

Community-driven Ontology Construction using the myOntology Platform

<http://myontology.deri.at/prototype>

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What is the Semantic Web?

The Gopher – HTTP/HTML Analogy

```
home Gopher server: gopherproject.org

THE GOPHER PROJECT
-----

Welcome to GOPHER! Gopher is a slim, powerful, and
fast way to present information in a hierarchial catalog online.
Gopher actually predates the Web -- although most web browsers
make excellent gopher browsers too.

Good places to start are the "Why Gopher?" and "Using Gopher"
areas!

--> [12] *** GOPHER TURNS 10 / GOPHER 3.0 (FurryTerror) RELEASED ***
[13] *** GOPHER TURNS 10 .R 3.0 (FurryTerror) RELEASED *** [html] <HTML>
[14] A Brief Introduction to Gopherspace
[15] Clients, Servers, and Downloads/
[16] Home Gopher at UMN (a good place to browse)/
[17] Home Gopher at UMN [alternate]/
[18] Mailing List
[19] Mailing List Archives/
[20] Major Gopher Servers/
[21] Screenshots/

Press [F] for Help, [Q] to Quit Page: 1/2
```

1990: Gopher
Textual information



mid 1990s: HTML
Multimedia added



2006 and beyond: RDF, OWL
Meaning added

Gopher screenshot courtesy of the University of Minnesota.

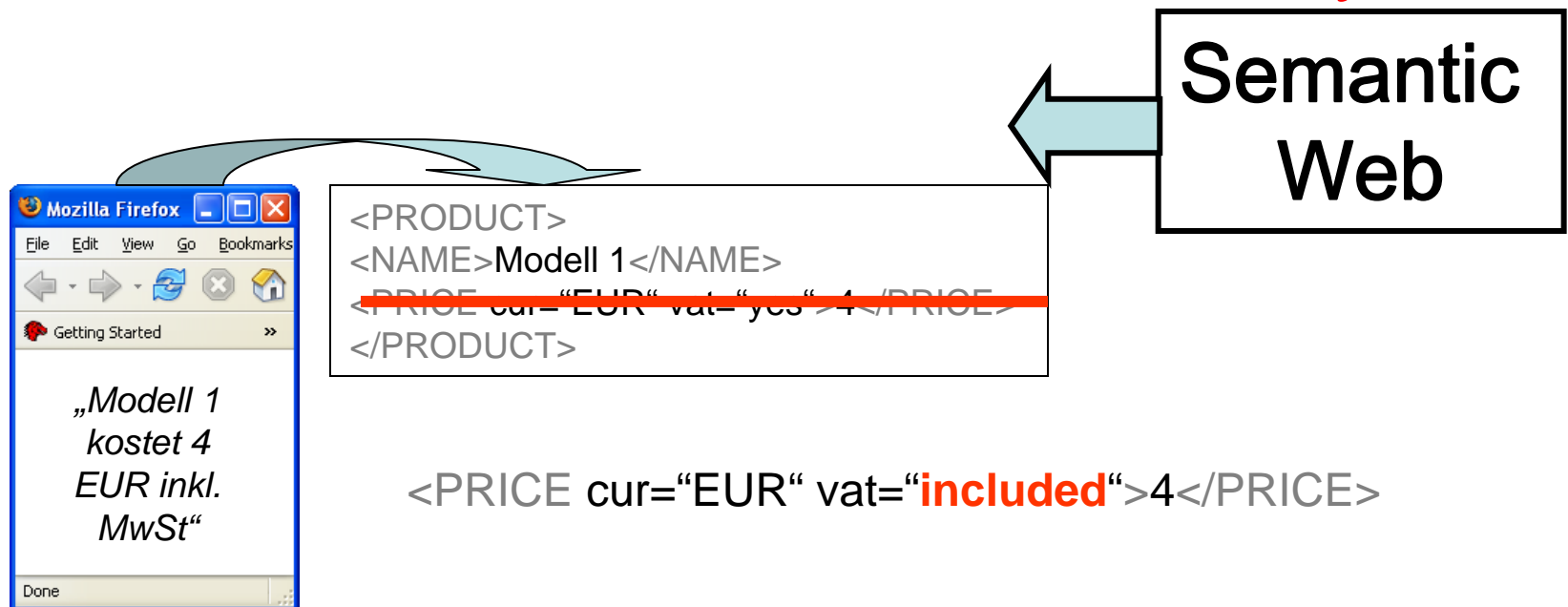
Semantic Web screenshot courtesy of Ontotext, <http://www.ontotext.com>

April 16, 2008

www.myontology.org

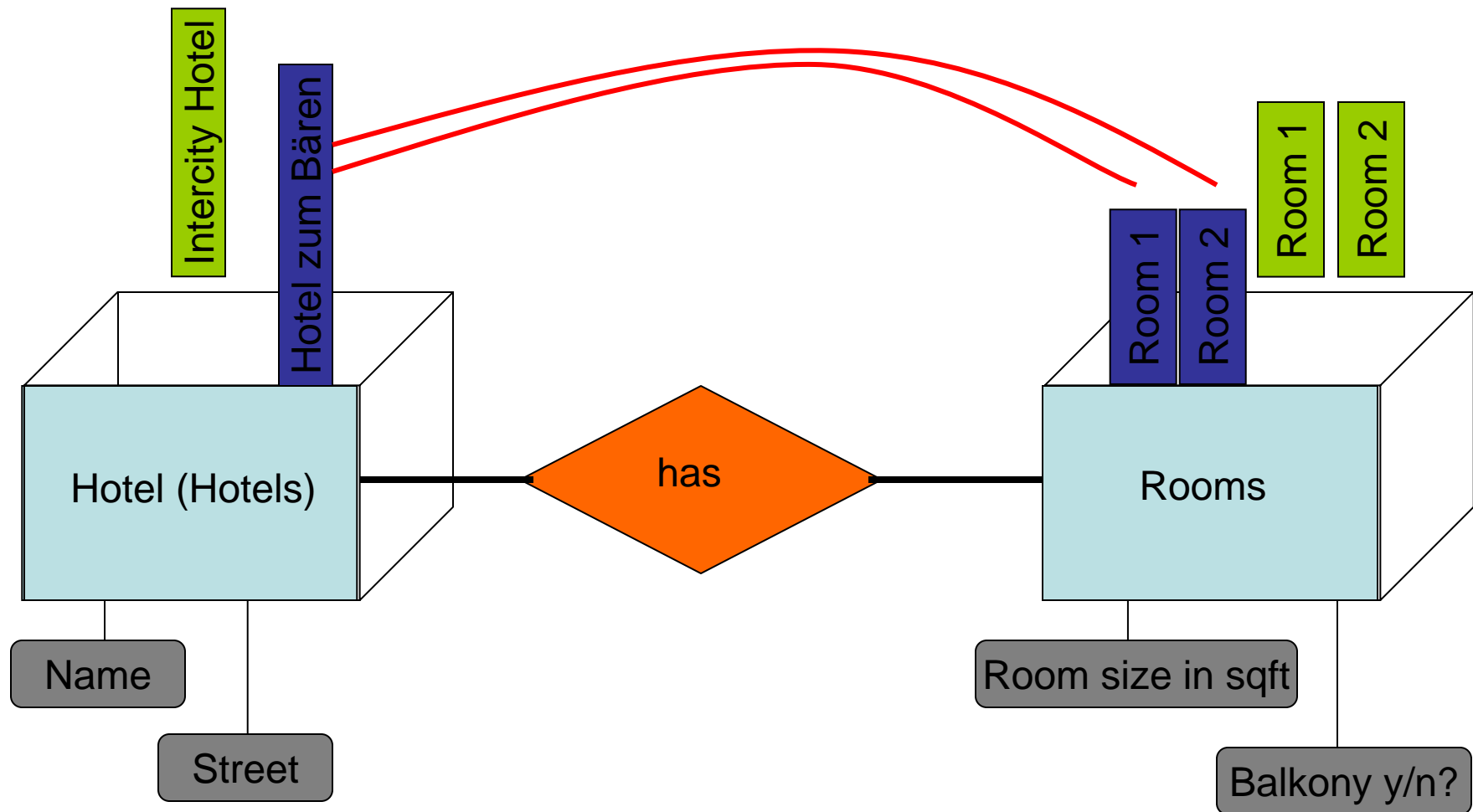
Two Paths to Automation

- Empower machines to process natural language (HLT approach)
- Encode data in a machine-suitable way.





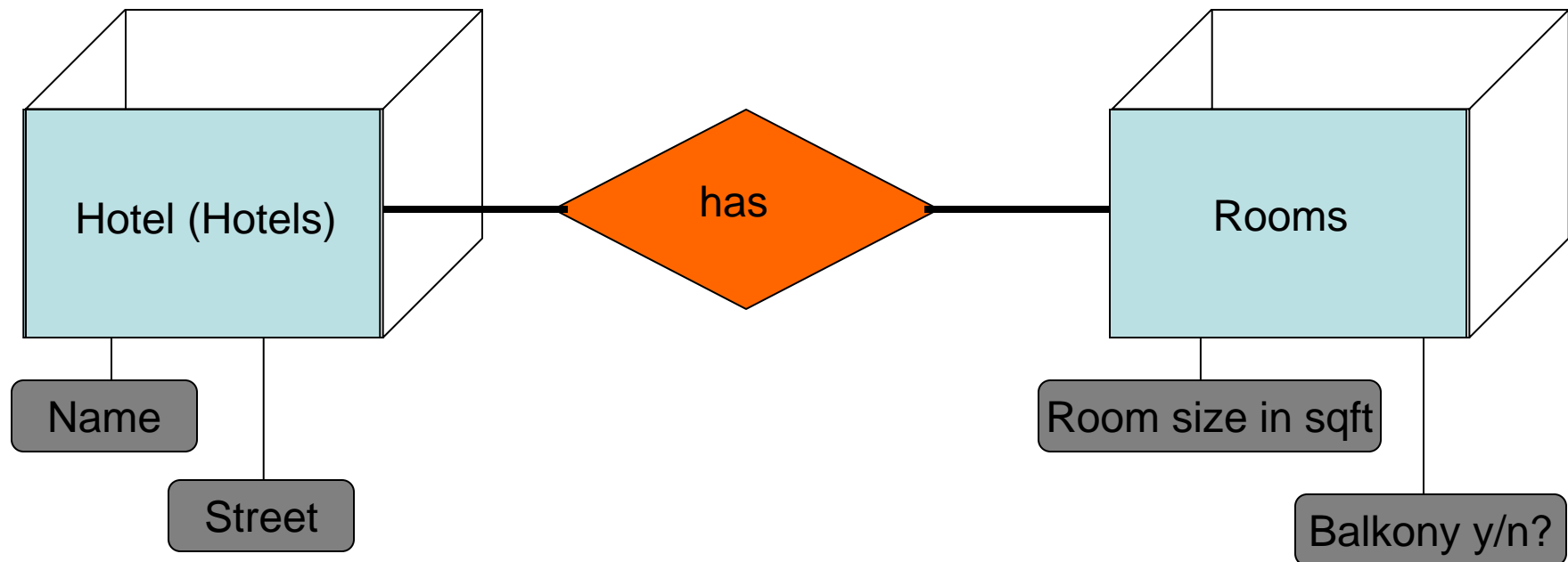
Datamodeling = Specifying Boxes, Relationships, and Important Attributes



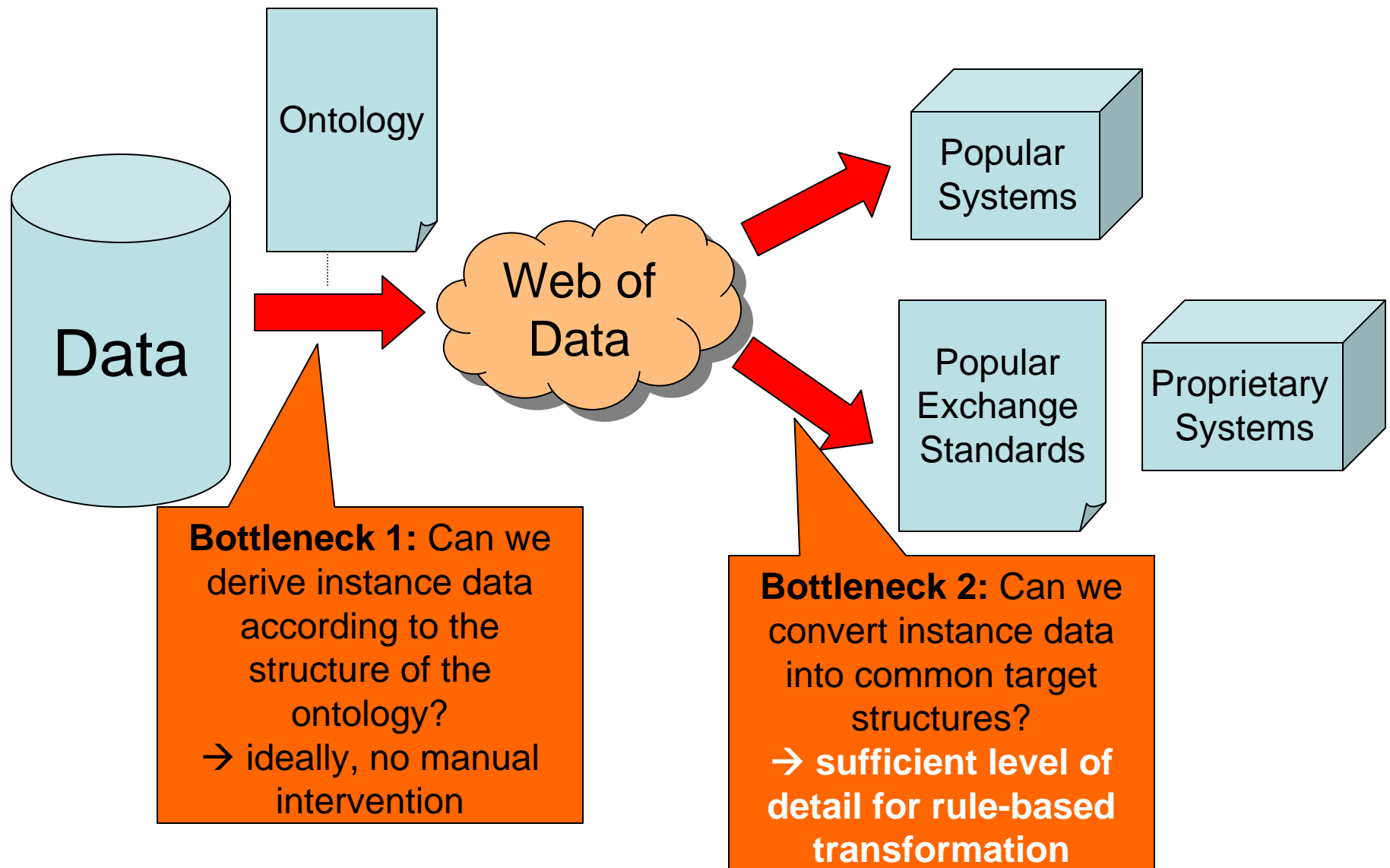


Ontology Construction: „Finding a structure for information that is suitable for many users and many purposes “

→ Not just for a particular application or database, but such that it fits many applications!



Standards, Data, Ontologies



Goal: „Objective“ Structures

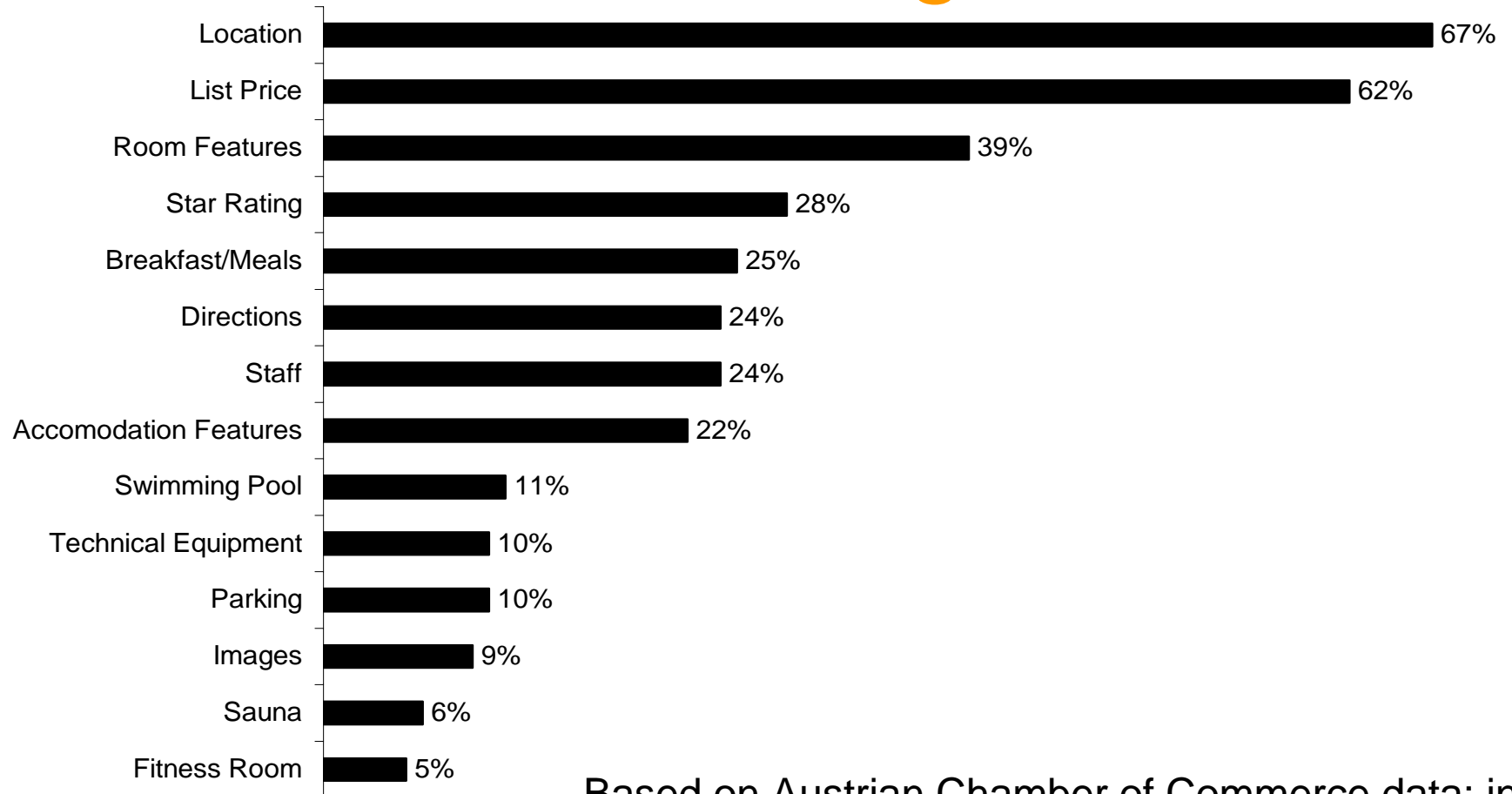
- Precision in Meaning: What do we really want to say about an object?
 - „Room“ vs. „Offer to rent a room“
 - Student: Human being that is a student vs. the role of being a student
 - „Event“ vs. ticket that grants me access to a particular event

How Visible are Austrian Tourism Offers on the Web?





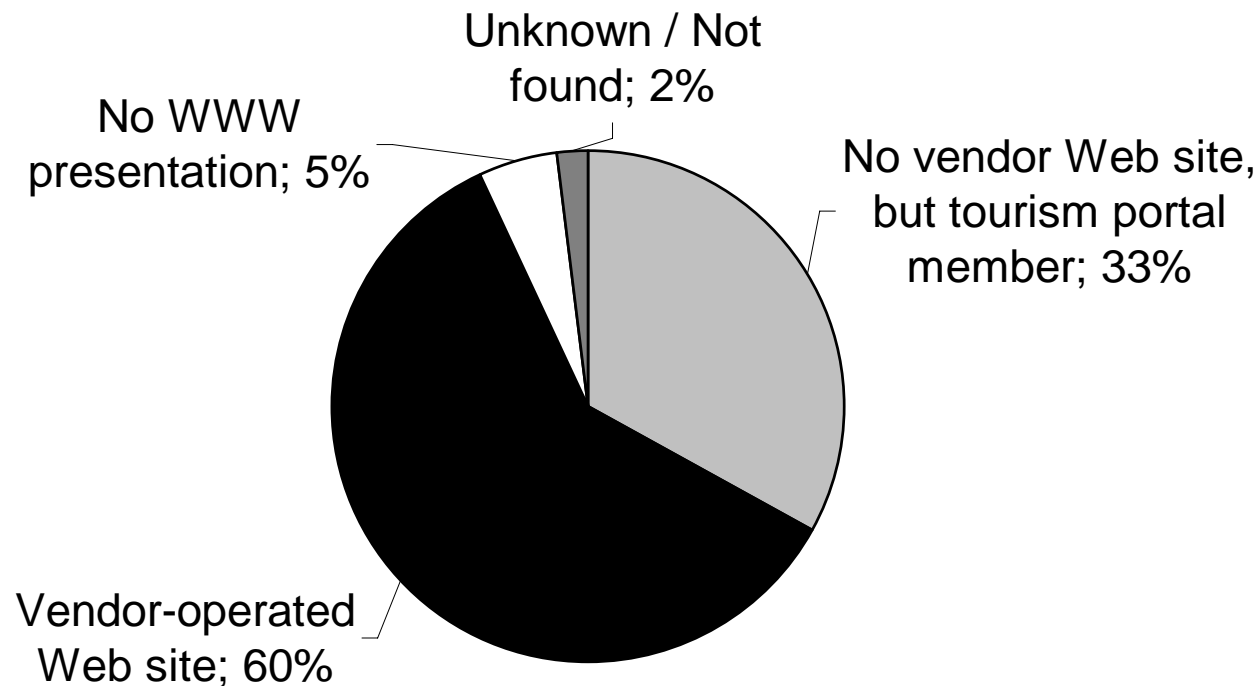
Hotel Search: Most Relevant Information Categories



Based on Austrian Chamber of Commerce data; in:
Hepp, Siorpaes, Bachlechner (2006)



Representative Sample of WWW Coverage

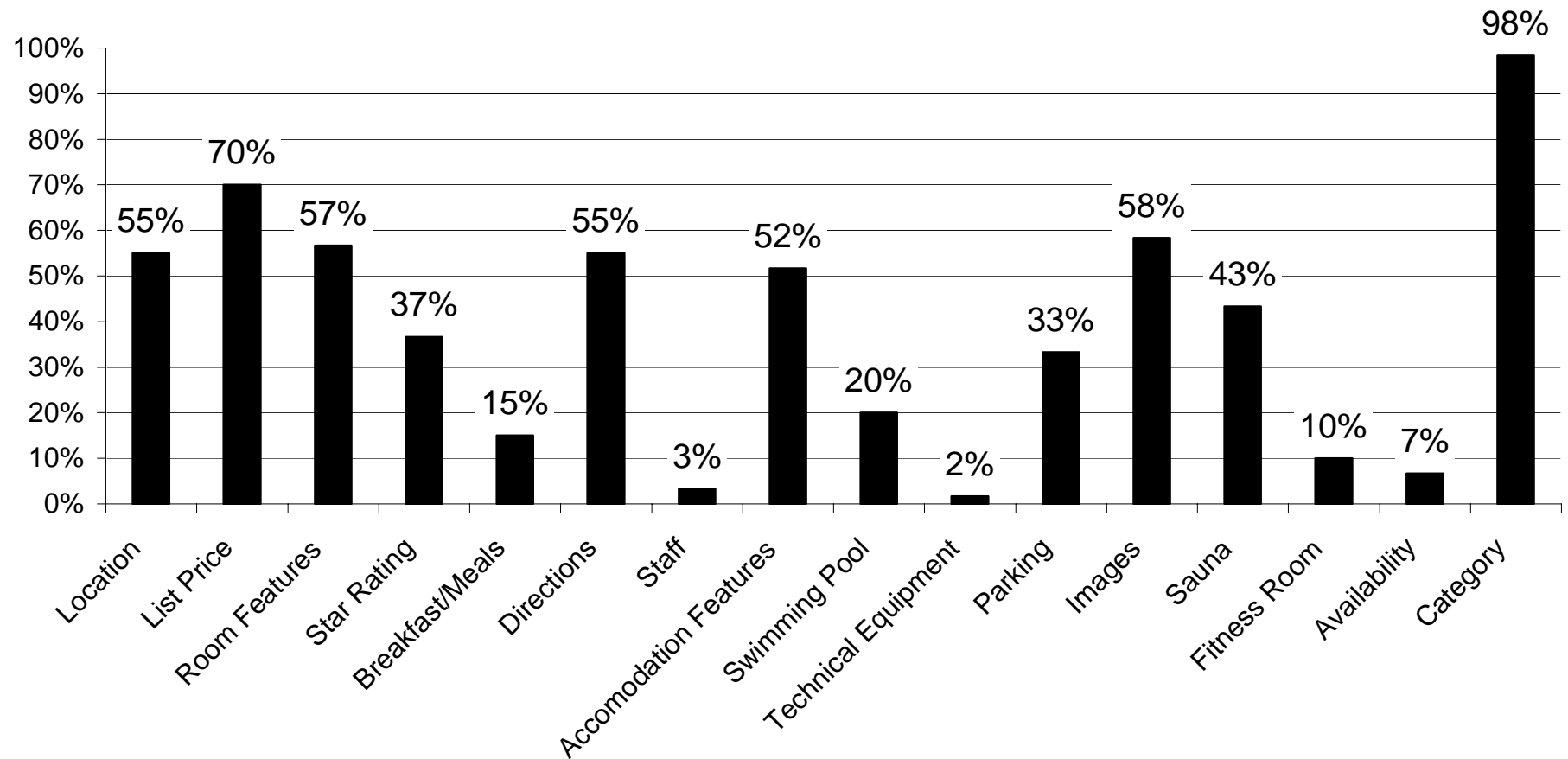


Hepp, Siorpaes, Bachlechner (2006)



Percentage of Accommodation Web Pages That Provide Respective Information

Accommodation Web sites providing sufficient information for decision making

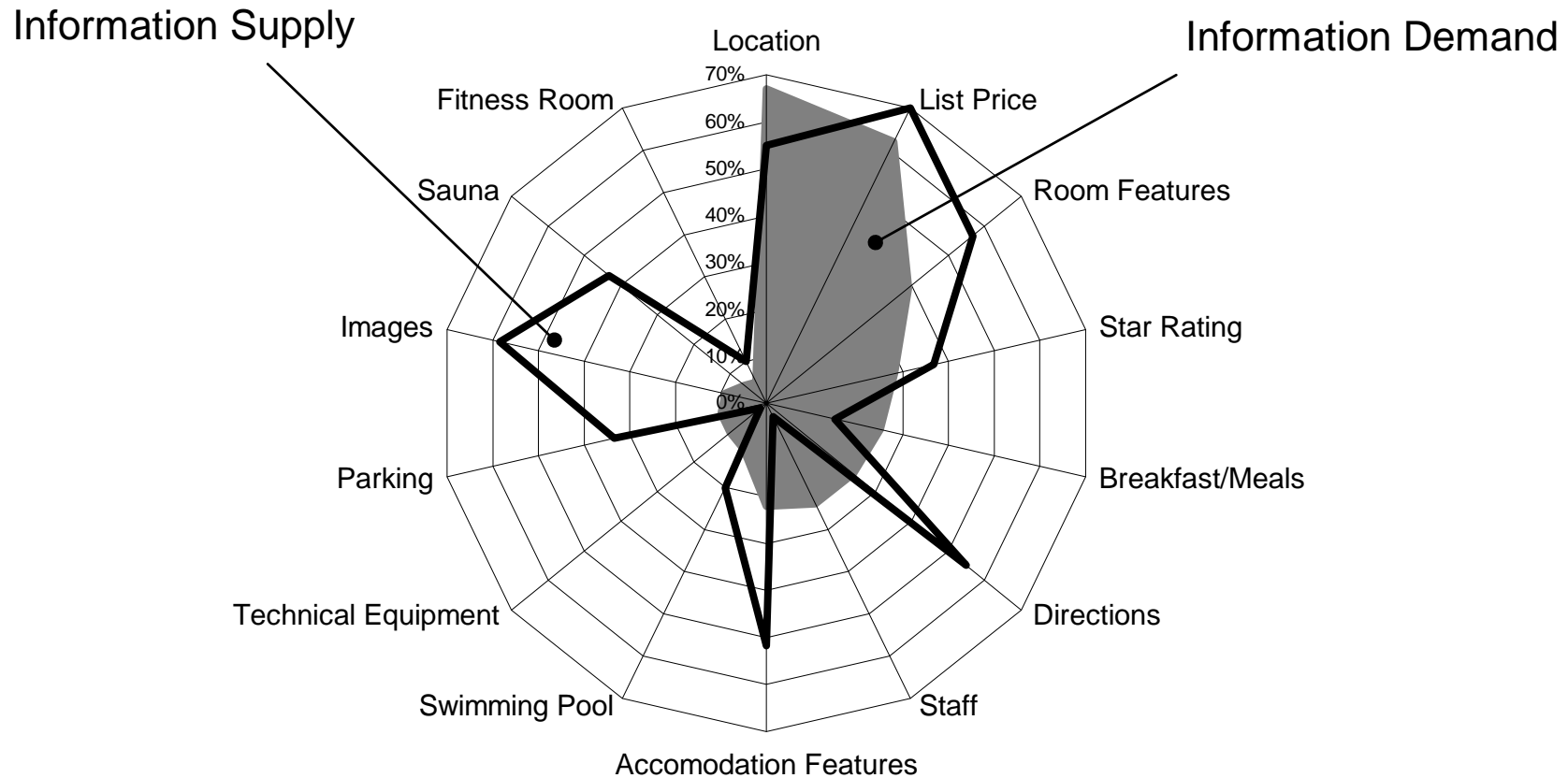


Hepp, Siorpaes, Bachlechner (2006)



Match between Information Supply and Demand

Information Supply and Demand



Hepp, Siorpaes, Bachlechner (2006)

The myOntology Platform for Collaborative Ontology Construction

Walk-through

<http://myontology.deri.at/prototype>



Step 1: Register

Create new User

Username  

(Your username is used to log in, you cannot change your username)

First Name  

(Your first name and eventually middle names)

Last Name  

(Your last name)

Address  

(Your address, street, number, city, postal code)

Free text; do not use any hypertext like HTML!

Password  

(Your password, please enter two times the same)

E-Mail  

(Your confirmation mail is going to be sent to this address)

Skype 

(Your skype account)

Picture 

(Profiles)

Gender  

(Gender)

Nationality  

Login

Username

Password

Login

Reset

[Register new user](#)

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 **) This product uses the YouTube API but is not endorsed or certified by YouTube.
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Concept Hierarchy

restrict by

- DigitalCamera
- Dealer
- + - Product
- Offer
- Validity Person
- Dispatch Option
- Dispatch Conditions
- ...

Welcome to myOntology!

Lightweight Community-driven Ontology Building and Maintenance

myOntology beta version. Please note that this is a prototype. Data loss might occur.

Domain Vocabularies (Ontology, Domain Model)

AutomobileOntology TelephoneOntology animalOntology **bath** digitalCamera firmena-z.wk mobileTelephon offer_fa

Concepts (Class, Category)

Bad Dealer DigitalCamera Dispatch Conditions Dispatch Option **MobilePhone** MobileTelephon Offer Pool Product
Product Package Sauna Single Product Swimming Bath Thermae Validity Person Validity Time

Attributes/Relationships (Attribute, Characteristic)

Has Dispatch Conditions Has Dispatch Conditions2 Has Pool Has Sauna Has Validity
Has Validity Time Hat Anbieter Hat Einzelprodukt Hat Produkt

Start page. Navigation: tag clouds.

myOntology [beta] Home - Tools - Recently viewed items -

Concept Hierarchy

restrict by

- Sauna
- Bad
- Pool
 - Whirlpool
- Dealer
- Product
 - DigitalCamera
 - MobileTelephone
 - Product Package
 - Single Product
- Offer
- Validity Person
- Dispatch Option
- Dispatch Conditions
- Validity Time
- Area
 - Country
- Cuisine
- Town
- Accommodation
- Event
- Room
- AccommodationType
- Tourism Region
- GastronomyBusiness
- SportsProgram
- RoomType
- EventCategory
- Cuisinel
- Townl
- Accommodationl
- Eventl
- Rooml
- AccommodationTypel
- ...

Welcome to myOntology!

Lightweight Community-driven Ontology Building and Maintenance

myOntology beta version. Please note that this is a prototype. Data loss may occur.

Domain Vocabularies (Ontology, Domain Model)

Go to Domain Vocabularies

Tourism Ontology

resum scp

Concepts (Concept Hierarchy)

restrict by

Accommodation

CareerAccomplishment

Engineer

from visual communication

MedicalDoctor

Publication Quality

Technology Title

Attributes/Relationships

Go to Attributes/Relationships

Aperture Priority

Has Dispatch

Has Validity Time

Hat Anbieter

Hat Einz

awardedBy

awardedDegree

belongsTo

hadAreasofStudy

hadResponsibility

hasAccommodationType2

hasAddress

hasCuisine2

hasEducation

hasEver

hasKnowledge

hasLocation

hasLocation2

hasRoom

hasRoom2

hasRoom

has_CareerAccomplishments

prov

relatedAreasofStudy

selectedResumePart

Navigation: Tree view

myOntology [beta] Home - Tools - Recently viewed items - - advanced search

My Profile - Logout

- Career
- Accommodation
- Management
- workedIndustry
- Aperture Priority
- has_CareerAccomplishments
- Tourism Ontology
- resum
- scp
- Create new Concept
- Create new Property
- Create new Domain Vocabulary

Welcome to myOntology!

Lightweight Community-driven Ontology Building and Maintenance

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Domain Vocabularies (Ontology, Domain Model)

Go to Domain Vocabularies

Tourism Ontology

Tourism Ontology Import bath digitalCamera firmena-z.wk mobileTelephon offer_fa resum scp

Create new element

Create new ontology

Concept Hierarchy

restrict by

— MobilePhone

Domain Vocabulary TelephoneOntology

Description



The telephone is a telecommunications device that is used to transmit and receive sound (most commonly speech), usually two people conversing but occasionally three or more. It is one of the most common household appliances in the world today. Most telephones operate through transmission of electric signals over a complex telephone network which al...

Synonyms



phone set telephon

Flickr Images*



YouTube Videos**



-

Translations



-

Tags



phone telephone talk communication ring

See Also

<http://en.wikipedia.org/wiki/Telephone>

Concepts Included in Domain Vocabulary TelephoneOntology

MobilePhone



Input the label of the element to add.

Imp

☐ DigitalCamera☐ MobilePhone☐ Single Product☐ Product☐ Dispatch Option☐ MobileTelephone☐ Validity Time☐ Pool☒ Create new Concept

Create new concept within ontology

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New Concept

 Create  Cancel

Label

(A concise and brief word given for purposes of identification.)

Cellphone

Note that a label is only of high value if everybody would label it equal!

WordNet suggests following senses:

Note that elements should be labeled so that others will know its sense without further information!

Overview of noun cellphone

The noun cellphone has 1 sense (no senses from tagged texts)

1. cellular telephone, cellular phone, cellphone, cell, mobile phone -- (a hand-held mobile radiotelephone for use in an area divided into small sections, each with its own short-range transmitter/receiver)

Description

(A concise and brief textual description.)

The mobile phone or mobile, also called a wireless, cellular phone, cell phone (AKA: cellphone), cell or hand phone (HP),[1] is a long-range, portable electronic device used for mobile communication that uses a network of specialized base stations known

Free text; do not use any hypertext like HTML!

Show what **Wikipedia** suggests for

The first paragraph of <http://en.wikipedia.org/wiki/Cellphone> is:

The mobile phone or mobile, also called a wireless, cellular phone, cell phone (AKA: cellphone), cell or hand

Create new concept

Equivalent as Classes



-

Partly Overlaps With



-

Narrower Than



-

Broader Than



-

SuperConcepts



-

Attributes/Relationships having this Concept in Compatible Concept



-

related elements

Included in Domain Vocabularies

(A Concept can belong to one or more Domain Vocabularies.)

TelephoneOntology



Input the label of the element to add.

SubConcepts



-

[Current Element](#)[Change Requests](#)[History](#)

Concept Hierarchy

restrict by

— **Cellphone****Concept** **Cellphone**

Description

The mobile phone or mobile, also called a wireless, cellular phone, cell phone (AKA: cellphone), cell or hand phone (HP), [1] is a long-range, portable electronic device used for mobile communication that uses a network of specialized base stations known as cell sites. In addition to the standard voice function of a telephone, current mobile phones ...

Synonyms

telephone cellular cell

Example of Usage

The Nokia 8938 is a cellphone

Flickr Images*



YouTube Videos**

-

Translations

Handy;de

Tags

telephone communication cell mobile cellphone

See Also

<http://en.wikipedia.org/wiki/cellphone>

Equivalent as Classes

MobilePhone

Partly Overlaps With

-

Narrower Than

-

Broader Than

-

SuperConcepts

Product

Attributes/Relationships having Cellphone in Compatible Concept

☒ ☒ ☒ hasProd

Input the label of the element to add.

No results found.

related el

[Create new Property](#)

Included in Domain Vocabularies

TelephoneOntology

SubConcepts

-

Create new property

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**) This product uses the YouTube API but is not endorsed or certified by YouTube.

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New Attribute/Relationship

 Create  Cancel

Label

(A concise and brief word given for purposes of identification.)

hasProducer

Note that a label is only of high value if everybody would label it equal!

As WordNet suggests nothing this label seems to have no synonyms.

Note that elements should be labeled so that others will know its sense without further information!

Description

(A concise and brief textual description.)

This relationship relates a cellphone to its producer.

Free text; do not use any hypertext like HTML!

Show what Wikipedia suggests for

Synonyms

 -

Example of Usage

 -

Flickr Images*

 -

YouTube Videos**

 -

Create new property

Equivalent as Properties

 -

Partly Overlaps With

 -

Narrower Than

 -

Broader Than

 -

Allowed Values

(An Attribute has a Range of values.)

☐ Datatypes

☒ Individual Entities of following Concepts
producer

Input the label of the element to add.

- ☒ producer
- ☐ Cellphone
- ☐ DigitalCamera
- ☐ MobilePhone
- ☐ Single Product
- ☐ Product
- ☐ Dispatch Option
- ☐ MobileTelephone
- ☐ Create new Concept

related element

Compatible

(One or more Concepts)

Cellphone

Select

Input

[Current Element](#)[Change Requests](#)[History](#)**Concept Hierarchy**

restrict by

— **Cellphone****Concept** **Cellphone****Description**

The mobile phone or mobile, also called a wireless, cellular phone, cell phone (AKA: cellphone), cell or hand phone (HP), [1] is a long-range, portable electronic device used for mobile communication that uses a network of specialized base stations known as cell sites. In addition to the standard voice function of a telephone, current mobile phones ...

Synonyms

telephone cellular cell

Example of Usage

The Nokia 8938 is a cellphone

Flickr Images***YouTube Videos****

-

Translations

Handy;de

Tags

telephone communication cell mobile cellphone

See Also

<http://en.wikipedia.org/wiki/cellphone>

Equivalent as Classes

MobilePhone

Partly Overlaps With

-

Narrower Than

-

Broader Than

-

SuperConcepts

Product

Attributes/Relationships having Cellphone in Compatible Concept

☒ ☐ ☐ Input the label of the element to add.

[hasProducer](#)
[Create new Property](#)

related el

Included in Domain Vocabularies

TelephoneOntology

SubConcepts

-

Assign properties

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History Function

myOntology ^[beta]

Home - Tools - Recently viewed items - - [advanced search](#)

logged in as sti sti - [My Profile](#) - [Logout](#)

[Current Element](#) [Change Requests](#) [History](#) [Freeze Points](#)

Revision history of Domain Vocabulary TelephoneOntology

Fri Feb 29 08:00:56 CET 2008 (changes in: Included in Domain Vocabulary) ([Restore previous Included in Domain Vocabulary](#))

Fri Feb 29 07:57:56 CET 2008 (changes in: YouTube Video**) ([Restore previous YouTube Video**](#))

Fri Feb 29 07:57:33 CET 2008 (changes in: Flickr Image*) ([Restore previous Flickr Image*](#))

Wed Feb 27 17:52:45 CET 2008 (changes in: Included in Domain Vocabulary) ([Restore previous Included in Domain Vocabulary](#))

Wed Feb 27 17:51:37 CET 2008 (initialized)

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Concept Hierarchy

restrict by

- DigitalCamera
- Dealer
- + Product
- Offer
- Validity Person
- Dispatch Option
- Dispatch Conditions
- ...



Freeze Points – Stable Snapshots

[beta]


Home - Tools - Recently viewed items - - [advanced search](#)
logged in as sti sti - [My Profile](#) - [Logout](#)


[Current Element](#) [Change Requests](#) [History](#) [Freeze Points](#)

Concept Hierarchy
restrict by

- DigitalCamera
- Dealer
- + Product
- Offer
- Validity Person
- Dispatch Option
- Dispatch Conditions
- ...

Freeze Points of Domain Vocabulary **TelephoneOntology**



File	Date	User	Description
	Fri Feb 29 08:09:48 CET 2008	sti sti	This is Katharina's freeze point for the IT day.

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Export in OWL

```
<?xml version="1.0" encoding="utf-8" ?>
<rdf:RDF
  xmlns:xsd="http://www.w3.org/2001/XMLSchema#"
  xmlns:foaf="http://xmlns.com/foaf/0.1/"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:owl="http://www.w3.org/2002/07/owl#"
  xmlns:dc="http://purl.org/dc/elements/1.1/"
  xmlns:mo="http://myontology.der1.at/prototype/id/"
  xml:base="http://myontology.der1.at" >
  <owl:AnnotationProperty rdf:about="http://myontology.der1.at/prototype/id/htmlDocumentation"/>
  <owl:Ontology rdf:about="http://myontology.der1.at/prototype/OntologyModule/TelephoneOntology/id">
    <mo:htmlDocumentation rdf:resource="http://myontology.der1.at/prototype/OntologyModule/TelephoneOntology"/>
    <rdfs:isDefinedBy rdf:resource="http://myontology.der1.at/prototype/OntologyModule/TelephoneOntology.rdf-xml.owl"/>
    <rdfs:label xml:lang="en">TelephoneOntology</rdfs:label>
    <rdfs:comment xml:lang="en">The telephone is a telecommunications device that is used to transmit and receive sound (most commonly
    <rdfs:seeAlso rdf:resource="http://en.wikipedia.org/wiki/Telephone" />
  </owl:Ontology>
  <owl:Class rdf:about="http://myontology.der1.at/prototype/Class/MobilePhone/id">
    <mo:htmlDocumentation rdf:resource="http://myontology.der1.at/prototype/Class/MobilePhone"/>
    <rdfs:isDefinedBy rdf:resource="http://myontology.der1.at/prototype/Class/MobilePhone.rdf-xml.owl"/>
    <rdfs:label xml:lang="en">MobilePhone</rdfs:label>
    <rdfs:comment xml:lang="en">The mobile phone or mobile, also called a wireless, cellular phone, cell phone (AKA: cellphone), cell
    <owl:equivalentClass rdf:resource="http://myontology.der1.at/prototype/Class/Cellphone/id" />
  </owl:Class>
  <owl:Class rdf:about="http://myontology.der1.at/prototype/Class/Cellphone/id">
    <mo:htmlDocumentation rdf:resource="http://myontology.der1.at/prototype/Class/Cellphone"/>
    <rdfs:isDefinedBy rdf:resource="http://myontology.der1.at/prototype/Class/Cellphone.rdf-xml.owl"/>
    <rdfs:label xml:lang="en">Cellphone</rdfs:label>
    <rdfs:comment xml:lang="en">The mobile phone or mobile, also called a wireless, cellular phone, cell phone (AKA: cellphone), cell
    <rdfs:seeAlso rdf:resource="http://en.wikipedia.org/wiki/cellphone" />
    <owl:equivalentClass rdf:resource="http://myontology.der1.at/prototype/Class/MobilePhone/id" />
    <rdfs:subClassOf rdf:resource="http://myontology.der1.at/prototype/Class/Product/id" />
  </owl:Class>
  <owl:ObjectProperty rdf:about="http://myontology.der1.at/prototype/Property/hasProducer/id">
    <mo:htmlDocumentation rdf:resource="http://myontology.der1.at/prototype/Property/hasProducer"/>
    <rdfs:isDefinedBy rdf:resource="http://myontology.der1.at/prototype/Property/hasProducer.rdf-xml.owl"/>
    <rdfs:label xml:lang="en">hasProducer</rdfs:label>
    <rdfs:comment xml:lang="en">This relationship relates a cellphone to its producer.</rdfs:comment>
    <rdfs:domain rdf:resource="http://myontology.der1.at/prototype/Class/Cellphone/id" />
    <rdfs:range rdf:resource="http://myontology.der1.at/prototype/Class/producer/id" />
  </owl:ObjectProperty>
</rdf:RDF>
```


Concept Hierarchy

restrict by

- Sauna
- + - Bad
- + - Pool
- Dealer
- + - Product
- Offer
- Validity Person
- ...

Special pages

Special pages are automatically generated lists of noticeable entries.

Entries with missing description

Most Revisions
Last Edited
Most Freezepoints
Most Changerequests
No multimedia
Entries without translation
comment equals label
No revisions
not included in vocabulary

Concept Hierarchy

restrict by

- Sauna
- + - Bad
- + - Pool
- Dealer
- + - Product
- Offer
- Validity Person
- ...

Special page: Entries with missing description

C Concepts (Class, Category) ⓘ

Dealer
Whirlpool

P Attributes/Relationships (Attribute, Characteristic) ⓘ

Water Treatment

D Domain Vocabularies (Ontology, Domain Model) ⓘ

digitalCamera
bath
firmena-z.wk
offer_fa



Import

Import Step 1

Specify Input

URL:

File:

Thank you!

<http://myontology.deri.at/prototype>

Prof. Dr. Martin Hepp
Katharina Siorpaes, MSc
STI Innsbruck, Universität Innsbruck
<http://www.sti-innsbruck.at>
<http://www.myontology.org>

