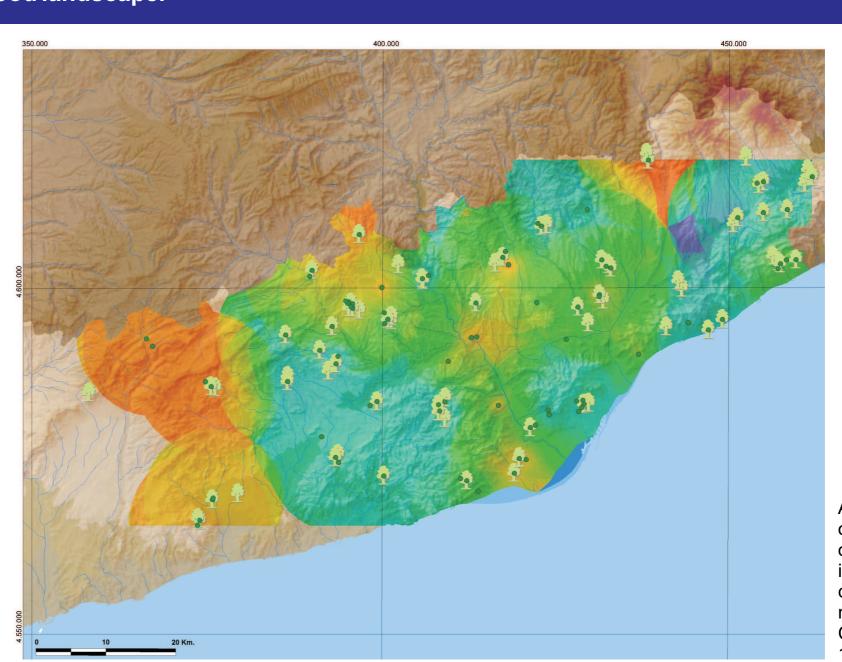
TU REGISTER FILE Fitxa d'UT Identificació i posició Ubicació Àmbit administratiu Unitat topográfica Comarca

Genèrica Anoia 20658 20634 Coordenada UTM X Nord: Masquefa Oest: Est: Coordenada UTM Y Poligon Sud: Sistema i atributs Atributs del sistema biòtic vegetació, vinya Atributs del sistema abiòtic Atributs del sistema antròpic agricultura, viticultura, vinya Datació Datació inicial Datació final · 29 - 01 - 1085 dE. Valors i dimensions Valor i unitats vineas Menció de relació Font d'informació Tipus de font CSC, 721 Documental

Further exploitation of data registered as TU or AC files enables their analysis in accordance with the research objectives: statistical, parental relationship, social, geospatial, etc. As shown in the examples below, RIS methodology puts into value massive amounts of data that had been considered irrelevant in the past. Their massive exploitation demonstrates their extreme value as a historical source to explain the perception and layout of a territory or wood landscape.



Analysis of the spatial hierarchy in the territory of Masquefa in the 11th Century generated from the TU register files.



Notes

Analysis of written mentions of oak trees (green dots) overlapped to the interpolation of their chronology and the general mentions to woods in the County of Barcelona in the 11th Century.