

# Structured Data for Multimedia

Bringing Wikidata to Commons

Community Discussion at Wikimania 2014

Hosted by the [Multimedia](#) and [Wikidata](#) teams

8/07/2014

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# Agenda

10:00 - **Introductions**

10:10 - **Presentation**

10:30 - **Discussion**

11:30 - **Meeting ends**

Please add your comments on this notepad: [ur1.ca/hx8v6](https://ur1.ca/hx8v6)

\* All times above are GMT+1 (UTC)

# Goals & Uses

Why are we doing this?

# Goals

We aim to:

- **use structured data** for all media files on our sites
- make it easier for **users** to **read / write file info**
- enable **developers** to **build better tools**

This will be our team's **main infrastructure project** this year.

# Users

This impacts **all users**:

- **readers**
- **contributors**
- **editors**
- **curators**
- **developers**

Notes:

- initial focus on **Commons**, then **Wikipedia** and other sites.
- during development, experienced users and developers most involved.

# Benefits

How structured data can help our movement:

- offer a **better user experience**
- **find relevant content**
- drive **editing and re-use**
- provide **new ways to contribute**
- improve our **infrastructure**

# Many different uses



**Search**



**Viewing**



**Editing**



**Uploading**



**Curating**

# User stories

As a user, I want to:

- **Search for files** by multiple criteria
- **Learn more** with **related information**
- View file information **in my language**
- **Edit file information** more easily
- **Edit file info** from other pages
- **Add more topics** and data types
- **Upload / transfer files from any wiki**
- **Get smart suggestions**

[See more user stories](#)





WIKIMEDIA  
COMMONS

[Main page](#)  
[Welcome](#)  
[Community portal](#)  
[Village pump](#)  
[Help center](#)

Language select

English

Select

Participate

[Upload file](#)  
[Recent changes](#)  
[Latest files](#)  
[Random file](#)  
[Contact us](#)

Tools

[Special pages](#)  
[Printable version](#)

# Better search: Help me find what I'm looking for

## Search results



Search

Results 1 - 20 of 58,418 for orange

[Content pages](#) [Multimedia](#) [Translations](#) [Everything](#) [Advanced](#)

[Help](#) • [Search categories](#) • [Show other tools](#)

There is a page named "**Orange**" on this wiki

### Orange

If you are looking for the **orange** colour, please see: **Orange** (color) and

Category:**Orange** . If you are looking for the **orange** tree, please ...

568 B (75 words) - 18:38, 14 March 2012

### Category:Orange

Category:Types of red Category:Types of yellow Category:Colors by name

Category:Single colors.

335 members (12 subcategories, 322 files) - 16:06, 3 October 2011



File:California map showing **Orange** County.png

Map of **Orange** county in California. From en:migration relicense. Category:California county locator maps (yellow)Category:Maps of **Orange** ...

(200 × 231 (22 KB)) - 06:15, 29 May 2012



File:California county map (**Orange** County highlighted).svg



- Main page
- Contents
- Featured content
- Current events
- Random article
- Donate to Wikipedia
- Wikimedia Shop

Interaction

Tools

Print/export

Languages

العربية

বাংলা

Български

Català

Cymraeg

Dansk

Deutsch

Español

Esperanto

فارسی

Français

# Search by multiple topics



## Bird

From Wiki...

### Bird mig

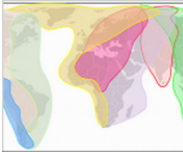






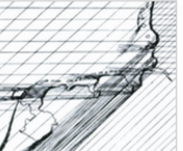
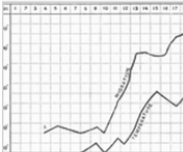

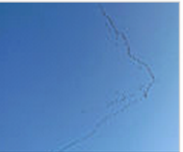

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Historical...  
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destruction...  
lines and...  
The Arctic...  
breeding g...  
such as a...

Manx Shearwaters migrate 14,000 km (8,700 mi) between their northern breeding grounds at the southern ocean. Shorter migrations are common, including altitudinal migrations on mountains such as the Andes and Himalayas.

Insert media

q Bird migration #canada

 Main international fly...	 Big bird	 "The Migration of Bir..."	 Leapfrog-migration P...
 PikiWiki Israel 8688 r...	 ZOnotrichia	 Bird migration record...	 VanDobbenKaartVog...
 PSM V54 D802 Grap...	 Migrationroutes no	 Herbst-vogelzug-201...	 Modem Automata M...

Topics

- map
- usa
- blue
- silhouette





WIKIMEDIA  
COMMONS

Main page  
Welcome  
Community portal  
Village pump  
Help center

Participate  
Upload file  
Recent changes  
Latest files  
Random file  
Contact us

Tools  
What links here  
Related changes  
Special pages  
Printable version  
Permanent link  
Page information  
Nominate for deletion

In Wikipedia  
العربية  
Català  
Deutsch  
English  
Español  
Eesti  
فارسی  
Français

# Learn more with related information

From Wikimedia Commons, the free media repository

Download Use this file Use this file Email a link Information



Size of this preview: 419 × 600 pixels. Other resolutions: 168 × 240 pixels | 335 × 480 pixels | 537 × 768 pixels | 715 × 1,024 pixels.

Add a note

[Original file](#) (1,861 × 2,663 pixels, file size: 391 KB, MIME type: image/jpeg); ( request rotation); ZoomViewer: [flash/no flash](#)

Expand view

<b>Artist</b>	<b>Johannes Vermeer (1632–1675)</b>	
	<b>Alternative names</b>	Johannes van der Meer, Jan Vermeer, Jan Vermeer van Delft, Johannes Reynniersz. Vermeer
	<b>Description</b>	Dutch painter and art dealer
	<b>Date of birth/death</b>	31 October 1632 (baptised) <span style="float:right">15 December 1675 (buried)</span>
	<b>Location of birth/death</b>	Delft <span style="float:right">Delft</span>
	<b>Work period</b>	1653–1675
	<b>Work location</b>	Delft
	<b>Authority control</b>	VIAF: <a href="#">51961439</a> · LCCN: <a href="#">n79006488</a> · GND: <a href="#">118626590</a> · BnF: <a href="#">cb11940023b</a> · ULAN: <a href="#">500032927</a> · ISNI: <a href="#">000000010901268X</a> · WorldCat

**Title** *Het meisje met de parel (Girl with a Pearl Earring)*

# Edit information from other pages

round black spots measuring from 2 to 3 cm (0.79 to 1.18 in) across, affording it some [camouflage](#) while hunting. There are no spots on its white underside, but the tail has spots, which merge to form four to six dark rings at the end. The tail usually ends in a bushy white tuft. The cheetah has a small [head](#) with high-set eyes. Black "tear marks" running from the corner of its eyes down the sides of the nose to its mouth keep sunlight out of its eyes and aid in hunting and seeing long distances. Its thin and fragile body make it well-suited to short bursts of high speed, but not to long-distance running.

Agility, rather than raw speed, accounts for much of the cheetah's ability to catch prey. Cheetahs can accelerate four times as fast as a human (thanks to greater muscle power) and can slow down by 14 [kilometers](#) per hour in one stride. They can hunt successfully in dense forests. <sup>[16]</sup>

The adult cheetah weighs from 21 to 72 kg (46 to 159 [lb](#)). Its total head-and-measure 60 to 84 cm (24 to 33 in) in length. <sup>[17][18][19][20]</sup> Cheetahs are 66 larger than females and have slightly bigger heads, but there is not a great apart by appearance alone. Compared to a similarly sized [leopard](#), the che averages about 90 cm (35 in) tall) and so it appears more streamlined.

Some cheetahs have a rare fur pattern [mutation](#) of larger, blotchy, merged constitute a separate subspecies but are in fact African cheetahs; their unu "king cheetah" has only been seen in the wild a handful of times, but it has



Comparative illustration of a leopard (left) and cheetah (right)

The cheetah's paws have semi-retr the [flat-headed cat](#) and the [Jrionote](#) structure of the cheetah's claws is t and fur present in other varieties, a always visible. The dewclaw is muc

Adaptations that enable the cheetah increased oxygen intake, and an enlarged heart and lungs that work together to circulate oxygen efficiently. During a typical chase, its respiratory rate increases from 60 to 150 breaths per minute. <sup>[11]</sup> While running, in addition to having good traction due to its semi-retractable claws, the cheetah uses its tail as a rudder-like means of steering <sup>[citation needed]</sup> to allow it to make sharp turns,

? ! ☰ Cancel Save page

1 with




Image details missing  
The image will not be visible for readers until the details are provided

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Cheetah running Delete image

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Source This is my own work


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Add a description 🚩

English + 📅 Created today 🌐 More ▾

🏷️ Add categories

# Get smart suggestions during upload ...



Cheetah running Cancel upload

Robert Capa


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Add a description

[Add categories](#)



Cheetah running Cancel upload

Robert Capa


Source From Flickr

Original URL <http://flickr.com/photos/1234/>

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Add a description

[Add categories](#)




Cheetah running Cancel upload


Robert Capa


Source From Flickr

Original URL <http://flickr.com/photos/1234/>



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# Overview

# Example

Here's an example of how structured data can be used for a typical file:

Title (Label): Hamster Berta

Description: My hamster Berta in 2007.

File name: Berta2007.jpg

File type: image/jpeg

Resolution: 800x800

Statements:

- Contributor: <http://commons.wikimedia.org/wiki/User:Hugo85>
  - Real Name: Hugo Masters
  - Time of contribution: March 2007
  - Role: **Photographer**
- Rights: <http://creativecommons.org/license/CC-BY-SA-3.0-DE>
- Terms of use: BY-SA
- Topic: **hamster**
- Topic: **pet**
- Type of work: **photograph**
- Coordinate location: 52°31' N, 13°22' E
- Location: **Berlin**



[See more examples](#)

# Key data

In a **first phase**, we would like to focus on these key data for each file:

- **title**
- **description**
- **work**
- **contributor**
- **role**
- **organization**
- **license**
- **category**
- **topics**

[See multimedia data list](#)



# Key concepts

Here's one way to visualize some of the structured data clusters:

## File

- title
- description
- metadata

### Links to:

- work
- contributor
- license
- topics

## Work

- title
- description
- etc.

## Contributor

- name
- role
- etc.

## License

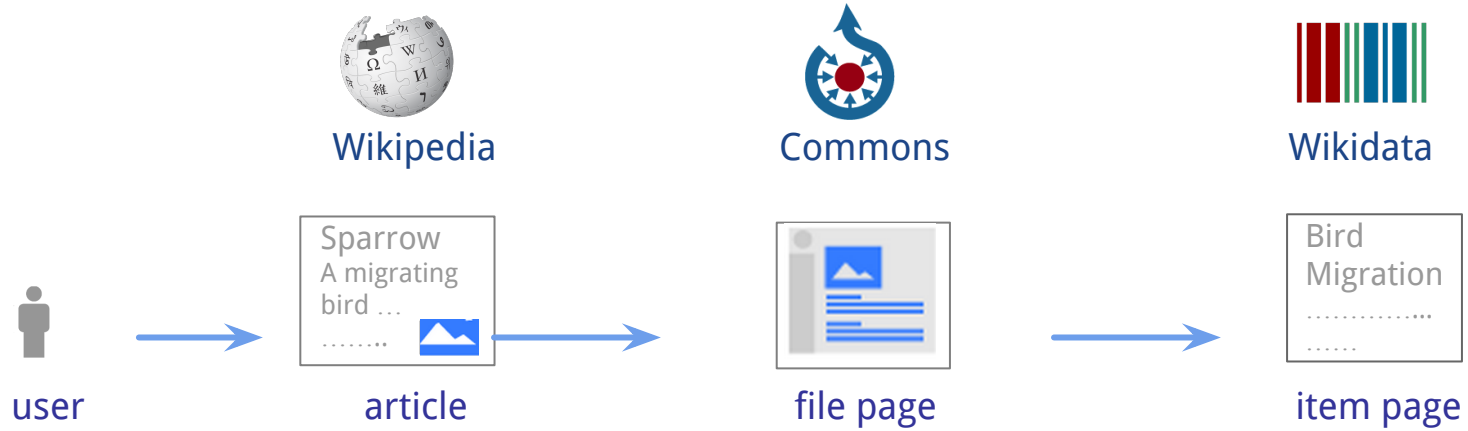
- title
- description
- etc.

## Topic

- title
- description
- etc.

# Touchpoints

Where will people find structured data?

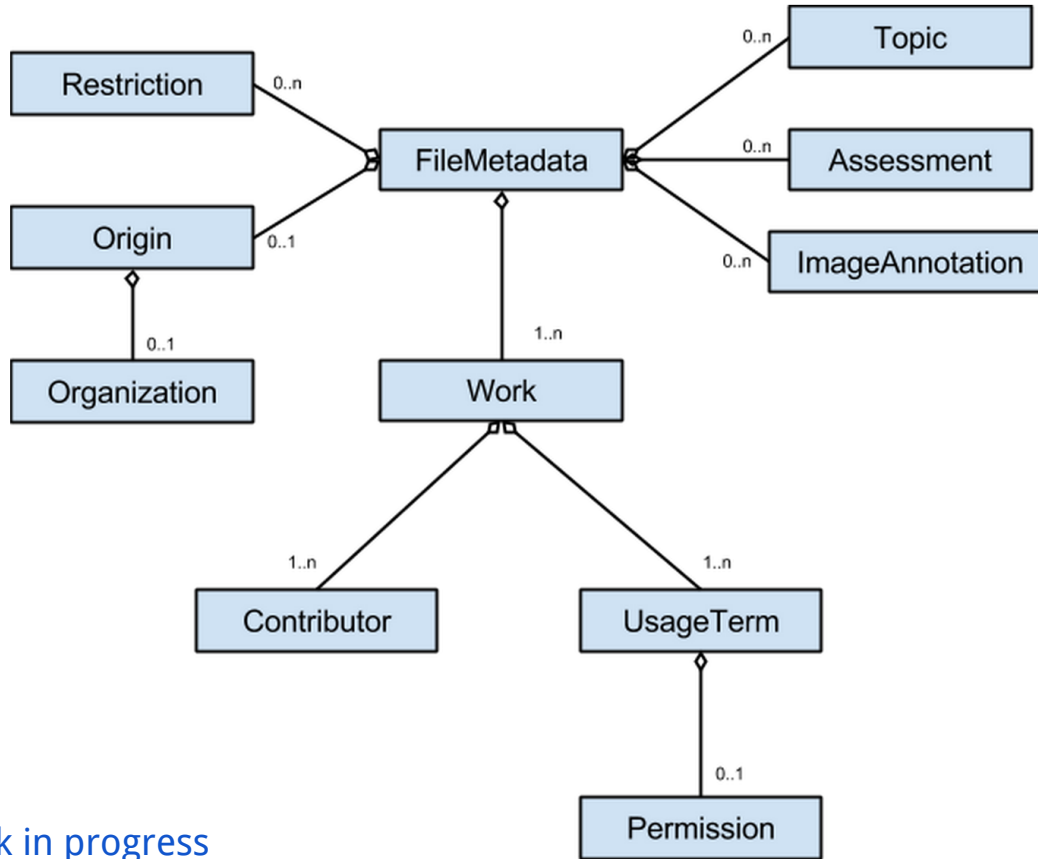


# Storage

Where might data be stored?

<b>Wikibase on Commons</b>	<b>Wikidata.org</b>	<b>Commons MediaWiki</b>
title	work	file name
description	contributor	format
work link	license	resolution
contributor link	category	size
license link	topic	date
category link		geo-tags
topic link		version
file link		EXIF metadata

# API Class Diagram



[See API work in progress](#)

**Next steps**

# Tasks

- **Plan & discuss** this project with our community
- **Design** the data structure and user interface
- **Develop** the code and tools needed for this project
- **Migrate** unstructured data to the new format
- **Test, observe** and adjust plan as needed

# Roadmap 2014-15

	Stage 1	Stage 2	Stage 3
product	<ul style="list-style-type: none"><li>• <b>planning</b></li><li>• <b>design</b></li></ul>	<ul style="list-style-type: none"><li>• <b>specs</b></li><li>• <b>metrics</b></li></ul>	<ul style="list-style-type: none"><li>• <b>observe</b></li><li>• <b>update</b></li></ul>
developers	<ul style="list-style-type: none"><li>• <b>code review</b></li><li>• <b>prototype</b></li></ul>	<ul style="list-style-type: none"><li>• <b>first tests</b></li><li>• <b>small features</b></li></ul>	<ul style="list-style-type: none"><li>• <b>info / file pages</b></li><li>• <b>editing tools</b></li></ul>
community	<ul style="list-style-type: none"><li>• <b>discuss</b></li><li>• <b>guide</b></li></ul>	<ul style="list-style-type: none"><li>• <b>discuss</b></li><li>• <b>experiment</b></li></ul>	<ul style="list-style-type: none"><li>• <b>migrate data</b></li><li>• <b>edit data</b></li></ul>

These preliminary goals are under review and subject to change.

# Components

Here are some of the first modules we might work on:

- **High-level API**
- **Media Info Page**
- **File Page**
- **Search**
- **Upload Wizard**
- **Media Viewer**



# Questions

- What are some of your **main issues** with unstructured data?
- Are your current **workflows** addressed by this first proposal?
- How do we define a basic **data structure** for key use cases?
- How can we **measure** and **validate** each feature?
- How do we gradually **roll out** these features?
- How do we coordinate the **data migration**?

# What now?

What will happen in coming months:

- **more discussions**
- **planning, design, specs**
- **developer bootcamps**
- **first prototypes & tests**
- **learn, adjust, try again**
  
- **be patient: this will take time ...**

# Learn more:

[mediawiki.org/wiki/Multimedia/Structured\\_Data](https://mediawiki.org/wiki/Multimedia/Structured_Data)

A collaboration between

**Wikidata Team** (Wikimedia Deutschland)  
**Multimedia Team** (Wikimedia Foundation)  
**Community** (Wikimedia Commons, others)