META-SHARE metadata: Overview of the schema & Interoperability with other schemas

Penny Labropoulou
& Maria Gavrilidou
(ILSP/RC Athena)

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META-SHARE infrastructure

- META-SHARE is an **open, integrated, secure, and interoperable** exchange infrastructure for language data and tools for the **Human Language Technologies** domain

- A **marketplace** where language data and tools are documented, uploaded and stored in repositories, catalogued and announced, downloaded, exchanged, discussed, aiming **to support a data economy** (free and for-a-fee LRs/LTs and services)

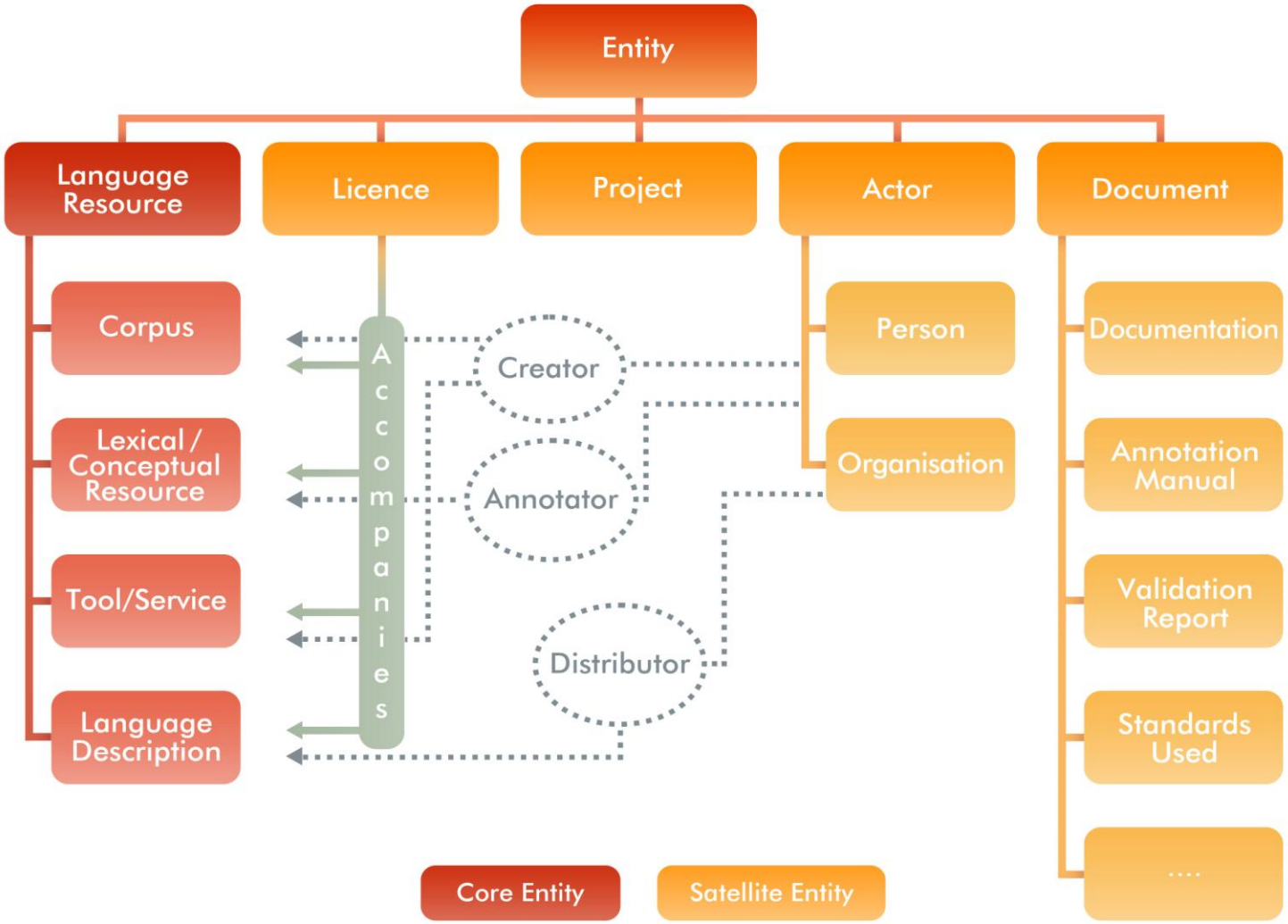
Framework

- variety of metadata schemas and sets of descriptive elements from LR catalogues in the wider area of language-related activities
- these come from various backgrounds and focus on the needs of the specific communities that have devised them
- interoperability problems exist between them
- **ISO Data Category Registry** caters for semantic interoperability through the registration of *elements*
- the **Component-based Metadata Infrastructure (CMDI)** complements the ISOcat DCR by introducing the notion of shared *components* and *profiles*

The META-SHARE approach & principles (1)

- Builds on the CMDI approach
- Takes into account previous metadata schemas & relevant activities
- Proposes a schema covering the desiderata of the META-SHARE infrastructure and its users (i.e. LRs providers & consumers) for all facilities provided (incl. search, browsing & retrieval, editing metadata records etc.)
- Aims to describe (cf. ontology)
  - **LRs**, incl. data (textual, multimodal etc.) resources and tools/services used for their processing
  - their **related entities** (e.g. licences, documentation, actors etc.)

META-SHARE Ontology



The META-SHARE approach & principles (2)

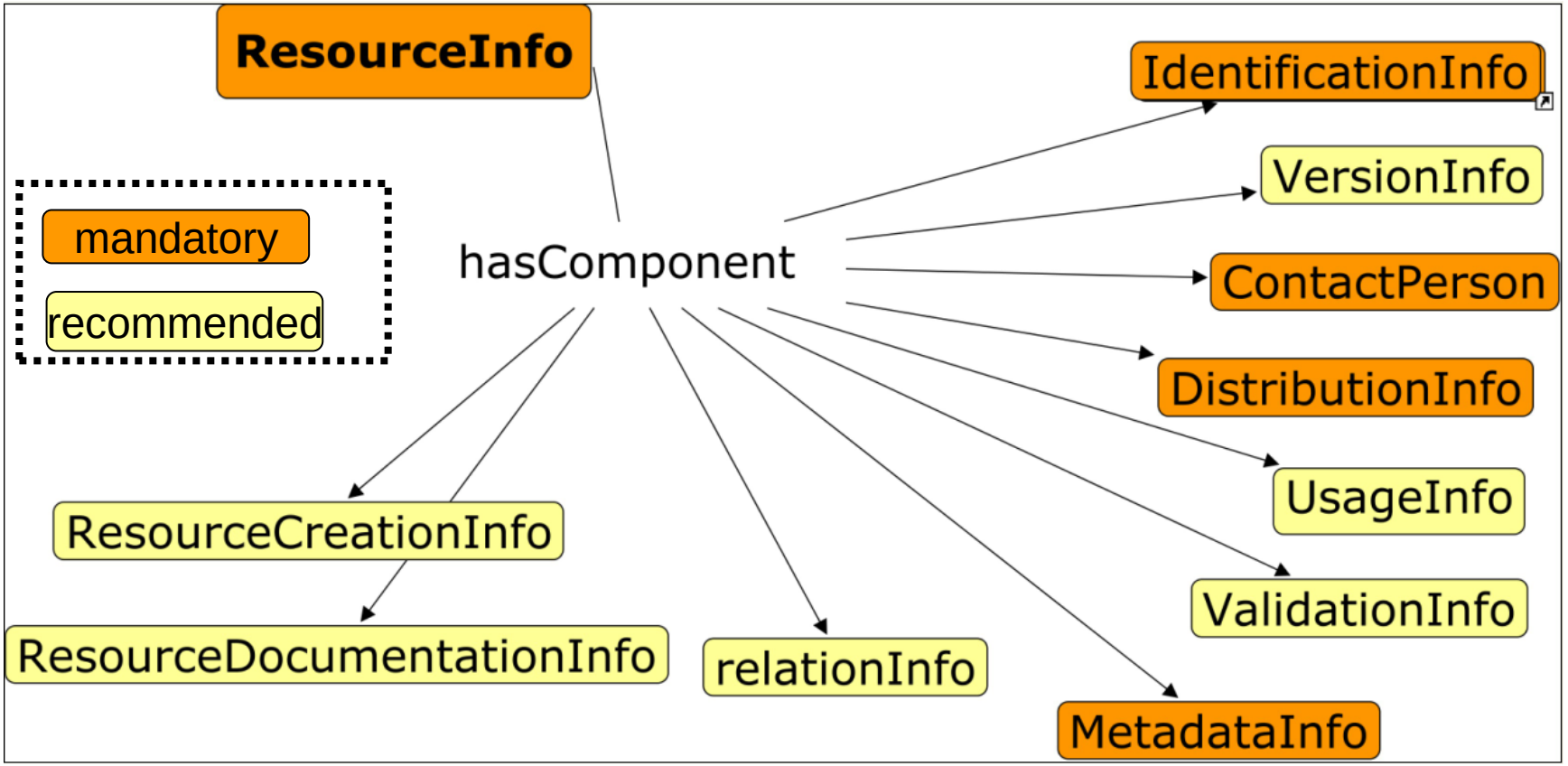
- Unit of description: *resource* rather than *individual item,* i.e. whole sets of text/audio/etc. files, whole sets of lexical units etc.

- Aims to cover full lifecycle of the LR production and usage,
  - minimum of mandatory components (**minimal schema**) required for effective LR search, identification and retrieval
  - further recommended/optional (**maximal schema**) components that improve LR use

- Metadata element values: free text vs. **open** and **closed controlled vocabularies**

- Highlight **common** elements in LRs ➔ e.g. one profile for all LRs
- but provide **distinct** elements for differences ➔ e.g. media-type specific components

The core description component



LRs Typology

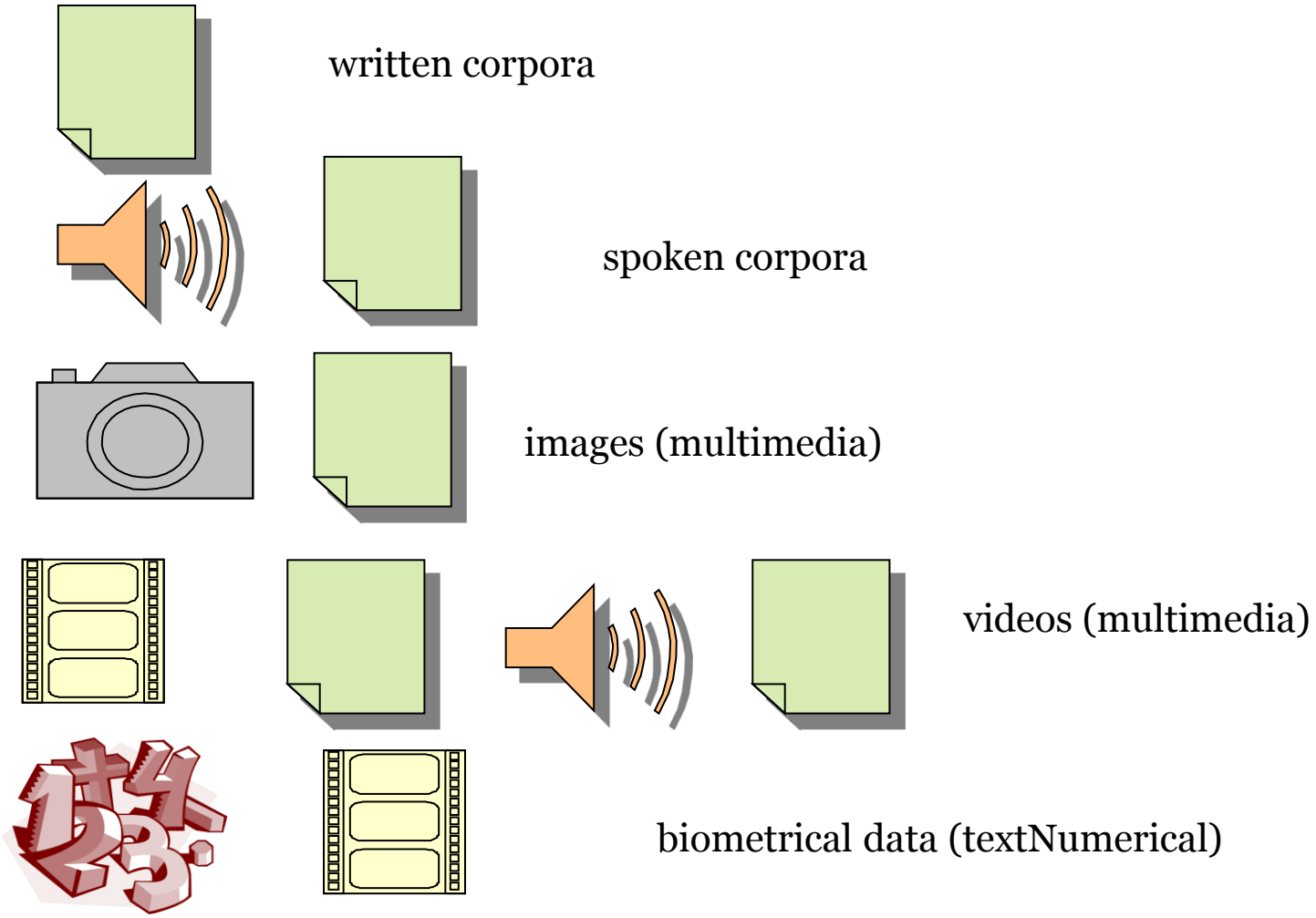
- Two main classification axes:
  - **resourceType**
    - *corpus*, incl. written/text, oral/spoken, multimodal/multimedia corpora,
    - *lexical/conceptual resource*, incl. terminological resources, word lists, semantic lexica, ontologies, etc.,
    - *language description*, incl. grammars, typological databases, courseware, etc.,
    - *tool/service,* incl. processing tools, applications, web services, etc.

  and

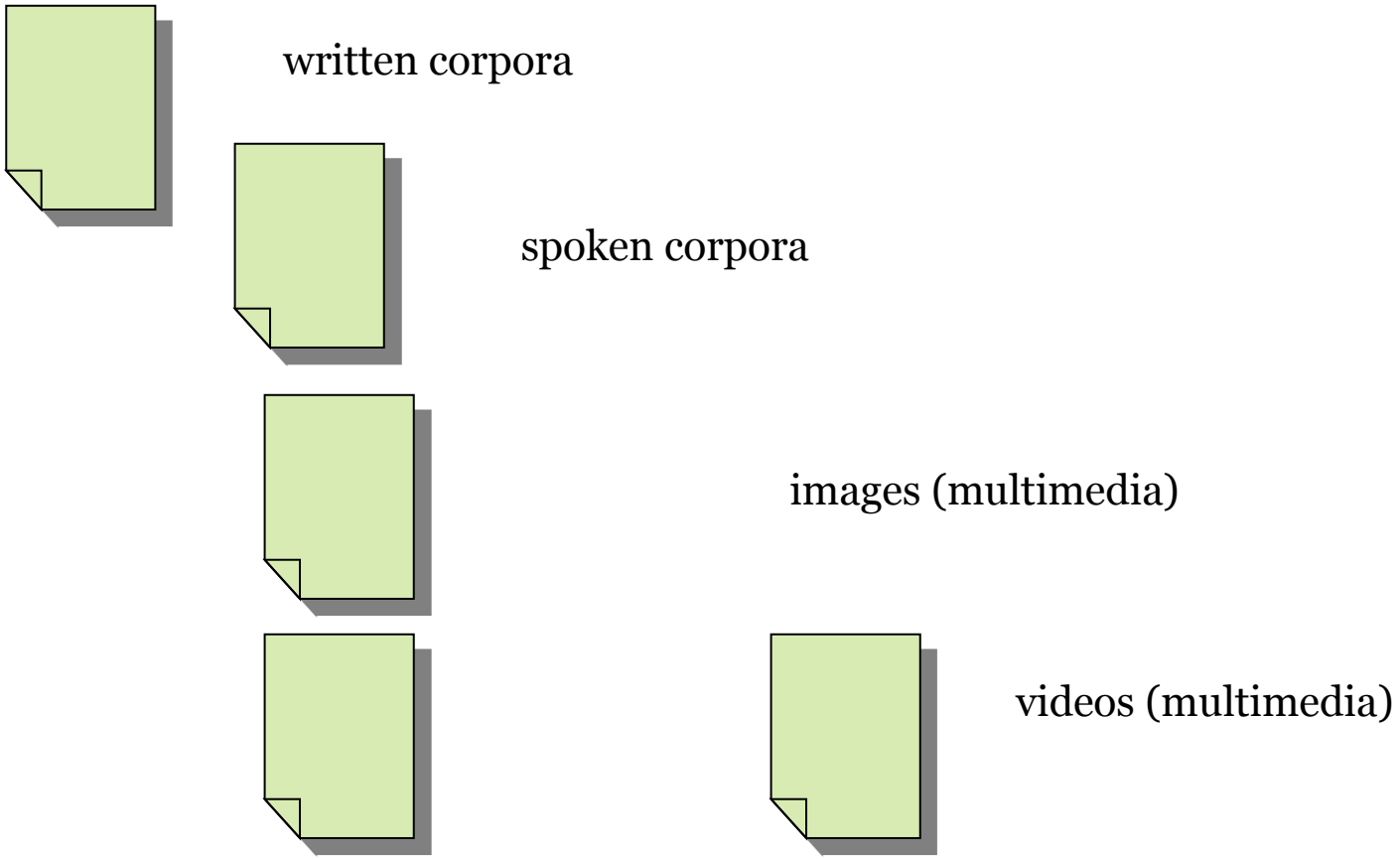
  - **mediaType** (i.e. the medium on which the LR is implemented)
    - *text (+textNumerical and textNgram), audio, image, video*

- each LR receives only one *resourceType* value, but may take more than one *mediaType* values (LRs can consist of parts belonging to different types of media)

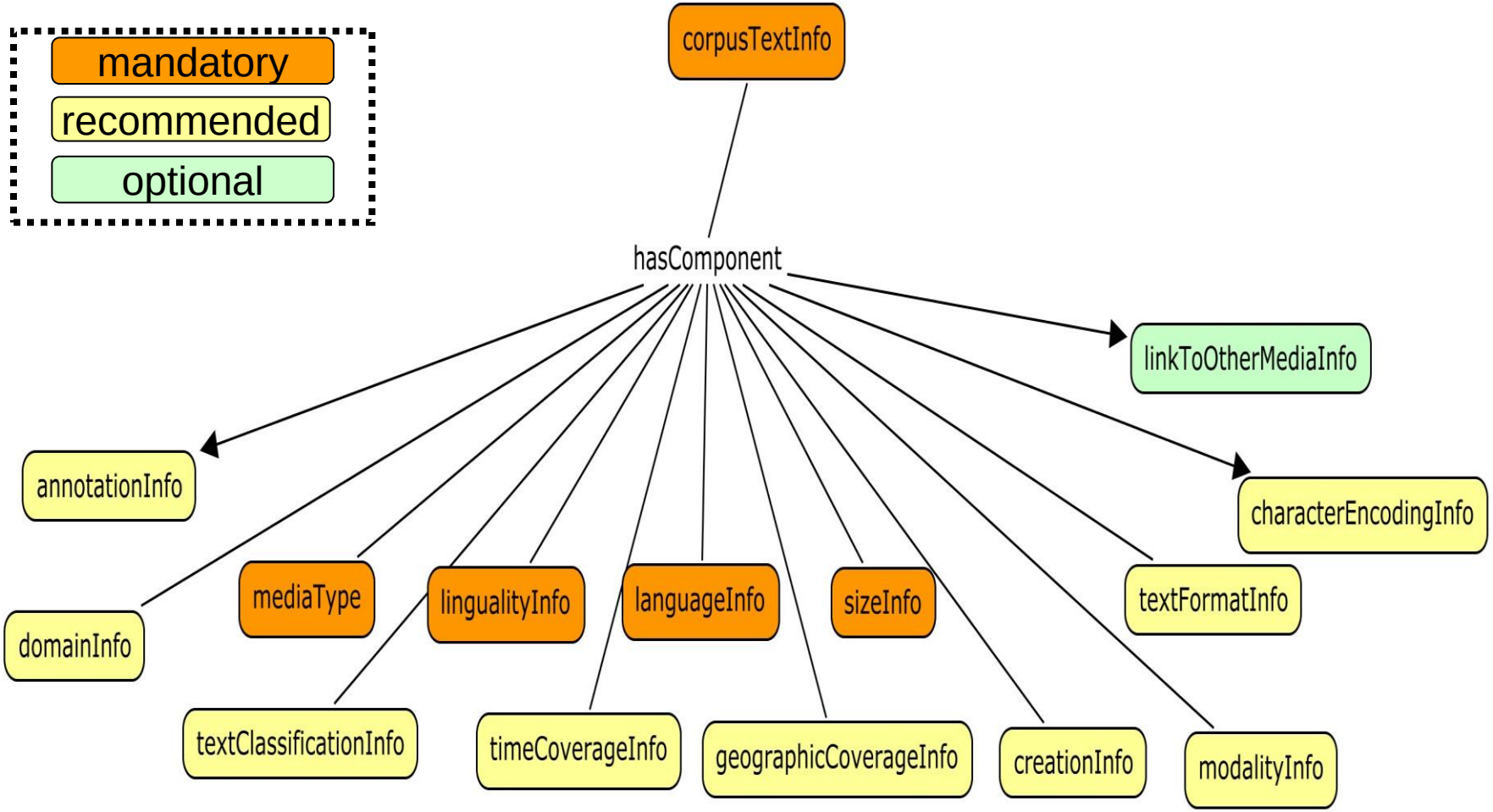
mediaType combinations



Identity intact



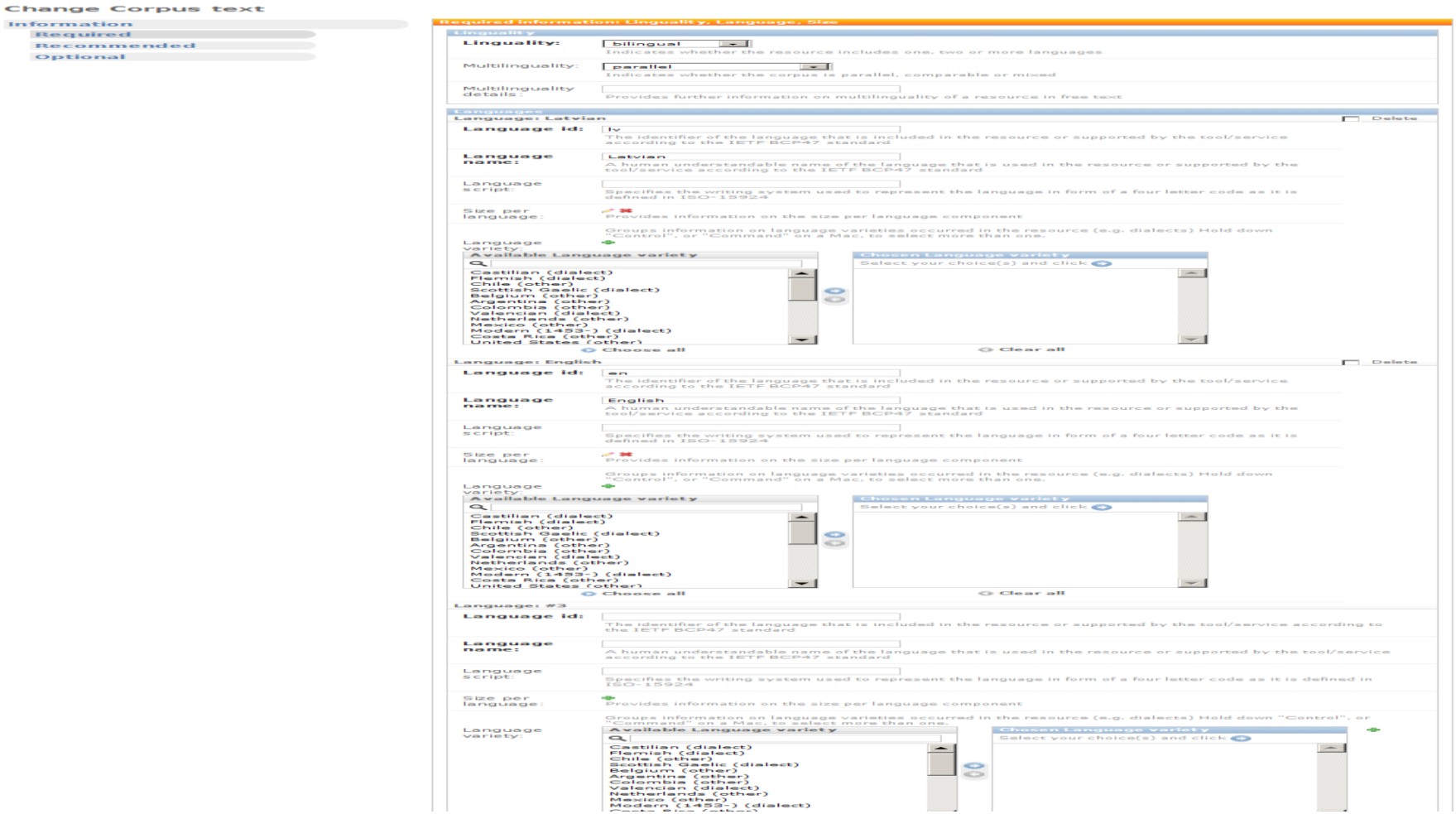
corpusTextInfo



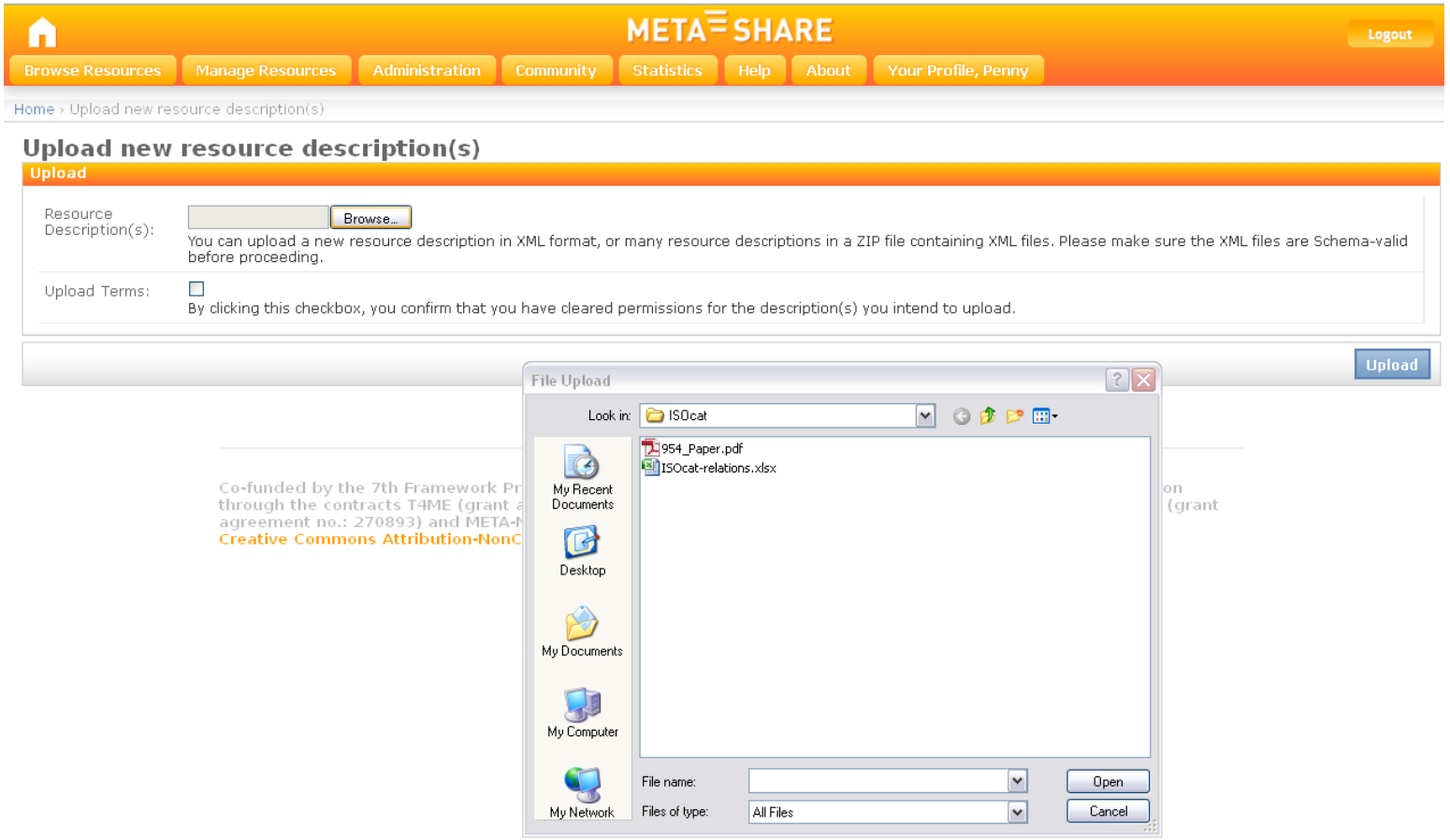
Implementation of the model

- the model has been implemented as an XML schema
- supporting documentation
  - documentation & user manual (with definitions, examples and guidelines) http://www.meta-net.eu/meta-share/META-SHARE%20%20documentationUserManual.pdf
  - knowledge base http://metashare.ilsp.gr/portal/knowledgebase
  - user forum http://metashare.ilsp.gr/portal/forum/questions/show/all/newest/all /
- supporting s/w - META-SHARE platform, incl.
  - editor and uploader of XML records
  - metadata browse, search and retrieval

META-SHARE editor



META-SHARE uploader of metadata records in XML



Interoperability through CMDI

- v3.0 - minimal schema already in the Component Registry by the Prague University; incl. a profile combining META-SHARE with DC

- Uploading of the **full schema v3.0** into the Component Registry
- Due to technical reasons, modifications were necessary, e.g.
  - four profiles for each *resourceType*
  - some components split into two components, e.g. *actorInfo* into *person* and *organization*
  - ordering of components and elements
  - etc.
- Converters between the two implementations have been built, catering for these modifications where possible
- Validation required before uploading to the META-SHARE repo

Interoperability through ISOcat & DC

- Link to ISOcat elements in the documentation
- Link to DC and OLAC elements in the documentation

- Link to ISOcat elements (incl. containers) in the Component Registry implementation (*conceptLink*)

Interoperability with other schemas

- Converters for the ELRA schema, cf. Gavrilidou M., P. Labropoulou, E. Desipri, I. Giannopoulou, O. Hamon, V. Arranz (2012) "The META-SHARE Metadata Schema: Principles, Features, Implementation and Conversion from other Schemas", *LREC 2012 – Workshop on Describing Language Resources with Metadata, Istanbul, Turkey*.

- Converters for OLAC and DC – work almost finished, but issues
  - more vs. less detailed schema
  - free text vs. list of values
  - semantic problems: e.g. *publisher* in the META-SHARE context

Interoperability issues at the component/profile level

- Interoperability - re-usability and better understanding of components
- Grouping of similar components & comparison/contrast between them
- Statistics on usage of components/profiles (metadata records, metadata schemas)
- More view options: e.g. usage of components by other components/profiles
- Versioning of components

Interoperability issues at the element level

- How do you decide the most appropriate element for linking?
  - multiple similar elements in the isoCat, e.g. *region* to *region* & *locationRegion*, *resourceCreationDate* to *creationDate* and *startYear*
  - elements with the same name but not exactly the same, e.g. *licence* with *license* (broader than *licence*)
  - elements with free text or different values, e.g. *mediaType* vs. *mediaType*
  - element similar to set of elements, e.g. contactPerson/givenName & surname to contactFullName
  - same conceptLink inside a component: e.g. *metaShareId & identifier* to *identifier*
- usage of elements – by which components? by which schemas? in which metadata records?
- grouping and relations between elements in ISOcat: where do we stand?

- Thank you all!
- Questions/Discussion