

The Reporting Event ODP

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Motivation

- ▶ emerging need for storing and investigating not only information about a particular event, but also the provenance of the information and circumstances of its provision
- ▶ properties attributed to an event are not stored as facts, but as a narrative of a particular agent, which could differ from the narratives of other agents

Do existing event ontologies address the subjectivity of event properties? 1/2

- ▶ **CIDOC Conceptual Reference Model (CRM)**: does not allow to mark the level of property value probability or attribute a property assignment to a particular agent
- ▶ **Linking Open Descriptions of Events ontology (LODE)**: allows for linking events to media objects presenting them and thus denoting sources
- ▶ **IPTC NewsML-G2 controlled vocabulary**: allows to define whether an event and its time interval are confirmed or not; **IPTC rNews model** introduces a property `rnews:accountablePerson` for linking to a person responsible for a particular news item (as a whole).

Do existing event ontologies address the subjectivity of event properties? 2/2

- ▶ **Simple Event Model (SEM)**: introduces a subclass of `sem:Constraint`, called `sem:View`, allowing to mark some attributed property as a belief (point of view) of a particular `sem:Authority`. The property assignment is constant: there is no means of representing the fact that a view changed over time
- ▶ **BBC Storyline Ontology** introduces a notion of `nsl:Storyline`, to denote the editorial perspective of an event or a group of events. It can be attributed to a specific owner. Storylines have a larger span than a single event. They can include `nsl:StorylineSlots`: real world events or inner storylines.

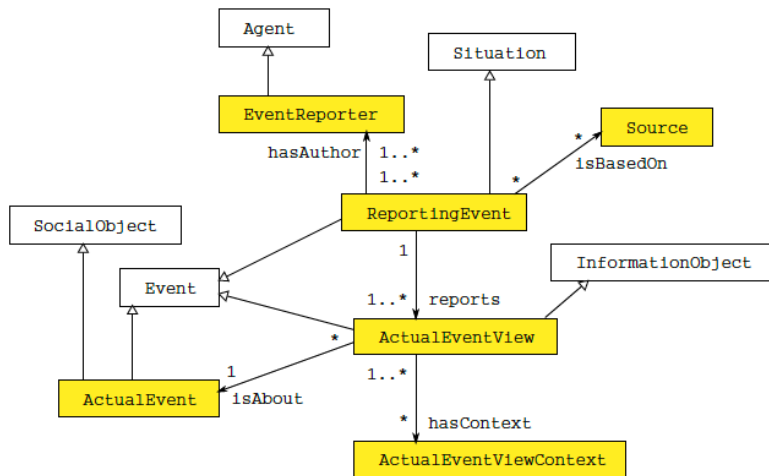
Reporting Event ODP: Intent

To allow for modelling situations in which the knowledge about an event cannot be treated as certain. It is particularly useful for cases in which two or more agents provide different, contradictory information about the same event. Also for modelling situation in which a single agent provided contradictory information about the same event at different points in time. The pattern allows for stating different circumstances of an act of the information provision.

Competency questions

- ▶ What characteristics (e.g. date, participants, cause) is an actual event said to have?
- ▶ Which agent made a statement about an actual event?
- ▶ On which sources these statements were based?
- ▶ What were the circumstances of providing information about an actual event?

Reporting Event ODP



<http://ontologydesignpatterns.org/wiki/Submissions:ReportingEvent>

Pattern formalization

ActualEvent \sqsubseteq Event

ActualEvent \sqsubseteq SocialObject \sqsubseteq Object

ActualEventView \sqsubseteq Event

ActualEventView \sqsubseteq InformationObject \sqsubseteq Object

ActualEventView \sqsubseteq = 1 isAbout.ActualEvent

ActualEventView \sqsubseteq \forall isAbout.ActualEvent

ActualEventView \sqsubseteq = 1 reports⁻¹.ReportingEvent

ActualEventView \sqsubseteq \forall hasContext.ActualEventViewContext

ActualEventViewContext \sqsubseteq \exists hasContext⁻¹.ActualEventView

ReportingEvent \sqsubseteq Event

ReportingEvent \sqsubseteq Situation

ReportingEvent \sqsubseteq \exists reports.ActualEventView

ReportingEvent \sqsubseteq \forall reports.ActualEventView

ReportingEvent \sqsubseteq \exists hasAuthor.EventReporter

ReportingEvent \sqsubseteq \forall isBasedOn.Source

EventReporter \sqsubseteq Agent

EventReporter \sqsubseteq \exists hasAuthor⁻¹.ReportingEvent

Source \sqsubseteq (Event \sqcup Object)

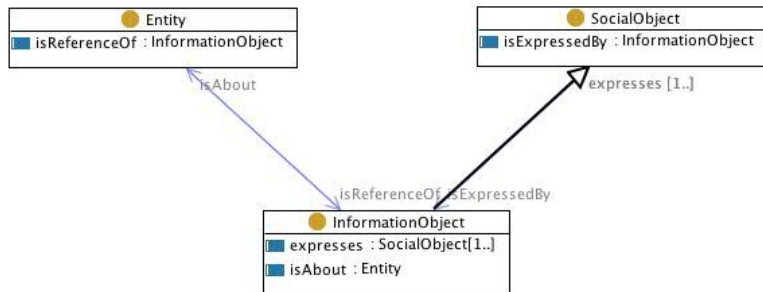
reports \sqsubseteq isSettingFor

Intent: To represent the meaning of an information object: the concepts it expresses, the things it is about.

Competency Questions:

- ▶ What is the meaning of an information object?
- ▶ What information objects express this meaning?
- ▶ What is this about?
- ▶ How can I call this?

Intension Extension ODP 2/2



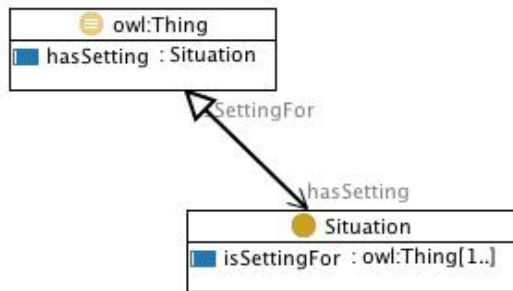
<http://ontologydesignpatterns.org/wiki/Submissions:IntensionExtension>

Intent: To represent contexts or situations, and the things that are contextualized.

Competency Questions:

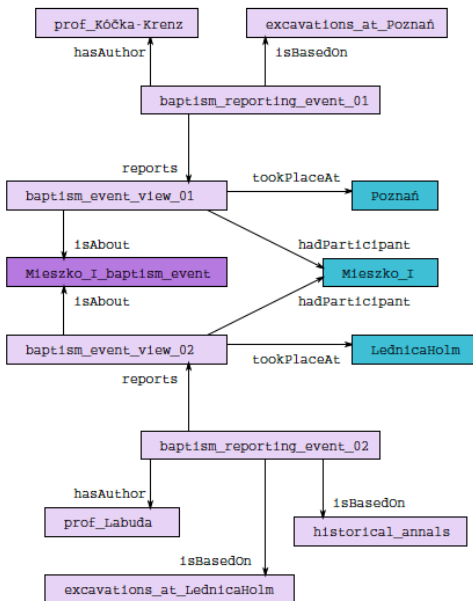
- ▶ What is the context or situation of something?
- ▶ What are the things present in this context or situation?

Situation ODP 2/2



<http://ontologydesignpatterns.org/wiki/Submissions:Situation>

Sample use of Reporting Event ODP: Historical Debate



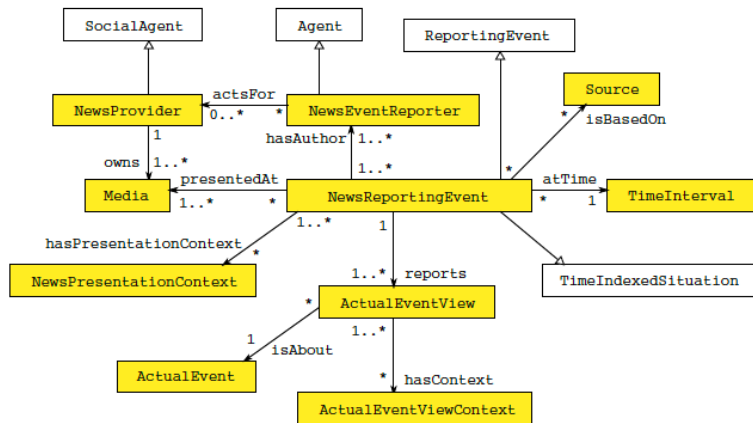
News Reporting Event ODP: Intent

Can be used for modelling situations in which we are not certain that a particular actual event has the properties which were described in a news message. We want to define the properties of an actual event which were reported (time, place, actors, subevents, cause, effect etc.), but not to treat them as universal, verified knowledge. The pattern also allows to define who is responsible for a particular description of an event and how this description is dealt with.

Competency questions

- ▶ What aspects of an actual event were presented in the news message?
- ▶ Who reported an actual event? Which news provider they represented?
- ▶ When was a certain actual event reported for the first time?
- ▶ What actual events are presented in a certain medium/by media of a certain news provider?
- ▶ How was an actual event presented?

News Reporting Event ODP



<http://ontologydesignpatterns.org/wiki/Submissions:NewsReportingEvent>

Pattern formalization

NewsReportingEvent \sqsubseteq ReportingEvent

NewsReportingEvent \sqsubseteq TimeIndexedSituation

NewsReportingEvent $\sqsubseteq \exists$ hasAuthor.NewsEventReporter

NewsReportingEvent $\sqsubseteq \exists$ presentedAt.Media

NewsEventReporter \sqsubseteq EventReporter

NewsEventReporter $\sqsubseteq \exists$ hasAuthor⁻¹.NewsReportingEvent

NewsProvider \sqsubseteq SocialAgent

NewsProvider $\sqsubseteq \exists$ owns.Media

Media $\sqsubseteq = 1$ owns⁻¹.NewsProvider

NewsPresentationContext $\sqsubseteq \exists$ hasPresentationContext⁻¹.NewsReportingEvent

hasPresentationContext \sqsubseteq isSettingFor

Intent: To represent that some agent is acting in order to forward the action of a social (non-physical) agent.

Competency Questions:

- ▶ Who is working for which organization?
- ▶ Who is representing the company?

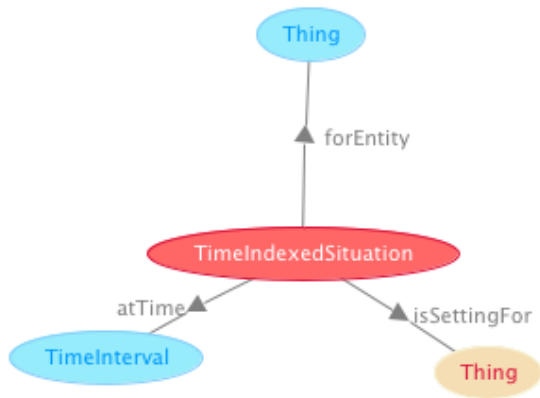
<http://ontologydesignpatterns.org/wiki/Submissions:ActingFor>

Intent: To represent time indexed situations.

Competency Questions:

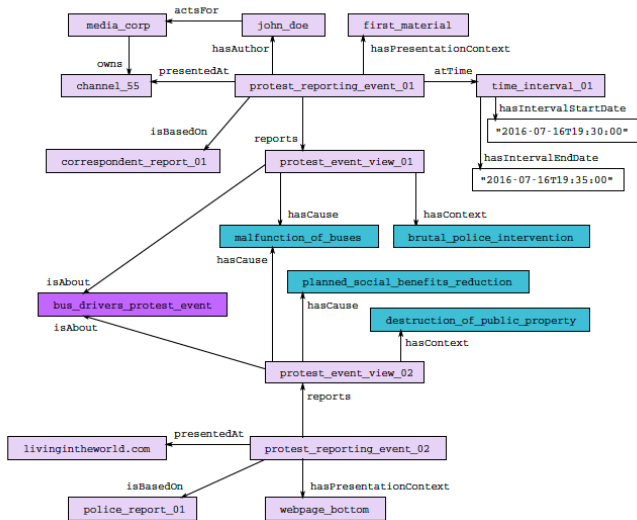
- ▶ At what time did a certain situation occur?
- ▶ What situations occurred at a certain time?

Time Indexed Situation ODP 2/2



<http://ontologydesignpatterns.org/wiki/Submissions:TimeIndexedSituation>

Sample use of News Reporting Event ODP: Presentation of Social Unrests



Thank you!