

AN ANALYSIS OF THE CHALLENGE OF DATA COMPLETENESS OF EVENTS FOR CULTURAL HERITAGE INSTITUTIONS

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Problem Definition. Databases of cultural heritage institutions currently often contain limited object-related event data. Providing this data is necessary for adding historical context to objects. However, the current structure of the data makes it difficult to measure the data completeness.

Research Objective. In a cooperation with the Rijksmuseum Amsterdam, we attempt to enhance the structure and completeness of the historical context which cultural heritage institutions add to their objects within a data model.

Dijkshoorn et al. (2018) van den Akker et al. (2011) de Boer et al. (2017)

1. FINDING A DEFINITION OF THE HISTORICAL EVENT

Challenges.
Lack of historical consensus on events.

Need for both a theoretical and practical foundation.

Works regarding Event & Models



Table 1. Prototypical Data Model

Information Features	Domain	Range
hasName	Event	Name
hasDescription	Event	Description
hasParticipant	Event	Actor
hasLocation	Event	Place
hasRegion	Event	Place
hasEventDate	Event	Date
isObservableAt	Event	Time Interval
hasType	Event	Type
knownAs	Event	Event/Name
wasInfluencedBy	Event	Event
fallsWithin	Event	Event
consistsOf	Event	Event

An event is (1) a unique interpretation of a phenomenon which has (2) occurred at a place or region in (3) a limited extent in time. An event is (4) described in causes which result in change in the course of history. This interpretation needs (5) to be acknowledged by a contemporary.

2. ANALYSING DATA COMPLETENESS W.R.T THIS DEFINITION

Challenges.
Mapping to current RMA database.

Extracting values from Adlib/XML.

Events stored in Database Rijksmuseum Amsterdam



```
<term_type optio_
/term_type><broader_
l2:09:05</input.time
="Bombardement van R
```

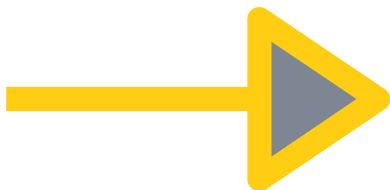


Table 2. Current Data Completeness (32 Events)

Relation	Number of Occurences
hasDescription	18
hasName	32
fallsWithin	29
consistsOf	31
hasParticipant	0
hasLocation	0
hasRegion	0
hasEventDate	0
isObservableAt	0
hasType	0
knownAs	0
influencedBy	0

3. ENHANCING COMPLETENESS USING NLP TECHNOLOGY

Challenges.
Extracting labels from event descriptions using NLP Technology.

FROG NLP
(developed for Dutch)



TextRazor



Table 3. Comparison of labelled entities by FROG NLP and TextRazor (32 Events)

Label	FROG NLP	Correct Label	TextRazor	Correct Label
Location	60	17	45	19
Time Interval			22	12
Participant	22	15	20	17
Event	11	8	15	15

FUTURE STEPS

- 1. Visualizing the model.
- 2. Increasing the number of analysed events.
- 3. Interpreting the results

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POSTER & REFERENCES

