Programme funded by the EUROPEAN UNION

ENPI CBCMED
CROSS-BORDER COOPERATION IN THE MEDITERRANEAN

archeo med sites

COMUNE DI SIENA

UNIVERSITÀ DI SIENA 1240

OpenArcheo2

a wholly different archaeological information system

Safeguard, valorisation
and management quality
Use of the management models
for the archaeological sites
and urban contexts

archeomedsites.com

Steering Committee. Cagliari, 30-31 October 2015

Ministero dei beni e delle attività culturali e del turismo

وزارة الثقافة
Ministère de la Culture

Università degli Studi di Sassari

FEDERCULTURE

COMUNE DI SIENA

COMUNE DI FIRENZE

Comune di Carbonia

RC Ricerca e Cooperazione

CC BY SA

Vittorio Fronza – University of Siena

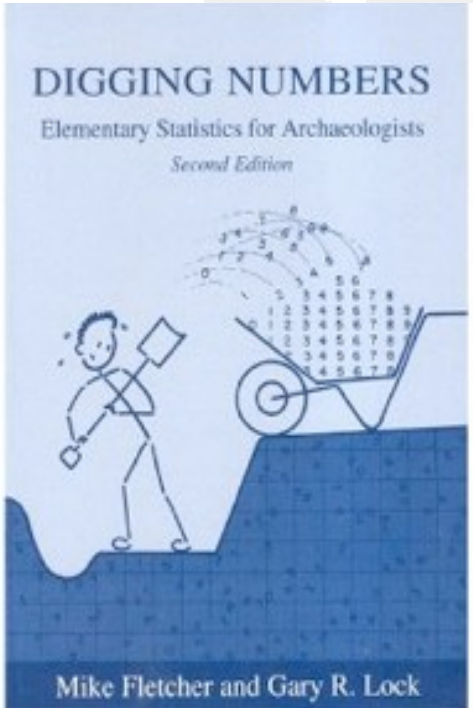
Yet another digital solution for archaeological data recording and management!
It makes sense only if…

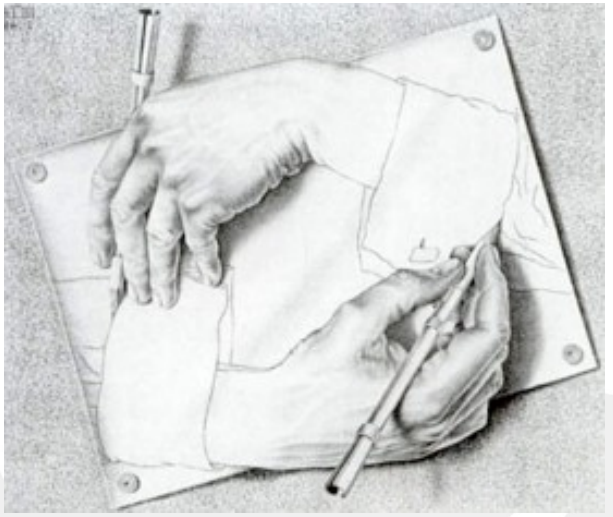
...it is substantially

That means, never seen before

neo-processualist

approach





Large **data collections** are used to carry out quantitative and qualitative analysis in order to produce **knowledge** and heritage **protection** as well as **enhancement** actions.

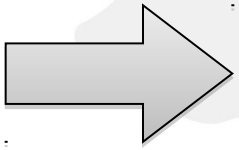
many numbers
many variables
many evidences

No

preservation/enhancement/communication

without

knowledge



openarcheo2

has to be a sort of

research engine

a silent app to manage, retrieve, analyze the information complexity, through a data schema that is

light but globalizing

(elusive, in a certain sense)

This means to

separate contents from meaning

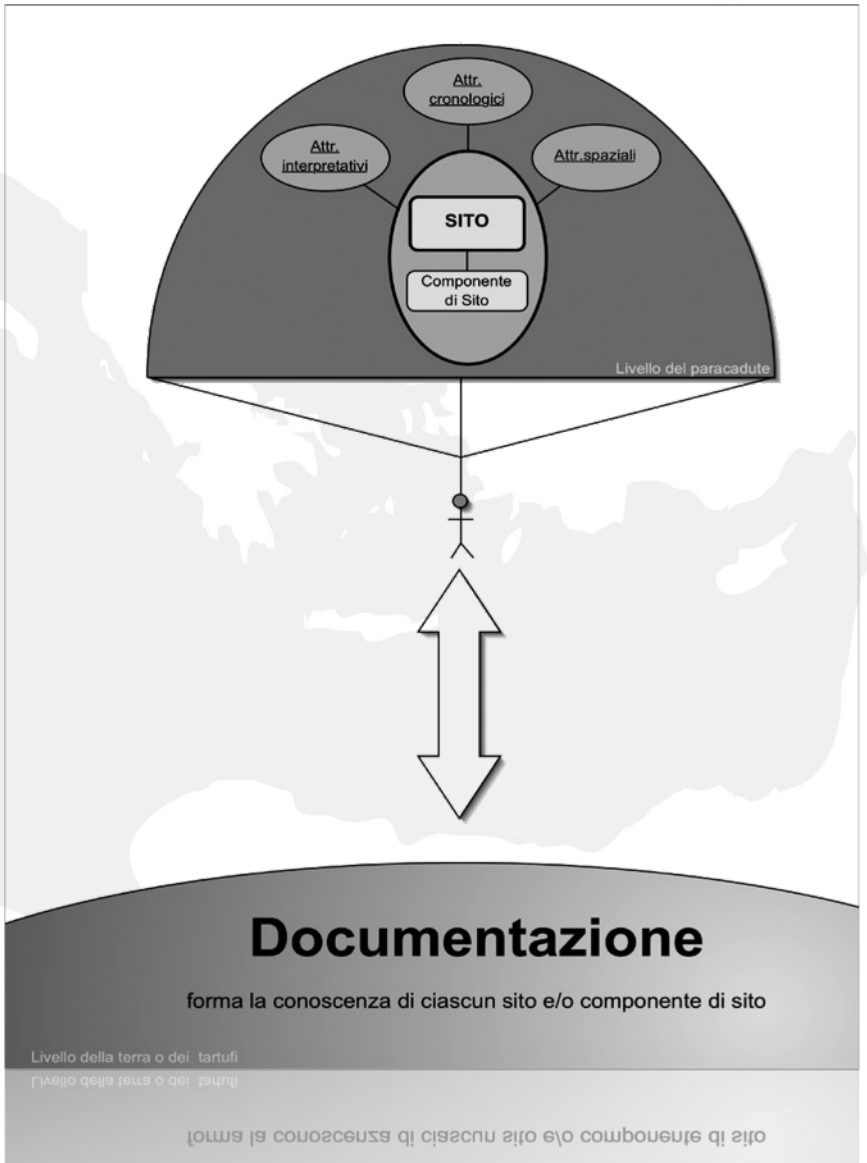
(semantic web approach)

and, at the same time, operating with a

parachute view

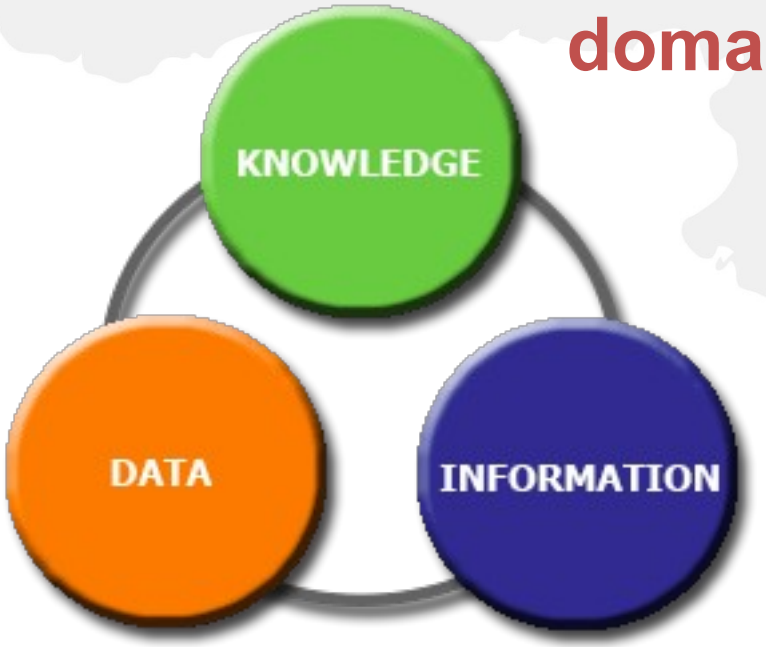
to be easily switched to a

truffle hunter mode



database → knowledgebase

(database AND wiki AND repository) LIKE knowledge-base = TRUE?



Combining a
domain-driven and **data-driven** design
of the conceptual model

We need to shift
our focus from data
to knowledge…

...that is, from **raw** data to **interpreted** data

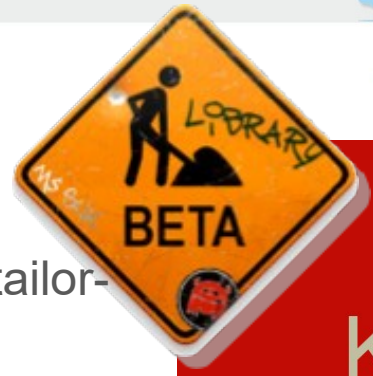
What's **missing** nowadays is an archaeological management system based on shared **interpreted** knowledge
(historiographical models, management models, safeguard programs, etc.)
and not only on low-level data (records of stratigraphical context, finds, etc.)

This perfectly fits the **Archeomedsites** objectives, this is what we want to with

openarcheo2

OpenArcheo2 has to be

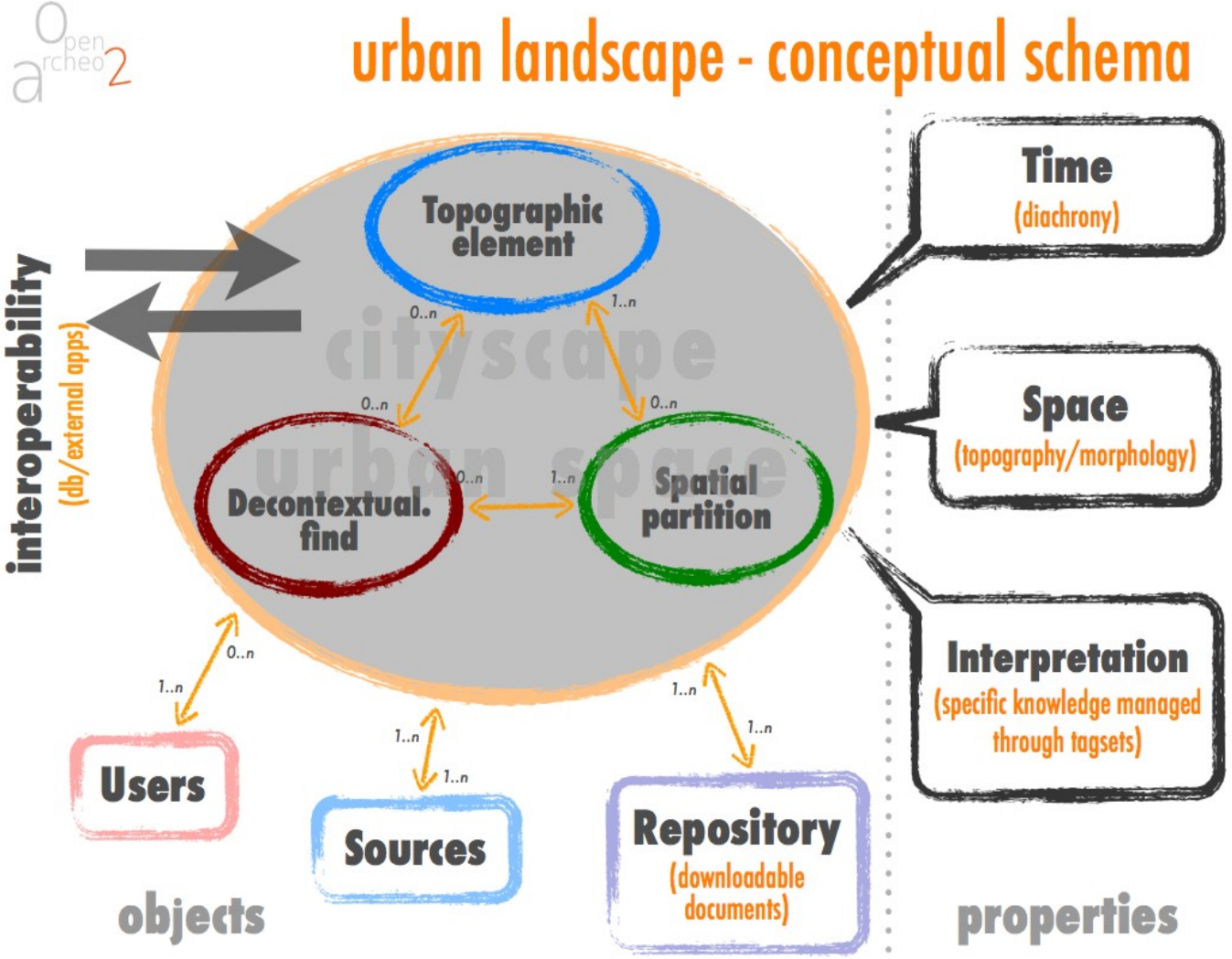
- ✓ conceptually and technologically **advanced**;
- ✓ **customizable**, allowing the user the ability to create a "tailor-made" system;
- ✓ based on a high level **abstract** data model and therefore managing **interpreted** information;
- ✓ a **collector of information**, a kind of search engine to dominate a vast wealth of knowledge;
- ✓ **public** and clearly adhering to the principles **of open data**;
- ✓ **social-oriented**, inclusive and therefore potentially able to involve all social actors;
- ✓ **multilingual**, providing both the possibilities of localizing the user interface and of having a multiple language content editing;
- ✓ **FLOSS** (free / libre open source software).



open source

The Archeomedsites webGIS will be based on the concept of ***Cityscapes***, to be understood as urban landscapes in their evolving space/time context.

The knowledge of cityscapes will be based on material evidence traceable through the methods of archaeological research in its broadest multidisciplinary sense.



Tags and Chronotags

If time and space are easy to understand, the third property – **Interpretation** – needs some explanation. We assume that, in order to attribute an archaeological value to material evidences, besides being spatially and chronologically coherent, it has also to **be "interesting" in the eyes of the archaeologist or, anyway, of the user**; in other words, it must implicitly belong to some interpretive grids that reflect the interests of a (scientific) community.

To mark the archaeological interest (an not only that), OpenArcheo2 uses **tags (or chronotags)** that allow a correlation of each object to specific keywords, grouped in tagsets (for example, a definition of the type of settlement, finds classes, etc.).

openarcheo 2

Object classes

Landscape element	*is identified by an*	id	single integer (pk)
	has a	name	single string (100 characters)
	is a	primary definition	single Dictionary lemma (Landscape element.Definition)
	specifically is a	secondary definition	single Dictionary lemma (Landscape element.Definition)
	is located at	main toponym	single Toponym
	belongs to	landscape(s)	collection of Landscapes
	is dating to	chronology	single Chronological range
	is represented by	spatial object(s)	collection of GIS features
	has a	record stamp	single Record stamp
	can refer to	other project(s)	collection of Projects
	has its knowledge built on	source(s)	collection of Sources
	can have	historical toponym(s)	collection of Historical toponyms (historical=true)
	has a	brief description	single string (2000 characters)
	is composed by	topographic elements	collection of Topographic elements
	can be contained by or intersect	spatial repartition(s)	collection of Spatial zones/repartitions
	can include	decontextualised artefact(s)	collection of Decontextualised artefacts
	can be described by	tag(s)	collection of Tags
	can be described by	chronotag(s)	collection of Chronotag refs
	can be further described by	text(s)	collection of Descriptive texts
	can be referenced in	bibliography	collection of Bibliographic titles
	can be represented by	image(s)	collection of Images
	can have attached	repository document(s)	collection of Repo documents
	can have	comment(s)	collection of Comments

Source (information origin)	*is identified by an*	id	single integer (pk)
	has a	name	single string (100 characters)
	can have an	acronym/abbreviation	single string (10 characters)
	is of	type	single Dictionary lemma (Source.Type)
	is produced by a	main producer	single Producer refs
	is the main subject of an	investigation	single Investigations
	can be the subject of	other investigation(s)	collection of Investigations
	can have a	chronology	single Chronological range
	covers a	geographic area	single Toponym
	covers a	chronological range	single Chronlogical range
	has a	record stamp	single Record stamp
	can refer to	project(s)	*Method: show all projects of related investigations*
	has a	brief description	single string (2000 characters)
	can form the knowledge of	decontextualised artefact(s)	collection of Decontextualised artefacts
	can form the knowledge of	landscape element(s)	collection of Landscape elements
	can form the knowledge of	topographic element(s)	collection of Topographic elements
	can form the knowledge of	toponym(s)	collection of Toponyms
	can be related to	other source(s)	collection of SourceRels
	can be described by	tag(s)	collection of Tags
	can be described by	chronotag(s)	collection of Chronotag refs
	can be further described by	text(s)	collection of Descriptive texts
	can be referenced in	bibliography	collection of Bibliographic titles
	can be represented by	image(s)	collection of Images
	can have attached	repository document(s)	collection of Repo documents
	can have	comment(s)	collection of Comments

openarcheo 2

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Vocabularies

Landscape element.Definition			
English		Italian	
Primary definition	Secondary definition	Definizione primaria	Definizione secondaria
Natural environment	Hydrography	Ambiente naturale	Idrografia
	Woods/Fallow land		Bosco/incolto
	Wetlands/Marshlands		Area palustre
	Environmental destruction		Dissesto ambientale
	Geological element		Elemento geologico
Anthropic network	Settlement/demic network	Rete antropica	Rete demico/insediativa
	Economic/productive network		Rete economico/produttiva
	Cultual/religious network		Rete cultuale/religiosa
	Military/fortifications network		Reti militari/fortificatorie
	Communication network		Reti comunicazione
	Infrastructural network		Rete infrastrutturali
Settlement	Simple rural settlement	Insediamento	Insediamento rurale semplice
	Seasonal/temporary rural settlement		Insediamento rurale stagionale temporaneo
	Complex rural settlement		Insediamento rurale complesso
	Urban settlement		Insediamento urbano
	Complex religious place		Luogo di culto complesso
	Necropolis		Area cimiteriale
	Temporary abandonment		Abbandono temporaneo
Anthropic exploitation	Agricultural space	Sfruttamento antropico	Spazio agricolo
	Breeding space		Spazio allevatizio
	Mining area		Area estrattiva
	Collection/supply area		Spazio di raccolta/approvvigionamento
	Hunting/fishing space		Spazio venatorio o di pesca
Functional element	Transformation/processing productive space	Elemento funzionale	Spazio produttivo di trasformazione/lavorazione
	Commercial space		Spazio commerciale
	Simple religious place		Luogo di culto semplice
	Military/fortification element		Elemento militare/fortificatorio
	Hydraulic infrastructure		Infrastruttura idraulica
	Communication infrastructure		Infrastruttura di comunicazione
	Environmental modification		Sistemazione/modificazione ambientale
	Other functional space		Altro spazio funzionale
Planning	Territorial planning	Pianificazione	Territoriale
	Urban planning		Urbanistica
Undetermined	Undetermined	Non determinabile	n.d.
	Generic natural environment		Generico ambiente naturale
	Generic anthropic presence		Generica frequentazione antropica

Bibliographic title.Type of publication	
English	Italian
Volume	Volume
Paper in miscellaneous volume	Articolo in miscellanea
Paper in journal	Articolo in periodico
Multimedia publication	Pubblicazione multimediale

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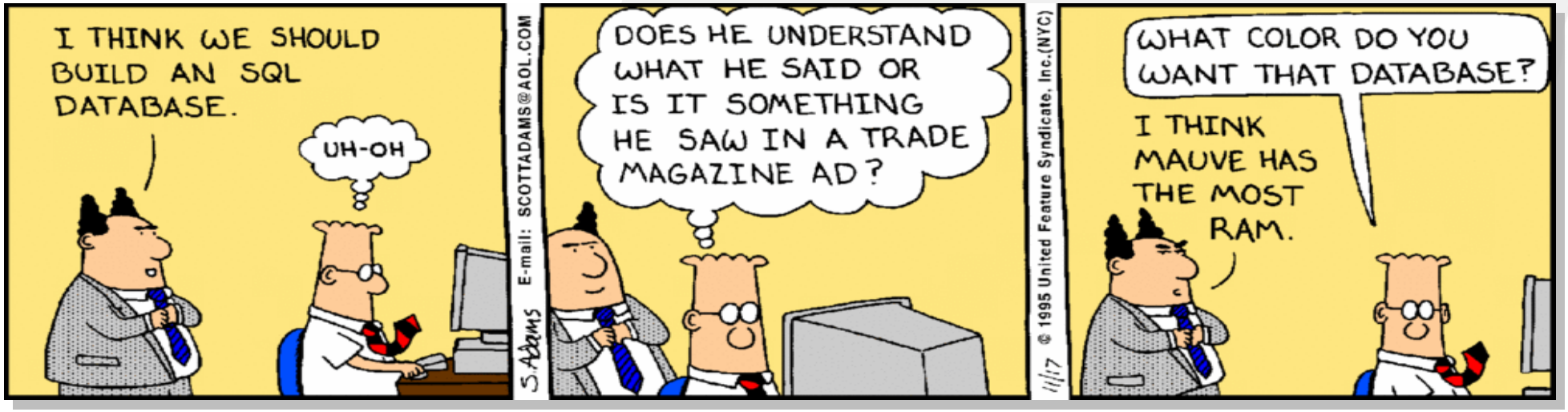
Not Only SQL OR ~~SQL~~



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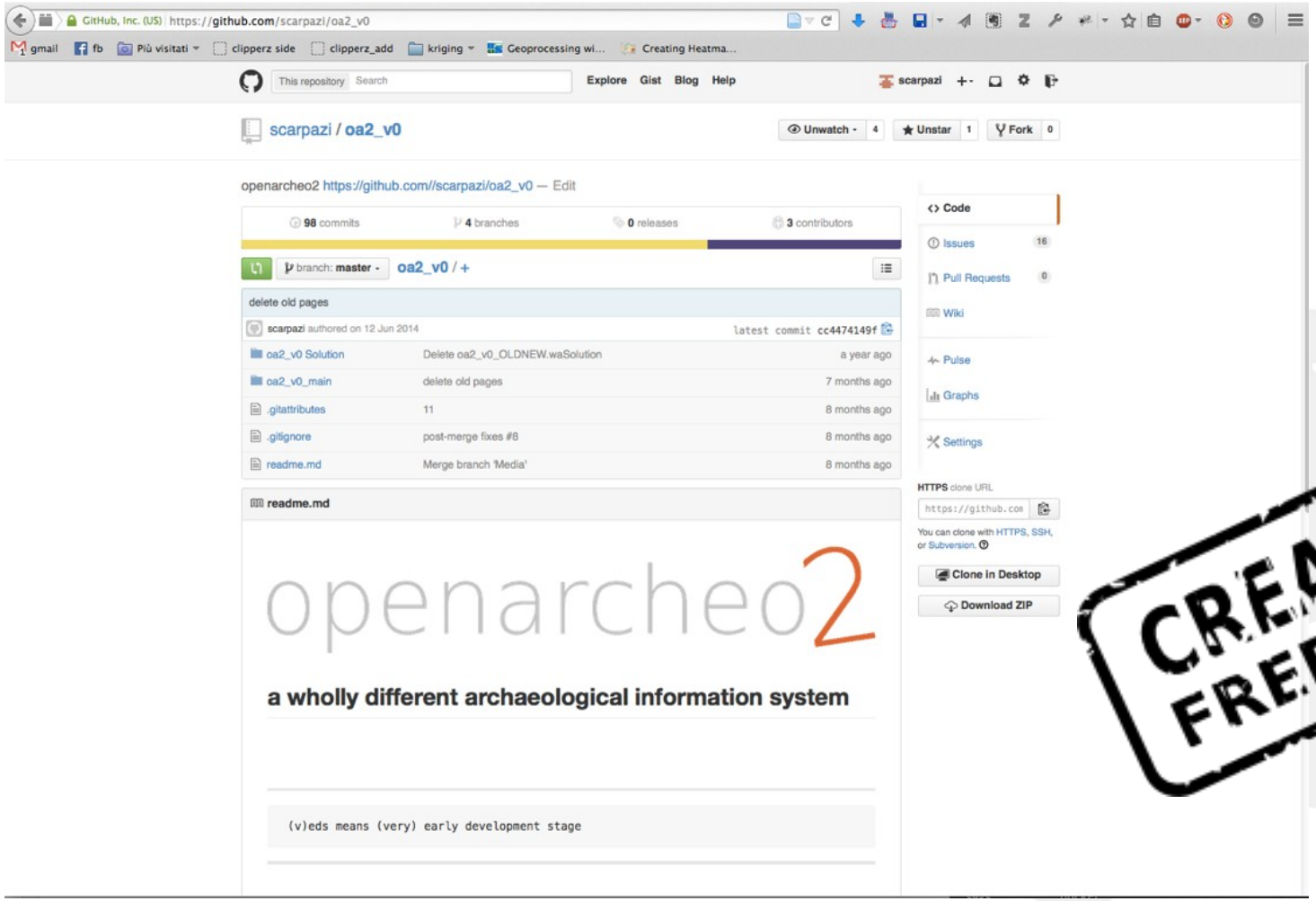
FLOSS and Github



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- Completion of UI
- User management
- Media and document repository module
- Polyline and polygon features in GIS
- Deployment and packaging

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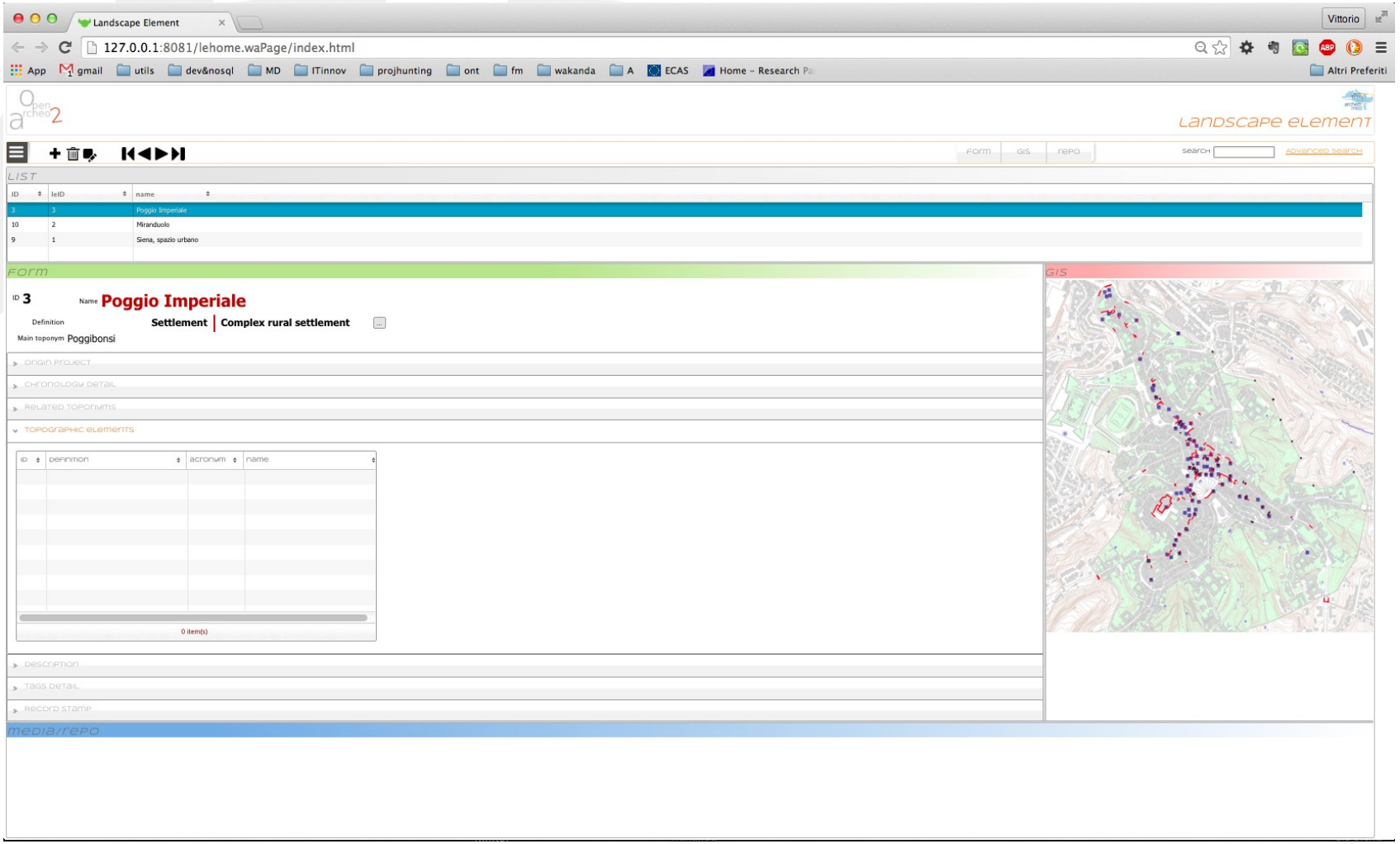
A brief tour of the actual development state