Planning a domain-specific ontology (for universities)

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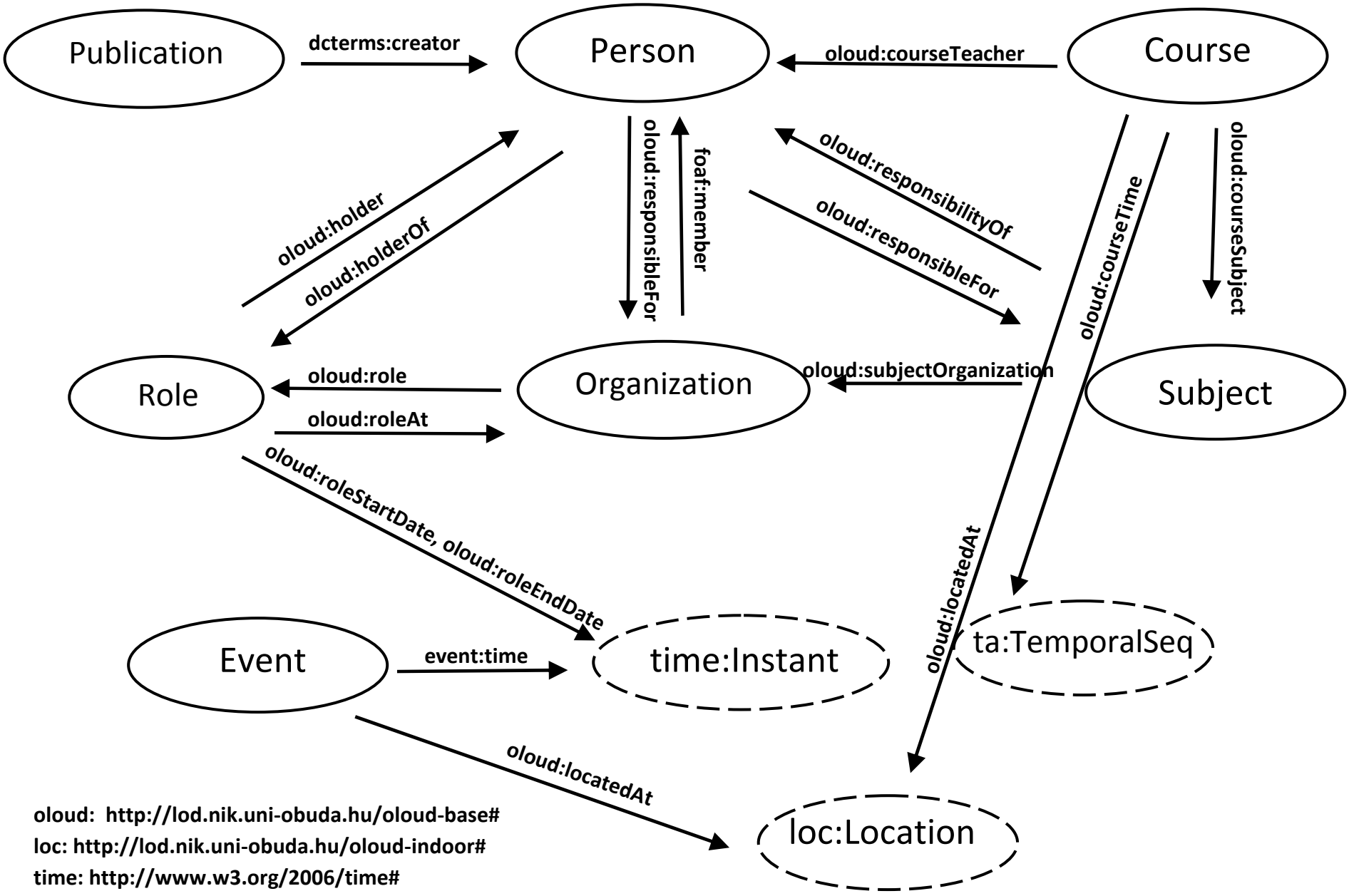
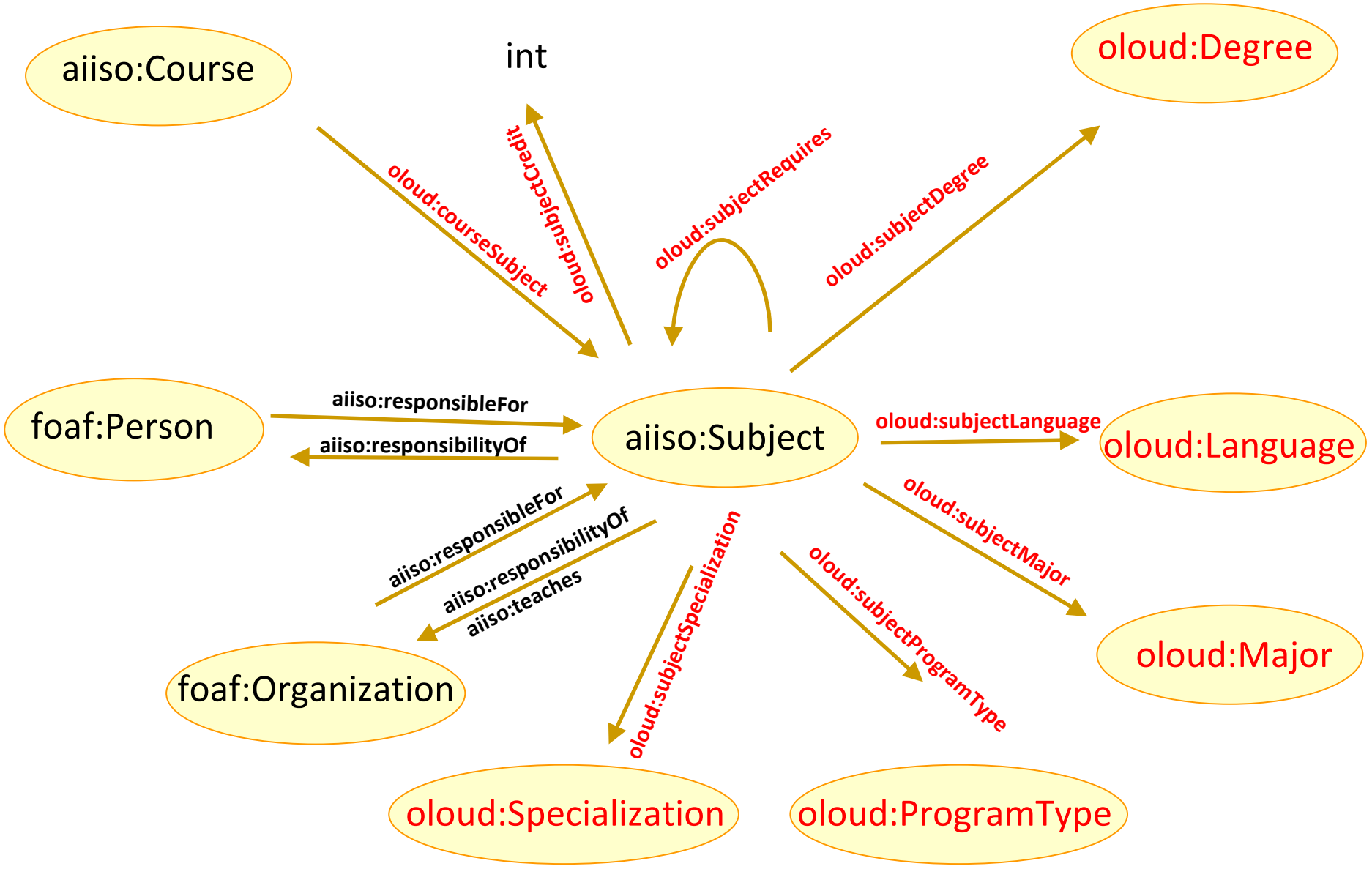
Why Linked Open University Data?

- Smart Cities need Smart Universities…
- Services and apps for students and teachers
  - … and decision makers (e.g. parents)

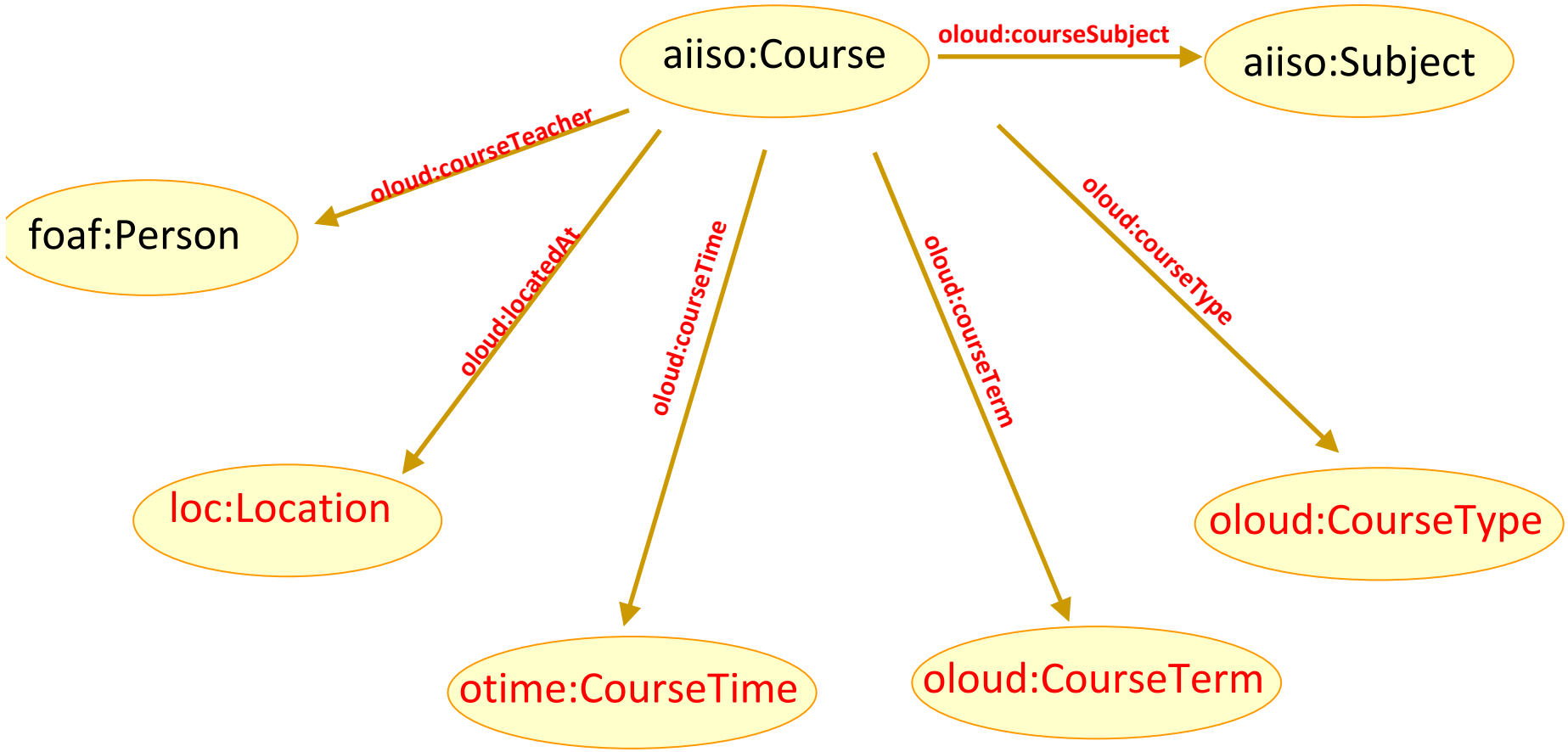
Modeling areas

- Organisation
  - Units, leaders, home pages
- Staff
  - Lecturers, researchers
- Locations
  - Rooms, coffee, toilets
- Research
  - Projects, papers, collaborations
- Courses
  - Subjects, credits, semesters
- Events
  - Timetables, workshops
- Learning material
- Statistics
  - Graduation success rates, expenses, student hostel prices


Publication
dcterms:creator
Person
oloud:courseTeacher
Course
oloud:holder
oloud:holderOf
oloud:responsibleFor
foaf:member
oloud:responsibilityOf
oloud:responsibleFor
oloud:courseTime
oloud:courseSubject
Role
oloud:role
oloud:roleAt
Organization
oloud:subjectOrganization
Subject
oloud:roleStartDate, oloud:roleEndDate
oloud:locatedAt
Event
event:time
time:Instant
ta:TemporalSeq
oloud:locatedAt
loc:Location
oloud: http://lod.nik.uni-obuda.hu/oloud-base#
loc: http://lod.nik.uni-obuda.hu/oloud-indoor#
time: http://www.w3.org/2006/time#
ta: http://ontology.ihmc.us/temporalAggregates.owl#
event: http://purl.org/NET/c4dm/event.owl#



oloud: http://lod.nik.uni-obuda.hu/oloud-base.owl



oloud: http://lod.nik.uni-obuda.hu/oloud-base.owl
loc: http://lod.nik.uni-obuda.hu/oloud-indoor.owl
otime: http://lod.nik.uni-obuda.hu/oloud-time.owl

	Possible use	Problems
Schema.org	Generic	Too much overhead, far from OWL
Aiiso, aiiso-r, participation	Organisation, roles and teaching	
FOAF	Staff	No address property
Vcard	Staff, organisation	Overlaps with FOAF
W3C Time	Courses, events	
Dublin Core	Learning material, papers	Mostly used in annotations
BIBO	Learning material, papers	
Teach	Courses	Several problems, not OWL
VIVO	Staff, research	Partial fit, many overlaps
GeoNames	Locations	
Indoor navigation	Moving between lecture rooms	No ontology available!
Event	Courses, events	
Temporal aggregates	Recurring event descriptions	Complexity

Example for a simple event

```
<http://lod.nik.uni-obuda.hu/data/interval/2015-01-03T10-10-
00/duration/T45M>
        a                   time:Interval ;
        time:hasBeginning <http://lod.nik.uni-
obuda.hu/data/datetime/2015-01-03T10-10-00>
        time:hasDurationDescription <http://lod.nik.uni-
obuda.hu/data/duration/T45M> .
<http://lod.nik.uni-obuda.hu/data/datetime/2015-01-03T10-10-00_desc>
        a               time:DateTimeDescription ;
        time:day        "03" ;
        time:hour       "10" ;
        time:minute     "10" ;
        time:second     "10" ;
        time:month      "01" ;
        time:unitType   time:unitSecond;
        time:year       "2015" .
<http://lod.nik.uni-obuda.hu/data/duration/T45M>
        a       time:DurationDescription ;
        time:minutes 45 .
```

Questions to discuss

- What data do you miss?
  What would you leave out?
- OWL or RDFS? Or something simpler?
- How to handle the many dependencies on other ontologies?
- How to handle the complexity of describing simple facts in an ontological way?