

Request for Comments for RDS Event on 09.05.2022

Dieter Fensel, Umutcan Simsek
STI2

Abstract. *This document is a Request for Comments (RC) for the Request for Domain Specifications (RDS) on Events from May 09, 2022.*

Table of Contents

1. Introduction	4
2. Suggestions	4
2.1 Request for a property additionalType	4
Representation with schema.org	4
2.2 Request for a property audience	4
Representation with schema.org	5
2.3 Request for a property contributor	5
Representation with schema.org	5
2.4 Request for a property description	5
Representation with schema.org	6
2.5 Request for a property doorTime	6
Representation with schema.org	6
2.6 Request for a property duration	6
Representation with schema.org	6
2.7 Request for a property endDate	7
Representation with schema.org	7
2.8 Request for a property eventAttendanceMode	7
Representation with schema.org	7
2.9 Request for a property eventSchedule	8
Representation with schema.org	8
2.10 Request for a property eventStatus	8
Representation with schema.org	8
2.11 Request for a property identifier	8
Representation with schema.org	9
2.12 Request for a property image	9
Representation with schema.org	9
2.13 Request for a property inLanguage	9
Representation with schema.org	10
2.14 Request for a property isAccessibleForFree	10
Representation with schema.org	10
2.15 Request for a property location	10
Representation with schema.org	10
2.16 Request for a property name	11
Representation with schema.org	11
2.17 Request for a property offers	11
Representation with schema.org	11
2.18 Request for a property organizer	11
Representation with schema.org	12
2.19 Request for a property performer	12
Representation with schema.org	12
2.20 Request for a property potentialAction	12
Representation with schema.org	13

2.21 Request for a property previousStartDate	13
Representation with schema.org	13
2.22 Request for a property review	13
Representation with schema.org	13
2.23 Request for a property sameAs	14
Representation with schema.org	14
2.24 Request for a property sdLicense	14
Extension to schema.org	14
2.25 Request for a property sponsor	14
Representation with schema.org	15
2.26 Request for a property startDate	15
Representation with schema.org	15
2.27 Request for a property subEvent	15
Representation with schema.org	16
2.28 Request for a property superEvent	16
Representation with schema.org	16
2.29 Request for a property typicalAgeRange	16
Representation with schema.org	17
2.30 Request for a property url	17
Representation with schema.org	17
3. Conclusion	17

1. Introduction

The requested domain specification is about extending schema.org with the Event type as a subtype of Place. Several properties are

In the remainder of the document we provide our suggestions in relation to the requests made in the RDS. We then conclude with a summary and some general remarks.

2. Suggestions

This section presents our suggestions according to the requests made for the Event Domain Specification. Each subsection contains a suggestion and starts with a quote from the RDS followed by our answer including how the request is recommended to be implemented. Note that there is already a processed submission from the Event Working Group within ODTA that is more comprehensive than this one. Therefore, for the requests that are already covered by this submission, we will refer to the RC created for the RDS for EventDS (EventDS-31012022).

2.1 Request for a property `additionalType`

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
<i><code>additionalType</code></i>	<i>0 +</i>	<i>URL</i>

A property for attaching external types to Events is requested. We already recommended using the `additionalType` property for some POIs in TouristAttractionDS-16032022. This recommendation can be expanded to Events so additional types from sources like DBPedia and Wikidata can be specified.

Representation with schema.org

Property	Domain	Range
schema:additionalType	schema:Event	schema:URL

2.2 Request for a property `audience`

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
<i>audience</i>	<i>0 +</i>	<i>Audience</i>

A property for specifying the audience of an event is requested. The proposed audience property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:audience	schema:Event	schema:Audience

2.3 Request for a property contributor

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
<i>contributor</i>	<i>0 +</i>	<i>Person</i> <i>Organization</i>

A property for specifying the contributors of an event is requested. The proposed contributor property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:contributor	schema:Event	schema:Organization OR schema:Person

2.4 Request for a property description

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
<i>description</i>	<i>0 +</i>	<i>Localized Text</i>

A property for specifying descriptions of an event is requested. The proposed description property of schema.org can be used for this purpose. Note that the description values can be in multiple languages which means the usage of RDF language-tagged strings¹ is advised when generating data according to this DS.

Representation with schema.org

Property	Domain	Range
schema:description	schema:Event	schema:Text

2.5 Request for a property doorTime

PROPERTY	CARDINALITY	RANGE TYPES
<i>doorTime</i>	0 - 1	<i>DateTime</i>

A property for specifying the door opening time of an event is requested. The proposed doorTime property of schema.org can be used for this purpose. This property can take at most one value.

Representation with schema.org

Property	Domain	Range
schema:doorTime	schema:Event	schema:DateTime

2.6 Request for a property duration

PROPERTY	CARDINALITY	RANGE TYPES
<i>duration</i>	0 +	<i>DateTime</i>

A property for specifying the duration of an event is requested. The proposed duration property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
----------	--------	-------

¹ <https://www.w3.org/TR/rdf11-concepts/#section-Graph-Literal>

schema:duration	schema:Event	schema:Duration
-----------------	--------------	-----------------

2.7 Request for a property endDate

PROPERTY	CARDINALITY	RANGE TYPES
endDate	0 - 1	DateTime Date

A property for specifying the end date of an event is requested. The proposed endDate property of schema.org can be used for this purpose. This property can take at most one value.

Representation with schema.org

Property	Domain	Range
schema:endDate	schema:Event	schema:DateTime OR schema:Date

2.8 Request for a property eventAttendanceMode

PROPERTY	CARDINALITY	RANGE TYPES
eventAttendanceMode	0 +	EventAttendanceModeEnumeration

A property for specifying the attendance mode of an event (e.g., online, offline, hybrid) is requested. The proposed eventAttendanceMode property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:eventAttendanceMode	schema:Event	Schema: EventAttendanceModeEnumeration

2.9 Request for a property eventSchedule

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
eventSchedule	0 +	Schedule

A property for specifying the schedule of an event is requested. The proposed eventSchedule property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:eventSchedule	schema:Event	schema:Schedule

2.10 Request for a property eventStatus

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
eventStatus	0 - 1	EventStatusType

A property for specifying the status of an event (e.g., scheduled, postponed, canceled) is requested. The proposed eventStatus property of schema.org can be used for this purpose. This property can take at most one value.

Representation with schema.org

Property	Domain	Range
schema:eventStatus	schema:Event	schema:EventStatusType

2.11 Request for a property identifier

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
identifier	0 +	Text URL

A property for specifying a custom identifier for an event is requested. The proposed identifier property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:identifier	schema:Event	schema:Text OR schema:URL

2.12 Request for a property image

PROPERTY	CARDINALITY	RANGE TYPES
<i>image</i>	0 +	URL ImageObject

A property for specifying images of an event is requested. The proposed image property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:image	schema:Event	schema:ImageObject OR schema:URL

2.13 Request for a property inLanguage

PROPERTY	CARDINALITY	RANGE TYPES
<i>inLanguage</i>	0 +	Text Language

A property for specifying the language in which the event is offered is requested. The proposed inLanguage property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:inLanguage	schema:Event	schema:Language OR schema:Text

2.14 Request for a property isAccessibleForFree

PROPERTY	CARDINALITY	RANGE TYPES
<i>isAccessibleForFree</i>	0 - 1	Boolean

A property for specifying whether an event is accessible for free is requested. The Place type of schema.org provides the isAccessibleForFree property. An Event can have at most one value for this property.

Representation with schema.org

Property	Domain	Range
schema:isAccessibleForFree	schema:Event	schema:Boolean

2.15 Request for a property location

PROPERTY	CARDINALITY	RANGE TYPES
<i>location</i>	0 +	Place VirtualLocation

A property for specifying the location or venue of an event is requested. The proposed location property of schema.org can be used for this purpose. Compared to the EventDS-31012022, the range is more restricted. This should be discussed within ODTA.

Representation with schema.org

Property	Domain	Range
----------	--------	-------

schema:location	schema:Event	schema:Place OR schema:VirtualLocation
-----------------	--------------	---

2.16 Request for a property name

PROPERTY	CARDINALITY	RANGE TYPES
<i>name</i>	1 +	<i>Localized Text</i>

A property for specifying names of an event is requested. The proposed name property of schema.org can be used for this purpose. Note that the name values can be in multiple languages which means the usage of RDF language-tagged strings² is advised when generating data according to this DS. An Event must have at least one name.

Representation with schema.org

Property	Domain	Range
schema:name	schema:Event	schema:Text

2.17 Request for a property offers

PROPERTY	CARDINALITY	RANGE TYPES
<i>offers</i>	0 +	<i>Offer</i>

A property for specifying the ticket offers of an event is requested. The proposed offer property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:offers	schema:Event	schema:Offer

2.18 Request for a property organizer

² <https://www.w3.org/TR/rdf11-concepts/#section-Graph-Literal>

PROPERTY	CARDINALITY	RANGE TYPES
<i>organizer</i>	0 +	Organization Person

A property for specifying the organizers of an event is requested. The proposed organizer property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:organizer	schema:Event	schema:Organization OR schema:Person

2.19 Request for a property performer

PROPERTY	CARDINALITY	RANGE TYPES
<i>performer</i>	0 +	Organization Person

A property for specifying the performers of an event is requested. The proposed performer property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:performer	schema:Event	schema:Organization OR schema:Person

2.20 Request for a property potentialAction

PROPERTY	CARDINALITY	RANGE TYPES
<i>potentialAction</i>	0 +	Action

A property for specifying the potential actions that can be taken on an event is requested. The proposed potentialAction property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:potentialAction	schema:Event	schema:Action

2.21 Request for a property previousStartDate

PROPERTY	CARDINALITY	RANGE TYPES
<i>previousStartDate</i>	0 +	<i>Date</i>

A property for specifying the previous start date of rescheduled events is requested. The proposed previousStartDate property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:previousStartDate	schema:Event	schema>Date

2.22 Request for a property review

PROPERTY	CARDINALITY	RANGE TYPES
<i>review</i>	0 +	<i>Review</i>

A property for specifying the reviews of an event is requested. The proposed review property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:review	schema:Event	schema:Review

2.23 Request for a property sameAs

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
<i>sameAs</i>	<i>0 - 1</i>	<i>URL</i>

A property for specifying the duplicate instances of an event instance is requested. The proposed sameAs property of schema.org can be used for this purpose. In the RDS the sameAs property is requested to have at most one value, however we do not see the reason for that.

Representation with schema.org

Property	Domain	Range
schema:sameAs	schema:Event	schema:URL

2.24 Request for a property sdLicense

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
<i>sdLicense</i>	<i>0 +</i>	<i>URL</i> <i>CreativeWork</i>

A property for specifying the license of an instance is requested. This request is not relevant only for the Event instances but for all instances. The property provides a straightforward way to attach licenses at instance level. Schema.org defines an sdLicense property only on CreativeWork type, but the RDS wants to extend the domain of this property to Thing. We take on this proposal. See the LodgingBusinessDS RC for potential values of this property from the CreativeCommons licenses.

Extension to schema.org

Property	Domain	Range
schema:sdLicense	schema:Event	schema:URL OR schema:CreativeWork

2.25 Request for a property sponsor

PROPERTY	CARDINALITY	RANGE TYPES
<i>sponsor</i>	0 +	Organization Person

A property for specifying the sponsors of an event is requested. The proposed sponsor property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:sponsor	schema:Event	schema:Organization OR schema:Person

2.26 Request for a property startDate

PROPERTY	CARDINALITY	RANGE TYPES
<i>startDate</i>	0 - 1	DateTime Date

A property for specifying the start date of an event is requested. The proposed endDate property of schema.org can be used for this purpose. This property can take at most one value.

Representation with schema.org

Property	Domain	Range
schema:startDate	schema:Event	schema:DateTime OR schema:Date

2.27 Request for a property subEvent

PROPERTY	CARDINALITY	RANGE TYPES
<i>subEvent</i>	0 +	Event

A property for specifying the events that are part of an event is requested. The proposed subEvent property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:subEvent	schema:Event	schema:Event

2.28 Request for a property superEvent

PROPERTY	CARDINALITY	RANGE TYPES
<i>superEvent</i>	0 +	<i>Event</i>

A property for specifying the events of which the event is a part is requested. The proposed superEvent property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:superEvent	schema:Event	schema:Event

2.29 Request for a property typicalAgeRange

PROPERTY	CARDINALITY	RANGE TYPES
<i>typicalAgeRange</i>	0 +	<i>Localized Text</i>

A property for specifying typical age ranges targeted for an event is requested. The proposed typicalAgeRange property of schema.org can be used for this purpose for textual descriptions. Note that the typicalAgeRange values can be in multiple languages which means the usage of RDF language-tagged strings³ is advised when generating data according to this DS. An Event must have at least one value for this property. The ODTA should discuss the need for a language tagged text here as the age ranges are typically given by numbers.

³ <https://www.w3.org/TR/rdf11-concepts/#section-Graph-Literal>

Representation with schema.org

Property	Domain	Range
schema:typicalAgeRange	schema:Event	schema:Text

2.30 Request for a property url

PROPERTY	CARDINALITY	RANGE TYPES
<i>url</i>	<i>0 - 1</i>	<i>URL</i>

A property for specifying the url of a page that represents an event is requested. The url property of schema.org can be used for this purpose. Note that a URI for a specific instance should be defined by the means of RDF (e.g., @id property of JSON-LD). In the RDS the url property is requested to have at most one value, however we do not see the reason for that.

Representation with schema.org

Property	Domain	Range
schema:url	schema:Event	schema:URL

3. Conclusion

In this Request for Comments, we provided our suggestions for building a domain specification for Events. This RDS is mostly complementary to the one submitted before (EventDS-31012022). However, the range of the location property is restricted in this RDS. ODTA should discuss the range of this property internally. Moreover, typicalAgeRange property has a language tagged string as a range, however we do not see an obvious reason for this.

The DS must be discussed within the ODTA in the next stage on GitHub.

Request for Domain Specification (RDS)

Title:	Event
Last Modification Date:	9.5.2022
Authors	<i>Elias Kärle (Onlim)</i>
URI	https://semantify.it/ds/mhpmBCJt

Abstract

In this RDS we propose a Domain Specification (DS) for **events**, based on **schema.org/Event**, as used in the GNTB's "Knowledge Graph für den Deutschlandtourismus" project. The DS holds all properties required to annotate an **event** sufficiently using just the vocabulary of schema.org. However, to annotate the type of license applied to the data set we suggest modifying the original schema.org vocabulary.

1. What is the topic that should be discussed

Explain what the requested domain specification is about (1-4 pages)

The DS presented in this RDS is about **events** (<https://semantify.it/ds/mhpmBCJt>) which are used in the GNTB's "Knowledge Graph für den Deutschlandtourismus" project. Hereby, we want to promote the properties, their cardinalities and their proposed ranges to be accepted by the ODTA to reach a broader audience and to enable a more streamlined data exchange process.

2. Why is this topic important for a broader audience

Explain why this topic is important for ODTA members and beyond (1-4 pages)

This topic is important because **events** are amongst the most important data types used in touristic data exchange.

3. (Optional) How can/cannot this issue be represented in schema.org

Give a few examples of schema.org types and properties that can be used for the domain specification you are requesting. Additionally, you can give some examples of what cannot be expressed with the current schema.org vocabulary (1-4 pages)

The **event** itself can be represented in pure schema.org. However, to allow annotating a license, we propose to extend schema.org (see section 4).

A table of the proposed schema.org properties and their ranges can be found in the table below:

PROPERTY	CARDINALITY	RANGE TYPES
----------	-------------	-------------

name	1 +	Localized Text
identifier	0 +	URL Text PropertyValue
url	0 - 1	URL
description	0 +	Localized Text
image	0 +	URL ImageObjectnote_add
startDate	0 - 1	DateTime Date
endDate	0 - 1	DateTime Date
doorTime	0 - 1	DateTime
duration	0 +	Duration
location	0 +	Place VirtualLocation
inLanguage	0 +	Text Language
isAccessibleForFree	0 - 1	Boolean
offers	0 +	Offer
performer	0 +	Organization Person
organizer	0 +	Organization Person
contributor	0 +	Person Organization
typicalAgeRange	0 +	Localized Text
sameAs	0 - 1	URL
additionalType	0 +	URL
audience	0 +	Audience
eventStatus	0 - 1	EventStatusType
eventAttendanceMode	0 +	EventAttendanceModeEnumeration
eventSchedule	0 +	Schedule
sponsor	0 +	Organization Person
superEvent	0 +	Event
subEvent	0 +	Event
review	0 +	Review

potentialAction	0 +	Action
previousStartDate	0 +	Date
sdLicense	0 +	URL CreativeWork

Table 1: First-level schema.org properties of the proposed DS.

4. (Optional) How should schema.org be extended if necessary

Give a few examples of how schema.org should be extended (i.e., introducing which new types and properties) to cover your needs (1-4 pages)

To allow the annotation of a license, we propose to extend schema.org in a way that schema:sdLicense's domain is generalized to schema:Thing (see Listing 1).

```
<https://schema.org/sdLicense> <http://www.w3.org/1999/02/22-rdf-syntax-ns#type>
<http://www.w3.org/1999/02/22-rdf-syntax-ns#Property> .
<https://schema.org/sdLicense> <http://www.w3.org/2000/01/rdf-schema#comment> "This term
is proposed for full integration into Schema.org, pending implementation feedback and adoption
from applications and websites."@en .
<https://schema.org/sdLicense> <http://www.w3.org/2000/01/rdf-schema#label>
"sdLicense"@en .
<https://schema.org/sdLicense> <https://schema.org/domainIncludes>
<https://schema.org/Thing> .
<https://schema.org/sdLicense> <https://schema.org/rangeIncludes>
<https://schema.org/CreativeWork> .
<https://schema.org/sdLicense> <https://schema.org/rangeIncludes> <https://schema.org/URL> .
```

Listing 1: Changing schema:sdLicense's domain to schema:Thing (N-Triples Syntax).

For an example of how an **event** with a CC-BY-SA license can be annotated see Listing 2:

```
{
  "@type": [
    "schema:Event"
  ],
  "schema:name": [
    {
      "@language": "de",
      "@value": "Großes Geburtstagsfest"
    }
  ],
  "schema:url": [
    {
      "@type": "schema:URL",
      "@value": "http://opendata.io/events/geburtstagsfest"
    }
  ],
  "schema:description": [
    {
      "@language": "de",
```

```

    "@value": "Das ist ein Geburtstagsfest!"
  }
],
"schema:startDate": [
  {
    "@type": "schema:DateTime",
    "@value": "2022-06-12T16:00:00.000Z"
  }
],
"schema:endDate": [
  {
    "@type": "schema:DateTime",
    "@value": "2022-06-12T21:59:00.000Z"
  }
],
"schema:sdLicense": [
  {
    "@type": "schema:URL",
    "@value": "https://creativecommons.org/licenses/by-sa/2.0/"
  }
],
"ds:compliesWith": {
  "@id": "https://semantify.it/ds/mhpmBCJt"
}
}

```

*Listing 2: An **event** validly annotated according to the proposed DS under consideration of the new `schema:sdLicense` property.*