MAPPING ALPINEBITS TO SCHEMA.ORG

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2016-02-18

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1. Introduction

AlpineBits [1] is an interface specification for exchanging touristic data, based on OpenTravel Alliance (OTA) specification [2] which is specially tailored for alpine tourism. The specification (current released version is 07.2015) has been developed and supported by the members of the AlpineBits Alliance, an innovative and open environment for exchanging data of the hotels and other accommodations in the alpine territory.

The current specification supports five types of information:

1. FreeRooms, room availability notifications
2. GuestRequests, quote requests, booking reservations and cancellations
3. SimplePackages, package availability notifications
4. Inventory, room category information
5. RatePlans, prices and related rules

This document presents our mapping between the type SimplePackages of AlpineBits's XML message from a client request [3] to Schema.org [4]. The mapping was performed by identifying the most suitable Class and Properties available in Schema.org for each XML Element and Attribute of the message.

2. SimplePackages: package availability notifications

SimplePackages is an action performed by a client to send package availability notifications to a server. SimplePackages contains information which is mainly free text and more suitable to be visualized on a portal, where multiple packages can be transmitted within a single request.

The following mapping represents all obtained relations between XML elements (including attributes) of AlpineBits's request document to the classes and properties from Schema.org.

2.1 RatePlans

The outer part of the request document must contain one or more RatePlan elements to describe each availability package.

No.	XML Element	Schema.org	
		Class	**Property**
1	RatePlan	AggregateOffer	
	@Start		validFrom
	@End		validThrough
2	UniqueID		
	@Type		
	@ID		
3	HotelRef	Organization	offeredBy
	@HotelCode		
	@HotelName		name

2.2 Rates

The Rates element contains one or more Rate elements with data about dates, costs, and meals.

No.	XML Element	Schema.org	
		Class	Property
1	Rate	Offer	offers
	@MinGuestApplicable	QuantitativeValue	eligibleQuantity
	@Start		validFrom
	@End		validThrough
	@Sat		
	@Duration	QuantitativeValue	eligibleDuration
2	BaseByGuestAmt		
	@NumberOfGuests		
	@AmountAfterTax		price
	@CurrencyCode		priceCurrency
3	RateDescription [Name="included services"]	TypeAndQuantityNode	includesObject
3.1	ListItem		name
	@ListItem		
	@Language		
4	MealsIncluded	??	
	@Breakfast		??
	@Lunch		??
	@Dinner		??

2.3 Description [Name="title"]

The title of the package (plain text), repeated for each language.

No.	XML Element	Schema.org	
		Class	Property
1	Text		name
	@TextFormat		
	@Language		

2.4 Description [Name="intro"]

The short introductory text (plain text) and optional URLs, repeated for each language.

No.	XML Element	Schema.org	
		Class	Property
1	Text		alternateName
	@TextFormat		
	@Language		
2	URL		url

2.5 Description [Name="gallery"]

The images associated with the package: copyright/caption, image and optional URLs, repeated for each language.

No.	XML Element	Schema.org	
		Class	**Property**
1	Text		??
	@TextFormat		
	@Language		
2	Image		image
3	URL		url

2.6 Description [Name="details"]

The detail description as texts (plain text, HTML) or ListItems, repeated for each language.

No.	XML Element	Schema.org	
		Class	**Property**
1	Text		description
	@TextFormat		
	@Language		
2	ListItem		description
	@ListItem		
	@Language		

Based on this mapping, several Classes and Properties of Schema.org can be produced. As shown at Figure 1, the mapping will produce five classes:

1. AggregateOffer, which is an aggregated offers from all available RatePlan
2. Organization, relates to the associated hotel for each RatePlan
3. Offer, relates to any available Rate (dates, costs, meals) offered in a RatePlan
4. QualitativeValue, relates to quantity and quality values available in a Rate
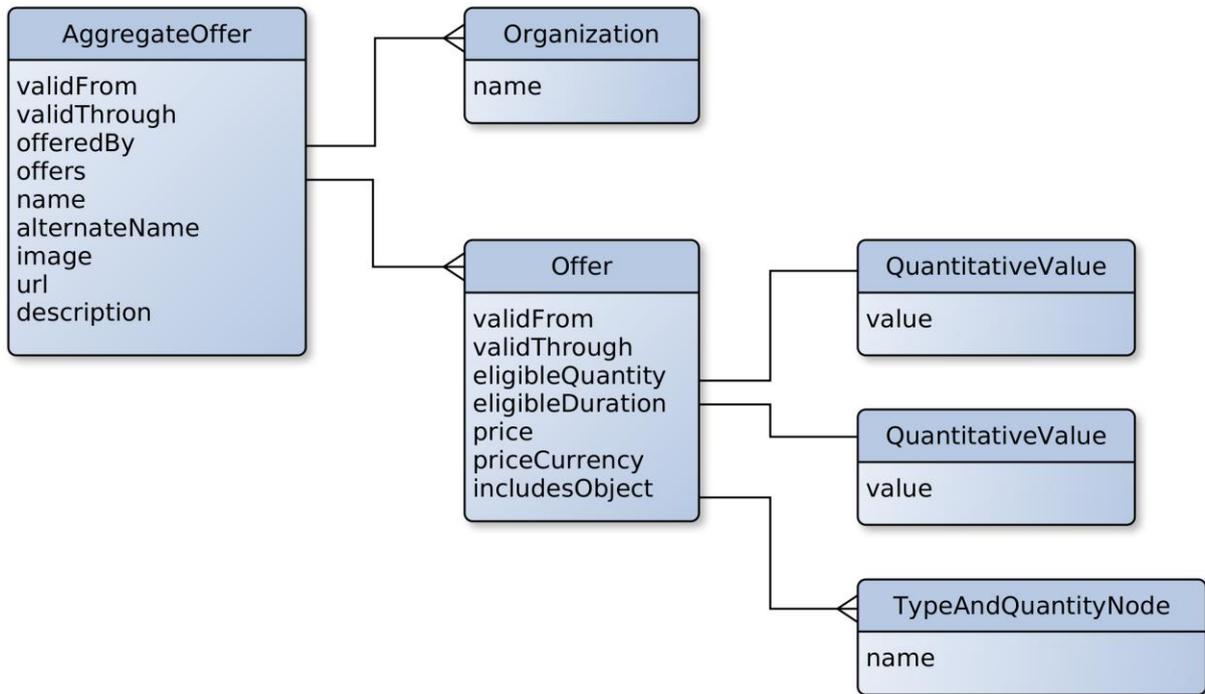5. TypeAndQuantityNode, collection of included services available in a Rate

Figure 1. Classes and Properties of Schema.org obtained from the Mapping

3. Discussion

The following items are need a further discussion:

1. There are several XML elements/properties (with symbol ??) that cannot be mapped to class and or properties of Schema.org.
2. There are four types of Description available: title, intro, gallery, details. In order to differentiate these types, we mapped them to four different properties.
3. In an XML document, an optional element "URL" (for intro and galley), and an optional element "Image" (for gallery) are placed after the related "Text" element. When the document contains more than one "URL" or "Image" than it will difficult to determine which "Text" is related to which "URL" or "Image".

References

[1]   AlpineBits, http://www.alpinebits.org/
[2]   OpenTravel Alliance, http://www.opentravel.org/
[3]   AlpineBits Developers, http://www.alpinebits.org/developers/
[4]   Shema.org, http://schema.org/