

CLARIN-IT

the Italian Common Language Resources and Technology Infrastructure



Supporting Ancient Historical Linguistics with EpiLexO



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Context



- Italian National project ItAnt: «Languages and cultures of ancient Italy. Historical Linguistics and Digital Methods» (2020-**24**) in collaboration with **UniVe** (A. Marinetti, L. Rigobianco, P. Solinas), **UniFi** (F. Murano, M. Ballerini, M. Zinzi, C. Toscano)
- Resources, services and software will be deposited in, hosted and run by CLARIN-IT

Project ItAnt:



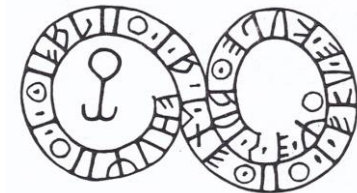
- Languages of ancient Italy before linguistic Romanisation: e.g. oscan, venetic, neo-faliscan, celtic.
 - documentation time span: 8th century BC – 1st century AD
 - Scarce and sparse attestations →
 - small number of texts (perhaps 2k all together), all in epigraphic form
 - damaged supports



https://www.britishmuseum.org/collecti on/object/G_1867-0508-76

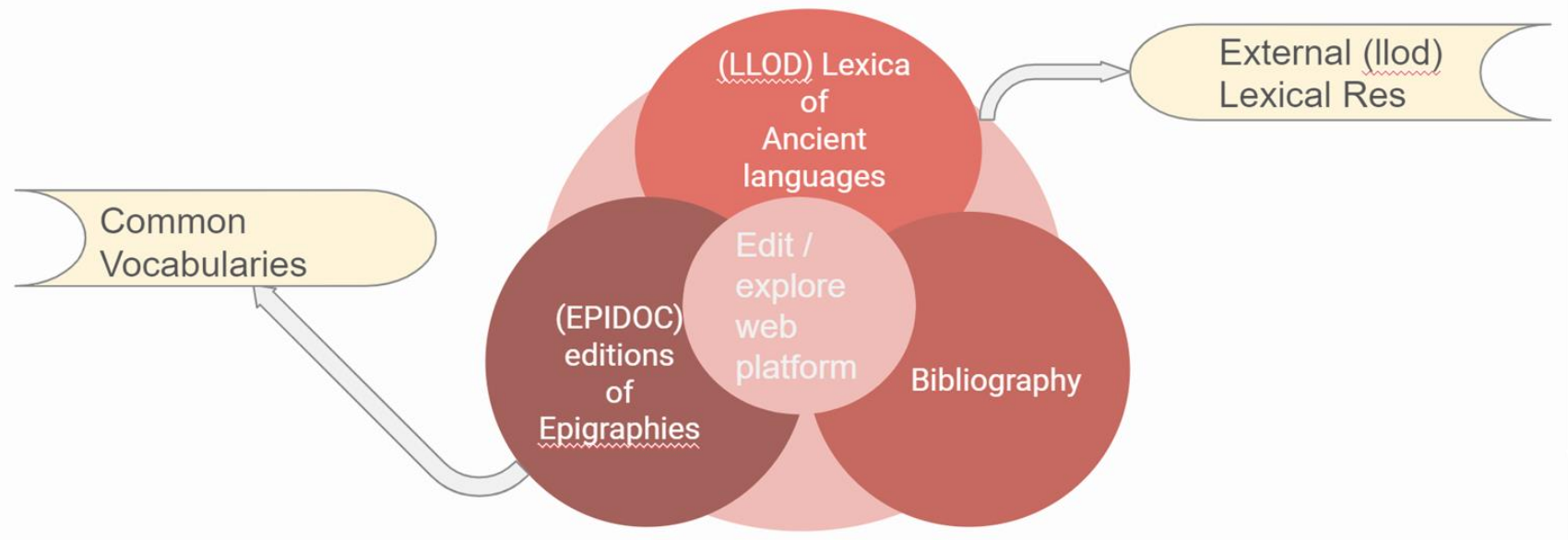


L. Rigobianco, Faliscan, Zaragoza, 2019, pp. 38-40.



(Venetic) A. L. Prosdocimi, *Sui due nuovi ciottoloni*, in «Studi Etruschi» 46, 1978, pp. 196-203.

Interlinked resource ecosystem



The challenge



- Complement Digital Epigraphy with “explicit linguistic” knowledge for:
 - immaterial Cultural Heritage preservation,
 - wider open fruition of such knowledge,
 - support linguistic studies of languages of fragmentary attestation
 - preserve and make widely and openly accessible such linguistic knowledge
 - foster cross-disciplinary approaches
- First step:
 - a collaborative editing platform for creating lexicons and interlinking them with (textual) testimonies, bibliography, archeological metadata, other existing resources.





test

Text

Lessico

Search ? ▾ × 1

Equals Starts
 Contains Ends

- ▼ meddiss_{noun}@osc
 - ▼ form (12)
 - meddis
 - meddiks
 - meddis1
 - meddis2
 - meddis3
 - meddiss
 - meddiss2
 - meddiss3
 - medikei
 - medikeis
 - medikud
 - μεδδειξ
 - ▼ sense (1)
 - magistratu...

Ontology

SKOS

Epigraphy

Linker

medikud túvtikud niumsiud dekitiud miiniels . staatiels legú . tanginud aamanafed
 . esidum . prufated . úpsed . gaavis . paapiis . gaaviels f

Core

Form CREATED BY imported ON 12/07/2022 12:11:06

INHERITANCE

partOfSpeech

Type: ?

LAST UPDATE ON 12/07/2022 12:11:06

Note Panel

Link Panel

Bibliography Panel (1)

Franchi De Bellis - 1981 (Le iovile ...)

Attestation Panel

ItAnt Oscan 3 - medikud

Metadata Panel

Edition Epigraphy Text

EPIGRAPHY

Inscription Title: Mosaic from the sanctuary of Schiavi

Inscription Type: building inscription

Summary: Inscription recording building and dedication of the paving from temple B of Pietrabbondante sanctuary

Trismegistos ID: TM 170843

Traditional IDs: ST Sa 2
Imlt Teruentum 36

Original Place: Samnium

The EpiLexO system



Frontend



Backend

LexO-server:
services for lexica &
ontologies +
bibliographic
references

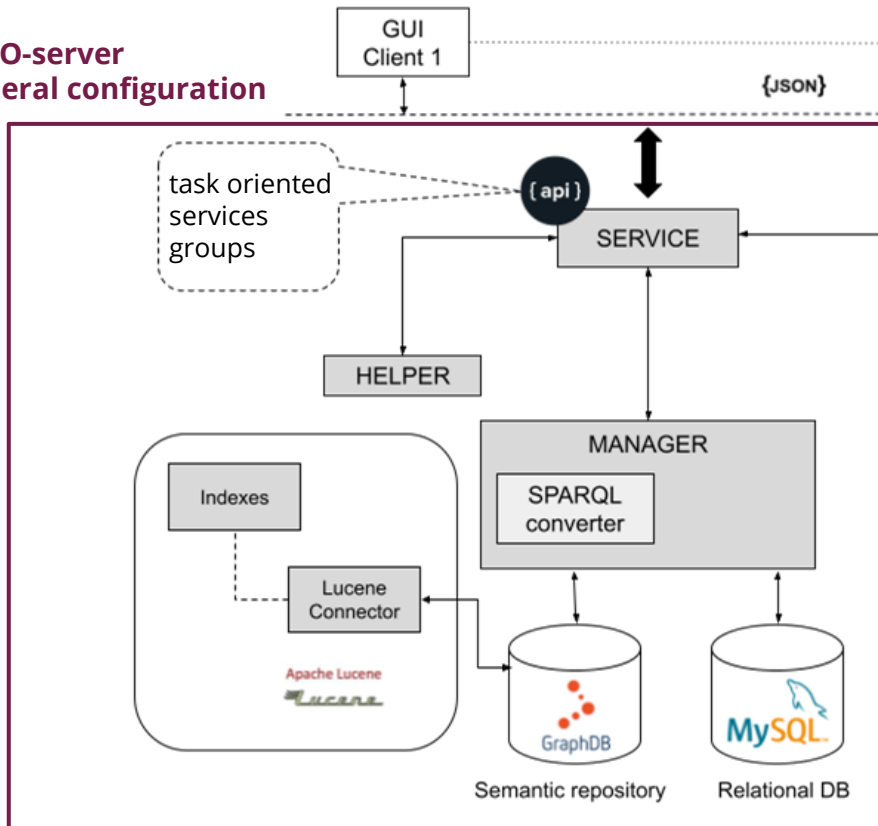
CASH-server:
services for file,
texts, &
annotations
management



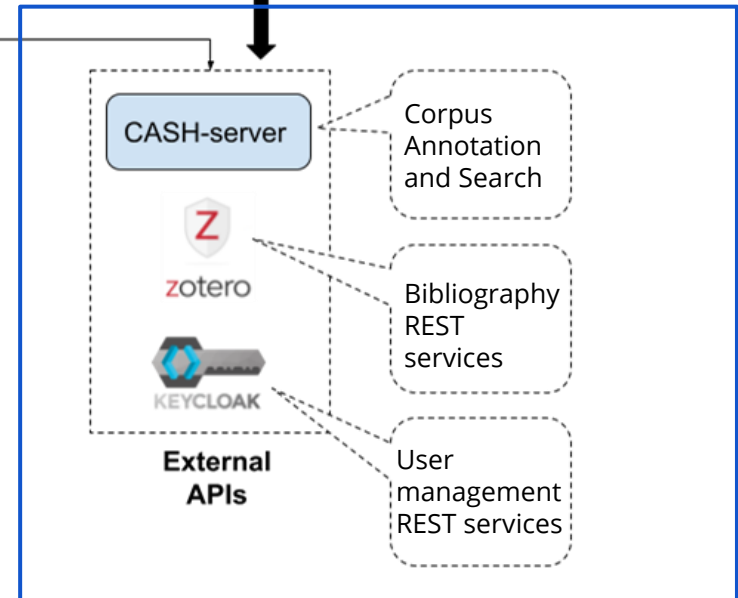
The architecture



LexO-server general configuration



ItAnt configuration



The LexO-server



<https://licodemo.ilc.cnr.it/LexO-backend-beta/service/swagger.json>

Explore

LexO-server API documentation ^{V0.1}

[Base URL: /LexO-backend-beta/service]

<https://licodemo.ilc.cnr.it/LexO-backend-beta/service/swagger.json>

OntoLex-Lemon lexica manager

LexO-backend

Schemes

HTTPS

Configuration

POST /configuration/parameter Configuration parameter

GET /configuration/update Configuration database schema update

POST /graphViz/{id}/nodeGraph Graph of a node

POST /graphViz

POST /graphViz

POST /graphViz

Lexicon creation

GET /lexicon/creation/lexicalEntry Lexical entry creation

GET /lexicon/creation/language Language creation

POST /lexicon/creation/bibliography Bibliographic reference creation

GET /lexicon/creation/etymology Etymology creation

GET /lexicon/creation/lexicalSense Lexical sense creation

GET /lexicon/creation/lexicalConcept Lexical Concept creation



The CASH-server



Swagger Powered by SMARTBEAR /cash/v3/api-docs Explore

OpenAPI definition v0 OAS3

</cash/v3/api-docs>

Servers
http://lari2.ilc.cnr.it/ - Generated server url

annotation-controller

- GET /api/v1/annotation
- PUT /api/v1/annotation
- POST /api/v1/annotation
- GET /api/v1/token
- GET /api/v1/gettext
- GET /api/v1/getcontent

search-controller

- POST /api/testSearch
- POST /api/searchFiles

crud-controller

- POST /api/crud/uploadFile
- POST /api/crud/updateMetadata
- POST /api/crud/re...
- POST /api/crud/re...
- POST /api/crud/re...
- POST /api/crud/re...
- POST /api/crud/re...
- POST /api/crud/re...
- POST /api/crud/re...
- POST /api/crud/re...

annotation-controller

GET /api/v1/annotation

Parameters

Name	Description
requestUUID * required	requestUUID
string (query)	
nodeid * required	nodeid
Integer(\$int64) (query)	

Example Value | Schema

```
{
  "requestUUID": "string",
  "annotations": [
    {
      "layer": "string",
      "value": "string",
      "imported": true,
      "attributes": {
        "additionalProp1": {},
        "additionalProp2": {},
        "additionalProp3": {}
      },
      "spans": [
        {
          "start": 0,
          "end": 0
        }
      ],
      "id": 0
    }
  ]
}
```



Attestations: linking to text and bib



(a1) Epigrafi

Search [T] [X] 3

Starts Contains

Oscan

- ItAnt_Oscan_2.xml
- ItAnt_Oscan_7.xml
- ItAnt_Oscan_3.xml

Latin

(a2) Lessico

Search [?] [T] [X] 375

Equals Starts Contains Ends

- treblus@proenoun@lat
- tiom@adjective@spx
- túvtiks@adjective@osc
- úpsed@verb@osc
 - form (23)
 - (a)moovu
 - opsens
 - osins
 - upsl(jd)
 - upsaseter
 - upsatuh
 - upse(ns)
 - úpsed
 - uupsens

(b1) Epigraphy

esídum . prúfated . úpsed . gaavis . paapiis . gaaviéis

Form Sense

Add a form:

úpsed [Clear]

úpsed
number: singular

(b2) Core Decomposition Etymology Dictionary

Lexical Entry CREATED BY Imported on 03/02/2022 07:27:07

DENOTES

COGNATES

<https://lilla-erc.eu/data/ld/lemma/115170> [Check] [Share] [Delete]

LAST UPDATE ON 03/02/2022 07:27:07

(c1) Attestation Panel

ID: 2678 - úpsed

URI: http://lexica/mylexicon/#upsed_verb_osc_úpsed_form

author: E. Middel

confidence: 1

creator: prova

externalRef: No info

form_id: upsed_verb_osc_úpsed_form

label: úpsed

(c2) Metadata Panel

File Epigraphy Other

EPIGRAPHY

Trismegistos ID: TM 170843

Other IDs: ST Sa 2
Imit Teruentum 36

Original Place: Samnium

Linking to external resources



test

Text

Lessico

ups

Equals Starts
Contains Ends

- upsatuh
- upse(ns)
- upsed
- uupsens
- úpsjann0
- úpsjannú0
- úpsa[nnam
- úpsan(nam)
- úpsannj0
- úpsannam
- úpsannúm
- úpsannúm2
- úpsúst
- úpsannam
- ουπιδ
- ουπιαεvc
- ουιπε
- úpsed
- sense (1)
- to erect, ...
- etymology (1)
- Etymology of: upsed@osc

Ontology

Epigraphy

Core Decomposition Etymology Dictionary

CREATED BY imported ON 03/02/2022 09:19:28

Label: Etymology of: upsed@osc

Author: Edoardo Middei

Uncertain:

ETY LINK 1

Etymon: *h3ep-

EtyLink Type: inheritance

EtySource: http://lexica/mylexicon#PIE_755944

EtyTarget: http://lexica/mylexicon#upsed_verb_osc_entry

Note:

LAST UPDATE ON 26/05/2022 01:54:24

Note Panel

Link Panel (1)

SEE ALSO

http://ila-erc.eu/data/lexicalResour

Etymology of: opus

rdfl:label Etymology of: opus

rdfl:type lemonEtymology

cm:E99

lemonEtymology etymon <http://ila-erc.eu/data/lexicalResources/IRIEDL/id/etymon/pid947>

lemonEtymology hasEtyLink <http://ila-erc.eu/data/lexicalResources/IRIEDL/id/etymon/pid947>

lemonEtymology startingLink <http://ila-erc.eu/data/lexicalResources/IRIEDL/id/etymon/pid947>

Metadata Panel

Edition Epigraphy Text

EPIGRAPHY

ItAnt ID ItAnt Oscan 3

Inscription title Mosaic from the sanctuary of Schiavi

Inscription type building inscription



Linking to external resources



test

Text

Lessico

*h3e

? ▾ ✕ 1

Equals Starts
 Contains Ends

▶ *h3ep-@pie

Ontology

Epigraphy

Core Decomposition Etymology Dictionary

Lexical Entry CREATED BY imported ON 03/02/2022 09:19:28

Label: *h3ep-

Etymon

Uncertain

Language: PIE

MORPHOLOGY

Part of speech: Select a value... ?

Stem type:

DENOTES

LAST UPDATE ON 26/05/2022 02:13:00

Note Panel

Link Panel (1)

SEE ALSO

SAME AS

<http://ila-erc.eu/data/> Avatar

*h3ep-os;-es- [n.]
http://ila-erc.eu/data/lexical/resources/BriEDI/id/etymon/pie0847

rdfs:comment *h3ep-os;-es- [n.]
Etymology for opus (a1157)

rdfs:label *h3ep-os;-es- [n.]

rdfs:label <http://example.net/ila_link- 115170

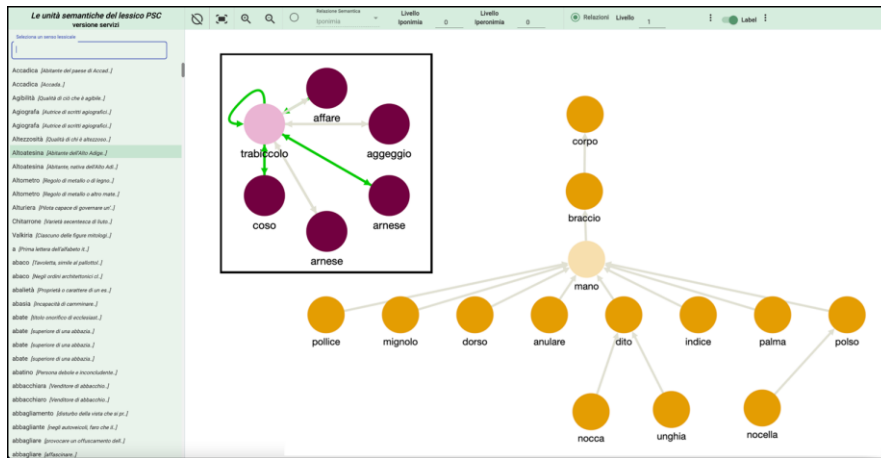
lime:language PIE

lil:type lemonEtym

lil:gender <https://lexinfo.net/ontology/2.0/lexinfo.owl#gender- <https://lexinfo.net/ontology/2.0/lexinfo.owl#neuter-



Other applications using LexO services



(Colombo et al., 2022)

experimental tool for allowing the navigation of the lexical senses of a lexicon

demo available at <https://klab.ilc.cnr.it/lexiconGraph/>

(Giovannetti et al., 2021)

tool to access a text on a linguistic and conceptual basis

demo available at <https://klab.ilc.cnr.it/talmudSearch/>

Form	Lemma	Sense	Relation	Range	Target Lemma	Target Sense	Forms
recipiente - noun	recipiente - noun						recipienti -
recipiente	Un recipie...	iponimia	1	anfora	vaso a due anse	anfore -	
recipiente	Un recipie...	iponimia	1	casseruola	recipiente da cucina...	casseruole -	
recipiente	Un recipie...	iponimia	1	tegane	recipiente da cucina	tegami -	

Future work



- cross-resource, multi-level search
- develop the exploration platform
- download and export, esp. in LLOD compatible formats
- extension to different use-cases
- Assessments and enhancements to make a full-fledged CLARIN-IT service



Thank you for your attention!

Further details:

<https://github.com/DigItAnt> , <https://www.prin-italia-antica.unifi.it>

or <mailto:valeria.quochi@ilc.cnr.it>

Short video demo: <https://youtu.be/lscy9piqy5E>

To test the platform: <https://lari2.ilc.cnr.it/LexO-angular/lexicon>

(test, test22)

