

Request for Comments for RDS FoodEstablishment on 09.05.2022

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STI2

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

Table of Contents

1. Introduction	4
2. Suggestions	4
2.1 Request for a property acceptsReservations	4
Representation with schema.org	4
2.2 Request for a property address	4
Representation with schema.org	5
2.4 Request for a property aggregateRating	5
Representation with schema.org	5
2.5 Request for a property contactPoint	5
Representation with schema.org	6
2.6 Request for a property currenciesAccepted	6
Representation with schema.org	6
2.7 Request for a property description	6
Representation with schema.org	7
2.8 Request for a property email	7
Representation with schema.org	7
2.9 Request for a property faxNumber	7
Representation with schema.org	7
2.10 Request for a property founder	8
Representation with schema.org	8
2.11 Request for a property foundingDate	8
Representation with schema.org	8
2.12 Request for a property geo	8
Representation with schema.org	9
2.13 Request for a property hasMap	9
Representation with schema.org	9
2.14 Request for a property hasMenu	9
Representation with schema.org	10
2.15 Request for a property identifier	10
Representation with schema.org	10
2.16 Request for a property image	10
Representation with schema.org	11
2.17 Request for a property name	11
Representation with schema.org	11
2.18 Request for a property openingHoursSpecification	11
Representation with schema.org	12
2.19 Request for a property priceRange	12
Representation with schema.org	12
2.20 Request for a property review	12
Representation with schema.org	12
2.21 Request for a property sameAs	13
Representation with schema.org	13

2.22 Request for a property sdLicense	13
Extension to schema.org	13
2.23 Request for a property servesCuisine	13
Representation with schema.org	14
2.24 Request for a property smokingAllowed	14
Representation with schema.org	14
2.25 Request for a property starRating	14
Representation with schema.org	15
2.26 Request for a property telephone	15
Representation with schema.org	15
2.26 Request for a property url	15
Representation with schema.org	15
3. Conclusion	16

1. Introduction

The requested domain specification is about selecting certain properties from the FoodEstablishment type and specifying their cardinalities. One small extension to the domain of a property is also requested.

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 FoodEstablishment 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.

2.1 Request for a property acceptsReservations

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
acceptsReservations	0 - 1	Text URL Boolean

A property for specifying whether a food establishment accepts reservations is requested. The acceptsReservations property of the FoodEstablishment type can be used for this purpose. A food establishment can have at most one value for this property.

Representation with schema.org

Property	Domain	Range
schema:acceptsReservations	schema:FoodEstablishment	schema:Text schema:URL schema:Boolean
		OR OR

2.2 Request for a property address

PROPERTY	CARDINALITY	RANGE TYPES
<i>address</i>	1	PostalAddress Text

A property for specifying the address of food establishments is requested. The address property of Place can be used for this purpose. A food establishment must have exactly one address value.

Representation with schema.org

Property	Domain	Range
schema:address	schema:FoodEstablishment	schema:PostalAddress

2.4 Request for a property aggregateRating

PROPERTY	CARDINALITY	RANGE TYPES
<i>aggregateRating</i>	0 - 1	AggregateRating

A property for specifying the aggregated rating of a food establishment is requested. The aggregateRating property of the FoodEstablishment type can be used for this purpose. A food establishment can have at most one value for this property.

Representation with schema.org

Property	Domain	Range
schema:aggregateRating	schema:FoodEstablishment	schema:AggregateRating

2.5 Request for a property contactPoint

PROPERTY	CARDINALITY	RANGE TYPES
<i>contactPoint</i>	0 - 1	ContactPoint

A property for specifying the contact point of a food establishment is requested. The contactPoint property of the FoodEstablishment type can be used for this purpose. A food establishment can have at most one value for this property.

Representation with schema.org

Property	Domain	Range
schema:contactPoint	schema:FoodEstablishment	schema:ContactPoint

2.6 Request for a property currenciesAccepted

PROPERTY	CARDINALITY	RANGE TYPES
<i>currenciesAccepted</i>	0 +	Text

A property for specifying the accepted currencies by a food establishment is requested. The currenciesAccepted property of the FoodEstablishment type can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:currenciesAccepted	schema:FoodEstablishment	schema:Text

2.7 Request for a property description

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

A property for specifying descriptions of a food establishment 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.

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

Representation with schema.org

Property	Domain	Range
schema:description	schema:FoodEstablishment	schema:Text

2.8 Request for a property email

PROPERTY	CARDINALITY	RANGE TYPES
<i>email</i>	1	Text

A property for specifying the email address of food establishments is requested. The email property of FoodEstablishment can be used for this purpose. A food establishment must have exactly one address value.

Representation with schema.org

Property	Domain	Range
schema:email	schema:FoodEstablishment	schema:Text

2.9 Request for a property faxNumber

PROPERTY	CARDINALITY	RANGE TYPES
<i>faxNumber</i>	0 +	Text

A property for specifying the fax number of food establishments is requested. The faxNumber of Place can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:faxNumber	schema:FoodEstablishment	schema:Text

2.10 Request for a property founder

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
<i>founder</i>	<i>0 +</i>	<i>Person</i>

A property for specifying the founder of a food establishment is requested. The founder property of FoodEstablishment can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:founder	schema:FoodEstablishment	schema:Person

2.11 Request for a property foundingDate

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

A property for specifying the establishment date of a food establishment is requested. The foundingDate property of the FoodEstablishment type can be used for this purpose. A food establishment can have at most one value for this property.

Representation with schema.org

Property	Domain	Range
schema:foundingDate	schema:FoodEstablishment	schema:Date

2.12 Request for a property geo

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
-----------------	--------------------	--------------------

<i>geo</i>	<i>0 - 1</i>	GeoCoordinates GeoShape
------------	--------------	--

A property for specifying the geo coordinates of a food establishment is requested. The proposed geo property of schema.org can be used for this purpose. The RDS specifies that a food establishment can have a maximum one pair of geo coordinates.

Representation with schema.org

Property	Domain	Range
schema:geo	schema:FoodEstablishment	schema:GeoCoordinates

2.13 Request for a property hasMap

PROPERTY	CARDINALITY	RANGE TYPES
<i>hasMap</i>	<i>0 +</i>	<i>URL</i>

A property for specifying the URL for a map of a food establishment is requested. The proposed hasMap property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:hasMap	schema:FoodEstablishment	schema:URL

2.14 Request for a property hasMenu

PROPERTY	CARDINALITY	RANGE TYPES
<i>hasMenu</i>	<i>1</i>	Menu Text URL

A property for specifying the menu of food establishments is requested. The hasMenu property of FoodEstablishment can be used for this purpose. A food establishment must have exactly one value for this property.

Representation with schema.org

Property	Domain	Range
schema:hasMenu	schema:FoodEstablishment	schema:URL schema:Text OR schema:Menu

2.15 Request for a property identifier

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

A property for specifying a custom identifier for a food establishment instance 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:FoodEstablishment	schema:Text schema:PropertyValue OR schema:URL

2.16 Request for a property image

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

A property for specifying images of a food establishment 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:FoodEstablishment	schema:ImageObject OR schema:URL

2.17 Request for a property name

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

A property for specifying names of a food establishment 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. A food establishment must have at least one name.

Representation with schema.org

Property	Domain	Range
schema:name	schema:FoodEstablishment	schema:Text

2.18 Request for a property openingHoursSpecification

PROPERTY	CARDINALITY	RANGE TYPES
<i>openingHoursSpecification</i>	1 +	<i>OpeningHoursSpecification</i>

A property for specifying the opening hours of a food establishment is requested. The proposed openingHoursSpecification property of schema.org can be used for this purpose. The property has at least one value.

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

Representation with schema.org

Property	Domain	Range
schema:openingHoursSpecification	schema:FoodEstablishment	schema:OpeningHoursSpecification

2.19 Request for a property priceRange

PROPERTY	CARDINALITY	RANGE TYPES
<i>priceRange</i>	1	Text

A property for specifying the price range of food establishments is requested. The priceRange property of FoodEstablishment can be used for this purpose. A food establishment must have exactly one value for this property.

Representation with schema.org

Property	Domain	Range
schema:priceRange	schema:FoodEstablishment	schema:Text

2.20 Request for a property review

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

A property for specifying the reviews of a food establishment 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:FoodEstablishment	schema:Review

2.21 Request for a property sameAs

<i>PROPERTY</i>	<i>CARDINALITY</i>	<i>RANGE TYPES</i>
<i>sameAs</i>	<i>0 +</i>	<i>URL</i>

A property for specifying the duplicate instances of a food establishment instance is requested. The proposed sameAs property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:sameAs	schema:FoodEstablishment	schema:URL

2.22 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 food establishment 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:FoodEstablishment	schema:URL OR schema:CreativeWork

2.23 Request for a property servesCuisine

PROPERTY	CARDINALITY	RANGE TYPES
<i>servesCuisine</i>	1 +	<i>Text</i>

A property for specifying the cuisine a food establishment is serving is requested. The proposed `servesCuisine` property of `schema.org` can be used for this purpose. The property has at least one value.

Representation with `schema.org`

Property	Domain	Range
<code>schema:servesCuisine</code>	<code>schema:FoodEstablishment</code>	<code>schema:Text</code>

2.24 Request for a property `smokingAllowed`

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

A property for specifying whether smoking is allowed in a food establishment is requested. The proposed `smokingAllowed` property of `schema.org` can be used for this purpose. The property can have at most one value.

Representation with `schema.org`

Property	Domain	Range
<code>schema:smokingAllowed</code>	<code>schema:FoodEstablishment</code>	<code>schema:Boolean</code>

2.25 Request for a property `starRating`

PROPERTY	CARDINALITY	RANGE TYPES
<i>starRating</i>	0 - 1	<i>Rating</i>

A property for specifying the star rating of a food establishment is requested. The proposed starRating property of schema.org can be used for this purpose. The property can have at most one value.

Representation with schema.org

Property	Domain	Range
schema:starRating	schema:FoodEstablishment	schema:Rating

2.26 Request for a property telephone

PROPERTY	CARDINALITY	RANGE TYPES
<i>telephone</i>	0 +	<i>Text</i>

A property for specifying the telephone number of a food establishment is requested. The proposed telephone property of schema.org can be used for this purpose.

Representation with schema.org

Property	Domain	Range
schema:telephone	schema:FoodEstablishment	schema:Text

2.26 Request for a property url

PROPERTY	CARDINALITY	RANGE TYPES
<i>url</i>	0 +	<i>URL</i>

A property for specifying the url of a page that represents a food establishment 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).

Representation with schema.org

Property	Domain	Range
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schema:url	schema:FoodEstablishment	schema:URL
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3. Conclusion

In this Request for Comments, we provided our suggestions for building a domain specification for the FoodEstablishment type of schema.org. The proposals were taken on directly.

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

Request for Domain Specification (RDS)

Title:	FoodEstablishment
Last Modification Date:	9.5.2022
Authors	Elias Kärle (Onlim)
URI	https://semantify.it/ds/SyCG2WVzkz

Abstract

In this RDS we propose a Domain Specification (DS) for **food establishments**, based on **schema.org/FoodEstablishment**, as used in the GNTB's "Knowledge Graph für den Deutschlandtourismus" project. The DS holds all properties required to annotate a **food establishment** 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 **food establishments** (<https://semantify.it/ds/SyCG2WVzkz>) 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 **food establishments** 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 **food establishment** 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 +	Text Localized Text
description de:Beschreibung	0 +	Text Localized Text
identifier	0 +	Text PropertyValue URL
image	0 +	URL ImageObject
url	0 +	URL
acceptsReservations	0 - 1	Text URL Boolean
address	1	PostalAddress
aggregateRating	0 - 1	AggregateRating
contactPoint	0 - 1	ContactPoint
currenciesAccepted	0 +	Text
email	1	Text
faxNumber	0 - 1	Text
founder	0 +	Person
foundingDate	0 - 1	Date
geo	0 - 1	GeoCoordinates
hasMap	0 - 1	URL
hasMenu	1	Menu Text URL
openingHoursSpecification	1 +	OpeningHoursSpecification
priceRange	1	Text
review	0 +	Review
servesCuisine	1 +	Text
smokingAllowed	0 - 1	Boolean
starRating	0 - 1	Rating
telephone	1	Text
sameAs	0 +	URL
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 a **food establishment** with a CC-BY-SA license can be annotated see Listing 2:

```
{
  "@type": [
    "schema:FoodEstablishment"
  ],
  "schema:name": [
    {
      "@type": "xsd:string",
      "@value": "Bio Burger Bude (BBB)"
    }
  ],
  "schema:address": [
    {
      "@type": [
        "schema:PostalAddress"
      ],
      "schema:addressCountry": [
        {
          "@type": [
            "schema:Country"
          ],
          "schema:name": [
            {
              "@type": "xsd:string",
              "@value": "DE"
            }
          ]
        }
      ]
    }
  ]
}
```

```

    }
  ],
  "schema:addressLocality": [
    {
      "@type": "xsd:string",
      "@value": "Burrgerdurf"
    }
  ],
  "schema:addressRegion": [
    {
      "@type": "xsd:string",
      "@value": "NRW"
    }
  ],
  "schema:postalCode": [
    {
      "@type": "xsd:string",
      "@value": "78954"
    }
  ],
  "schema:streetAddress": [
    {
      "@type": "xsd:string",
      "@value": "Burgerstreet"
    }
  ]
}
],
"schema:email": [
  {
    "@type": "xsd:string",
    "@value": "writeme@bbb.io"
  }
],
"schema:hasMenu": [
  {
    "@type": "schema:URL",
    "@value": "https://bbb.io/menu"
  }
],
"schema:openingHoursSpecification": [
  {
    "@type": [
      "schema:OpeningHoursSpecification"
    ],
    "schema:closes": [
      {
        "@type": "schema:Time",
        "@value": "22:00:00"
      }
    ]
  }
],

```

```

"schema:dayOfWeek": [
  {
    "@id": "schema:Monday"
  },
  {
    "@id": "schema:Tuesday"
  },
  {
    "@id": "schema:Wednesday"
  },
  {
    "@id": "schema:Thursday"
  },
  {
    "@id": "schema:Friday"
  },
  {
    "@id": "schema:Saturday"
  },
  {
    "@id": "schema:Sunday"
  },
  {
    "@id": "schema:PublicHolidays"
  }
],
"schema:opens": [
  {
    "@type": "schema:Time",
    "@value": "10:00:00"
  }
]
},
"schema:priceRange": [
  {
    "@type": "xsd:string",
    "@value": "€€€"
  }
],
"schema:servesCuisine": [
  {
    "@type": "xsd:string",
    "@value": "Burgers"
  }
],
"schema:telephone": [
  {
    "@type": "xsd:string",
    "@value": "+49123456789"
  }
]

```

```
],  
"schema:sdLicense": [  
  {  
    "@type": "schema:URL",  
    "@value": "https://creativecommons.org/publicdomain/zero/1.0/"  
  }  
],  
"ds:compliesWith": {  
  "@id": "https://semantify.it/ds/SyCG2WVzkz"  
}  
}
```

*Listing 2: A **food establishment** validly annotated according to the proposed DS under consideration of the new schema:sdLicense property.*