



Fabian Flöck

- Computational Social Science Department - GESIS - Leibniz Institute for the Social Sciences

Wikimedia Research Showcase July 11th, 2018

Collaborators



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Quick intro to tracking changes in revisioned documents



From Wikipedia, the free encyclopedia

Tests suggest Legstrong used doping. He presumably used EPO.

Mance Legstrong From Wikipedia, the free encyclopedia

Tests suggest Legstrong used

doping.

Mance tested positive twice.

Mance Legstrong

From Wikipedia, the free encyclopedia

Tests suggest Legstrong used doping.

He presumably used EPO.

Mance Legstrong

From Wikipedia, the free encyclopedia

Tests suggest Legstrong systematically used doping. Mance tested positive twice.



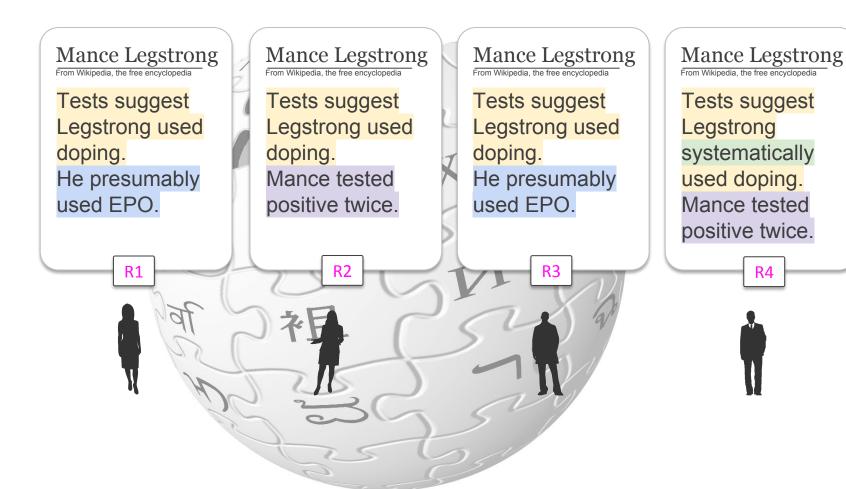


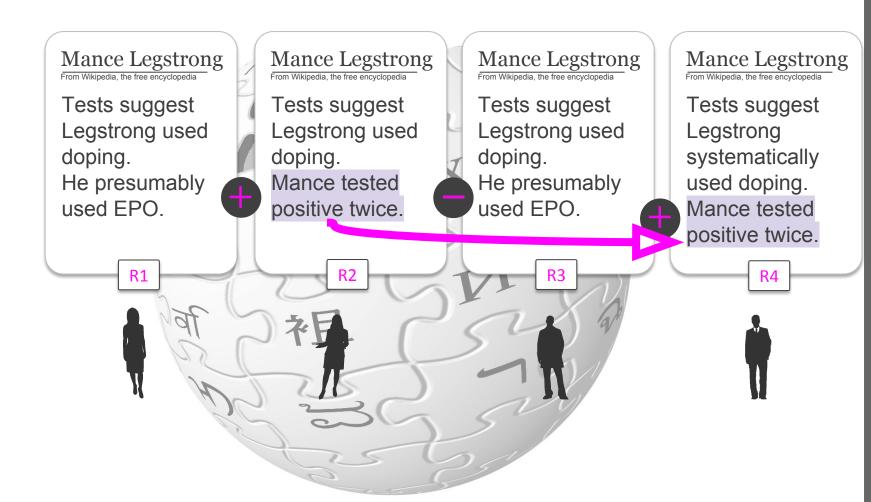












- {"He", "presumably", "used", "EPO", "."}, + {"systematically", "Mance", "tested", "positive", "twice", "."} Mance Legstrong Mance Legstrong Mance Legstrong Mance Legstrong From Wikipedia, the free encyclopedia Tests suggest Tests suggest Tests suggest Tests suggest Legstrong used Legstrong used Legstrong used • Legstrong doping. doping. doping. systematically Mance tested He presumably He presumably used doping. used EPO. positive twice. used EPO. Mance tested positive twice.

gesis

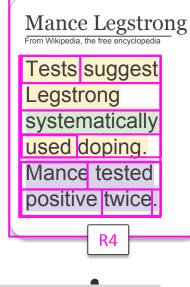
Attributing authorship of revisioned content - De Alfaro & Shavlovsky, WWW 2013 Mediawiki utilities, Deltas - Halfaker, 2014

WIKIWh Flöck & Acosta, WWW Seoul 2014

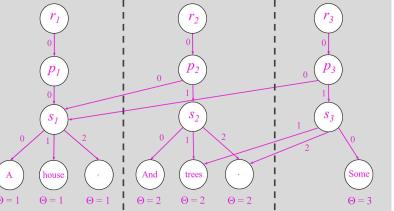












the data

data

Mance Legstrong

From Wikipedia, the free encyclopedia

Tests suggest Legstrong used doping.

He presumably used EPO.

Mance Legstrong

From Wikipedia, the free encyclopedia

Tests suggest Legstrong used doping.

Mance tested positive twice.

Mance Legstrong

From Wikipedia, the free encyclopedia

Tests suggest Legstrong used doping.

He presumably used EPO.

R3

Mance Legstrong

From Wikipedia, the free encyclopedia

Tests suggest
Legstrong
systematically
used doping.
Mance tested

Mance tested positive twice.

R4

R1

R2

Tracking data for content of revision 4

String	Tests	suggest	Legstrong	system- atically	used	doping	·	Mance	tested	positive	twice	·
Token ID	T1	T2	ТЗ	T17	T4	T5	Т6	T12	T13	T14	T15	T16
Original Addition	R1	R1	R1	R4	R1	R1	R1	R2	R2	R2	R2	R2
Deleted	{}	{}	{}	{}	{}	{}	{}	{R3}	{R3}	{R3}	{R3}	{R3}
Re- inserted	{}	{}	{}	{}	{}	{}	{}	{R4}	{R4}	{R4}	{R4}	{R4}



July 27, 2017

zenodo

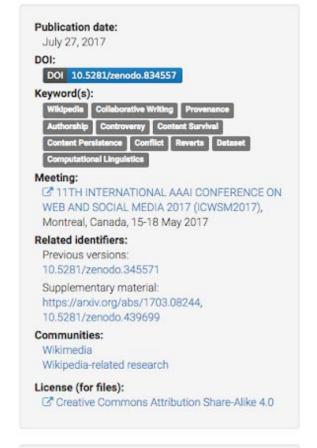
Dataset Open Access

TokTrack: A Complete Token Provenance and Change Tracking Dataset for the English Wikipedia

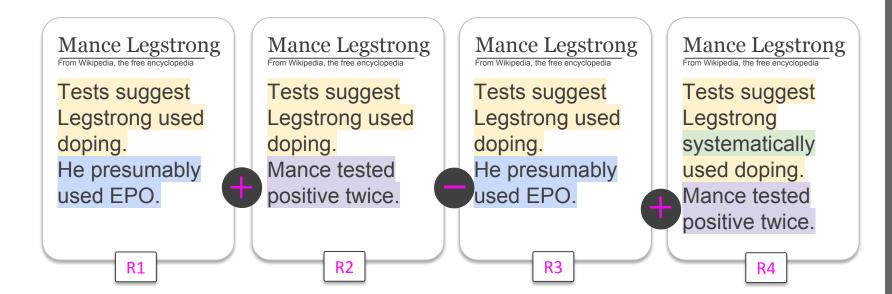
Flöck, Fabian; Erdogan, Kenan; Acosta, Maribel



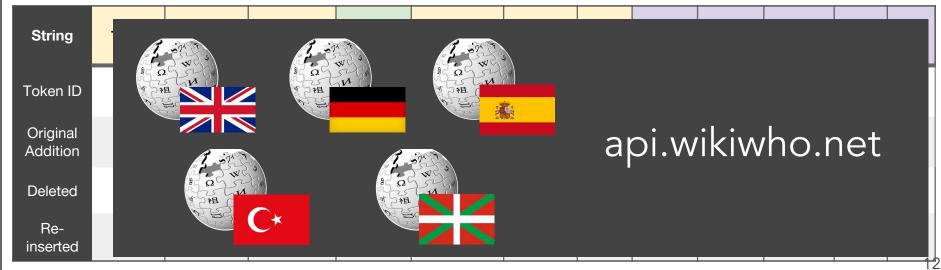




data



Tracking data for content of revision 4



api.wikiwho.net



Available APIs -

Contact/Imprint

Register

Login







A service for mining changes and interactions from revisioned writing platforms.

WikiWho APIs

The APIs provide provenance and change information about the tokens a Wikipedia article consists of, for several languages. Apart from the source language edition they draw from, their specifications and usage are identical, as described below.

WikiWho API EN

WikiWho API DE

WikiWho API EU

WikiWho API TR

WikiWho API ES

Usage

For each article page, the API mirrors its current state on the Wikipedia. The API is based on the WikiWho algorithm (~95% acc.).

Currently, there is a limit of 2000 requests/day for unregistered users, and also a 60 requests/minute limit for all users.

Terminology used:

- "Wikipedia": A selected language version of Wikipedia. Available languages can be chosen from the top navigation bar.
- "article (page)": Any Wikipedia page in namespace = 0.
- "(article) content": The tokenized Wiki Markup text content of a (range of) revision(s) of an article page, not the front-end HTML (if you want that, you have to "untokenize" and appropriately parse it; the original order of tokens is retained or take a look at the WhoColor API).
- "token"/"tokenized": The Wiki Markup text is split at (i) white spaces and (ii) certain special characters (special chars also act as tokens). E.g., tokens in "A [[house]], a boat." are "a", "[[", "house", "]]", ",", "a", "boat", "." I.e., all tokens are converted into lower-case and certain character combinations that have a specific function in Wiki Markup, such as

WikiWho API

Documentation can be found at api.wikiwho.net

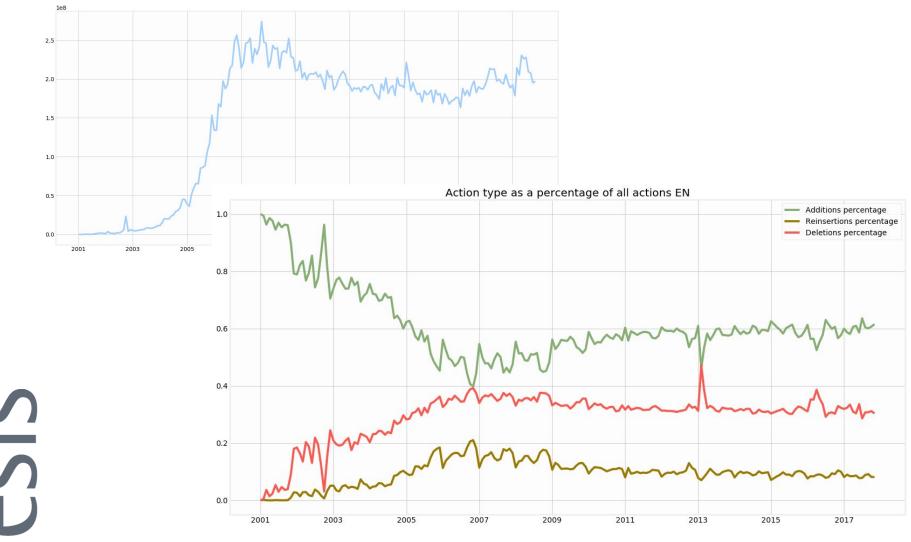
Created by GESIS - Leibniz Institute for the Social Sciences, CSS group

Data from this API is published under the CC-BY-SA 4.0 license. Original revision data is retrieved from Wikimedia servers and the terms for reuse put forth by Wikimedia apply.

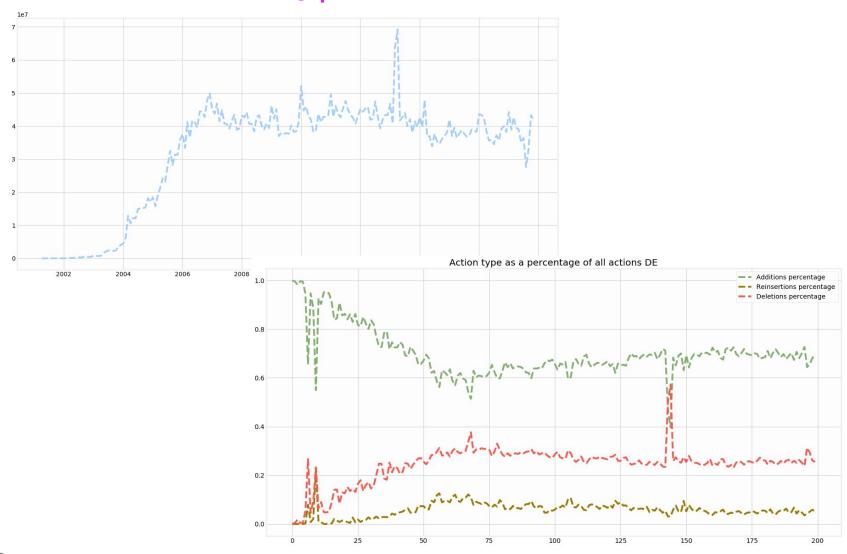
1 - Content per revision	Show/Hide List Operations Expand Operations
GET /rev_content/{article_title}/	Get the content of the last revision of an article
GET /rev_content/{article_title}/{rev_id}/	Get the content of a specific revision of an article
GET /rev_content/{article_title}/{start_rev_id}/{end_rev_id}/	Get the content of a range of revisions of an article
GET /rev_content/page_id/{page_id}/	Get the content of the last revision of an article
GET /rev_content/rev_id/{rev_id}/	Get the content of a specific revision of an article
2 - All content	Show/Hide List Operations Expand Operations
GET /all_content/{article_title}/	Get the all content an article
/all_content/page_id/{page_id}/	Get the all content an article
3 - Revision IDs	Show/Hide List Operations Expand Operations
GET /rev_ids/{article_title}/	Get revision IDs of an article
GET /rev_ids/page_id/{page_id}/	Get revision IDs of an article

edit action types and survival

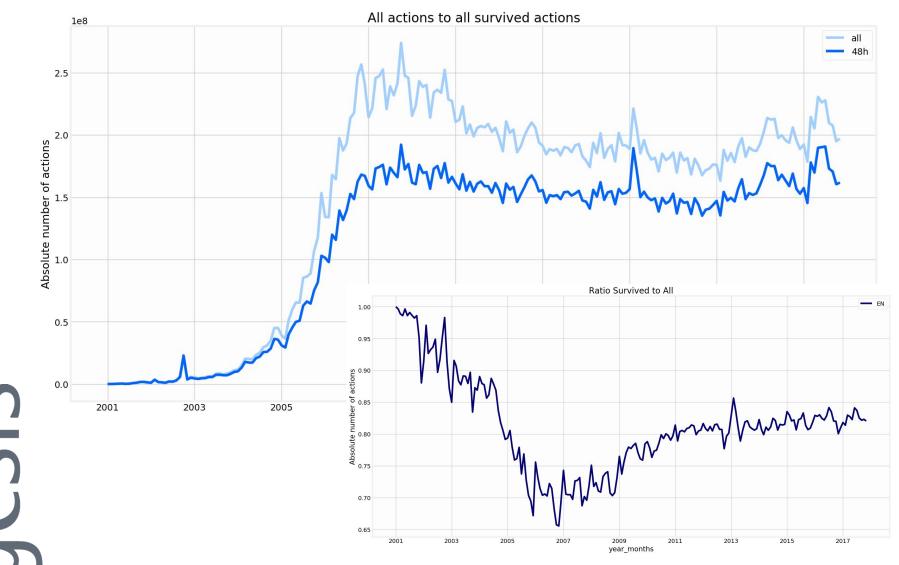
action types over time EN



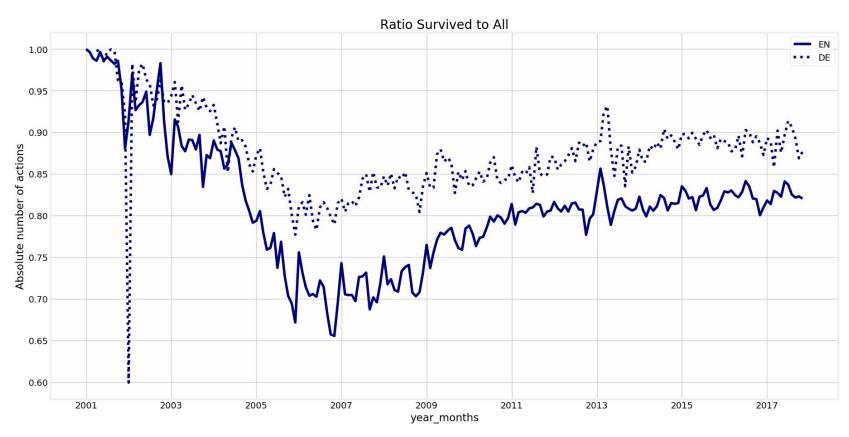
action types over time DE



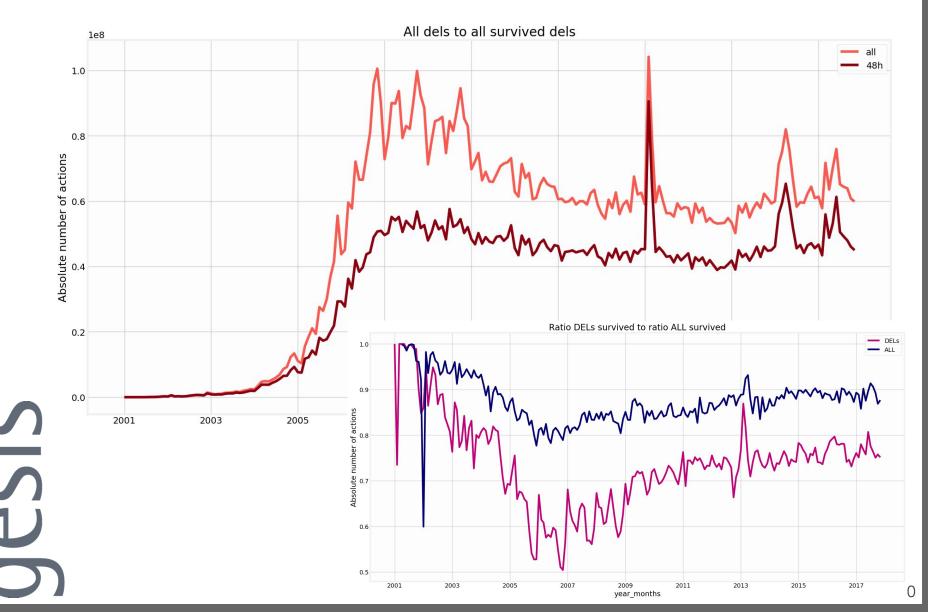
EN actions / survival



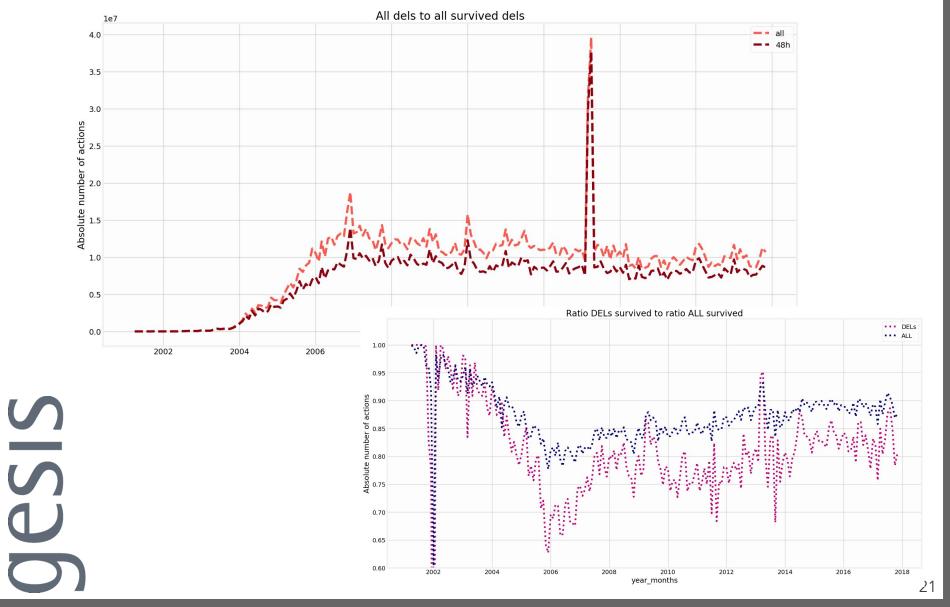
EN vs. DE actions / survival



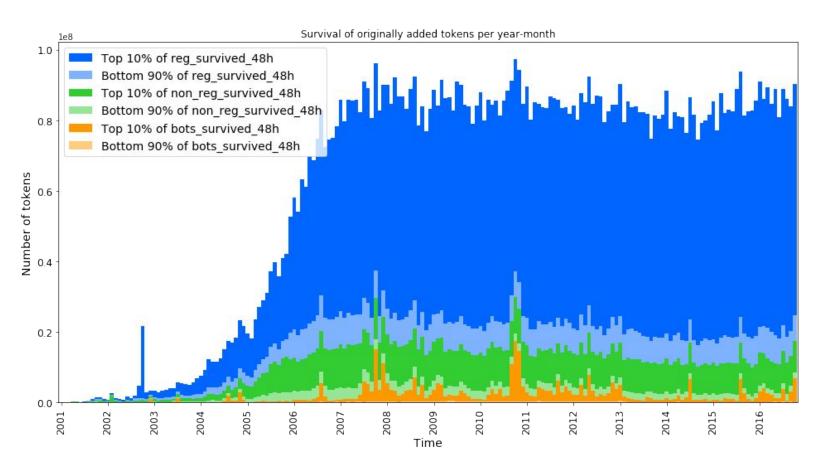
EN DEL actions / survival



DE DEL actions / survival

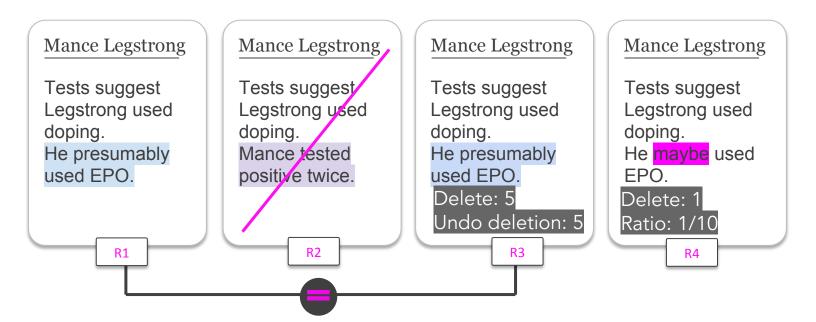


content authorship & survival



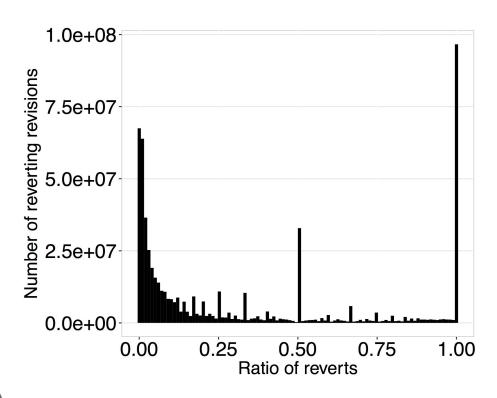
insights about reverts

partial reverts/undoing





why partial reverts matter

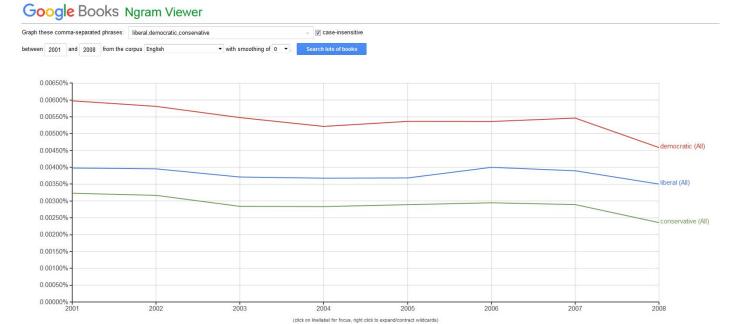


- Fun fact 1: 61.51% of all edits include some kind of removal or reinsertion of content
- Fun fact 2: in 14.62% of the revisions editors correct their own edits

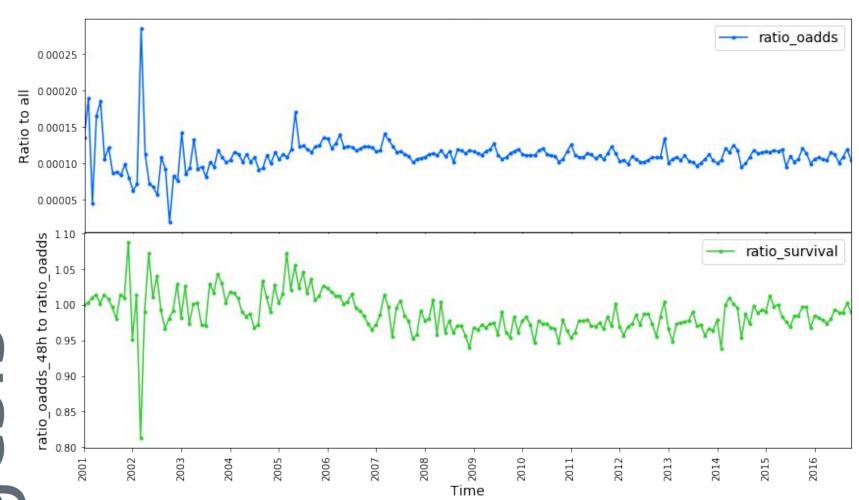
- Most revisions undoing smth. are not full reverts (~3.4:1 partial:full)
- Finding full reverts w/ "old school" identity reverts:
 - We miss ~6% of actual fully **reverting** revisions
 - 28.6% of revisions
 detected as fully
 reverted are actually
 partially reverted or not
 reverted at all

n-gram survival/popularity

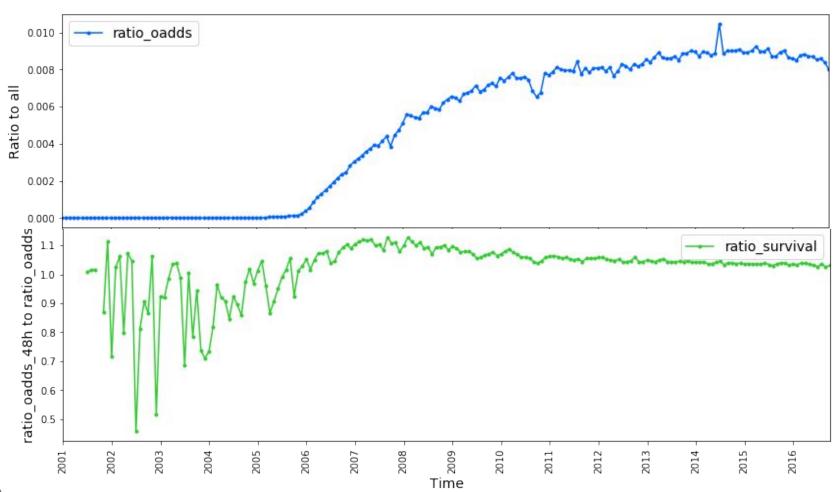
n=1 survival/popularity



"vanilla" 1-grams "green"



markup 1-grams "ref"



problematic 1-grams



Project page

Talk

Read

Wikipedia:Manual of Style/Words to watch

1 Words that may introduce bias [edit source]

1.1 Puffery [edit source]

See also: Wikipedia:Neutral point of view

Words to watch: legendary, great, acclaimed, iconic, visionary, outstanding, leading, celebrated, award-winning, landmark, cutting-edge, innovative, extraordinary, brilliant, hit, famous, renowned, remarkable, prestigious, world-class, respected, notable, virtuoso, honorable, awesome, unique, ...

Shortcuts
MOS:PUFF
WP:PEA
WP:PEACOCK
WP:FLOWERY

am the

An example of peacock terms

Words such as these are often used without attribution to promote the subject of an article, while neither imparting nor plainly summarizing verifiable information. They are known as "peacock terms" by Wikipedia contributors. [2] Instead of making unprovable proclamations about a subject's importance, use facts and attribution to demonstrate that importance.

- · Peacock example:
 - Bob Dylan is the defining figure of the 1960s counterculture and a brilliant songwriter.
- · Just the facts:
 - Dylan was included in *Time*'s 100: The Most Important People of the Century, in which he was called "master poet, caustic social critic and intrepid, guiding spirit of the counterculture generation". [refs 1] By the mid-1970s, his songs had been covered by hundreds of other artists. [refs 2]

Articles suffering from such language should be rewritten to correct the problem or may be tagged with an appropriate template^[2] if an editor is unsure how best to correct them.

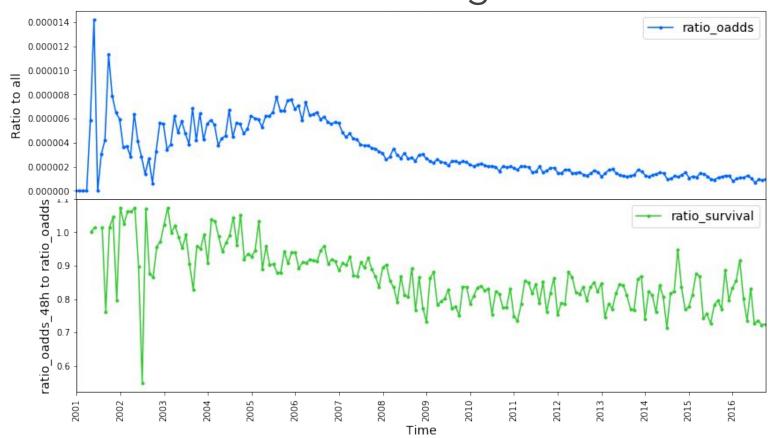
Puffery is an example of positively loaded language; negatively loaded language should be avoided just as much. People responsible for "public

spending" (the neutral term) can be loaded both ways, as "the tax-and-spend politicians borrowing off the backs of our grandchildren" or "the



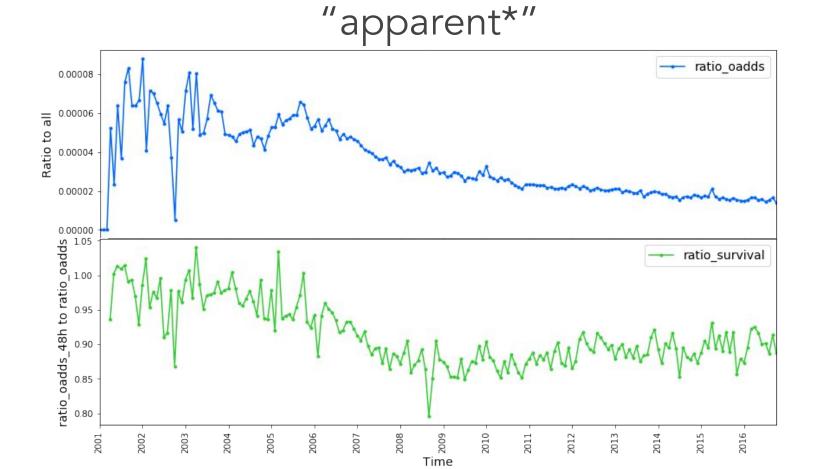
problematic 1-grams





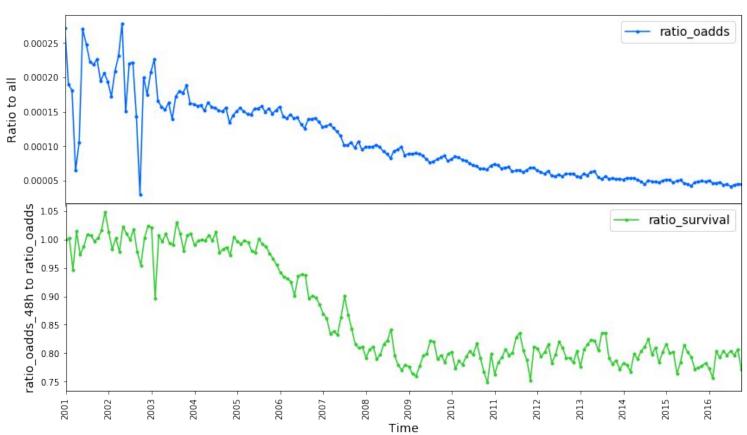
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problematic 1-grams



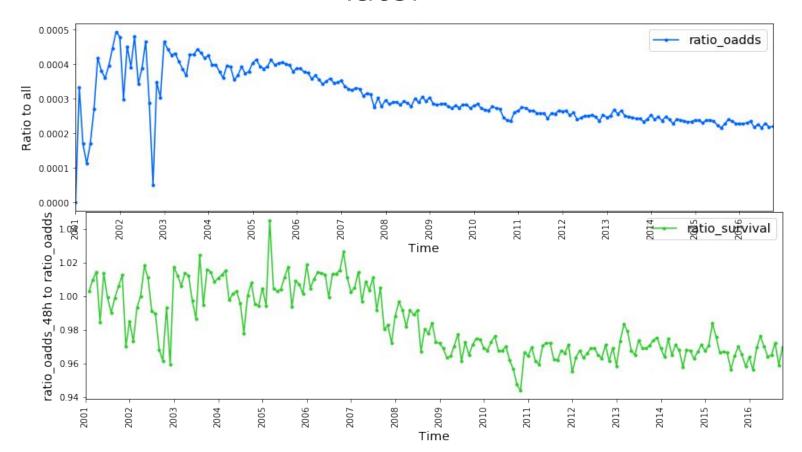
problematic 1-grams



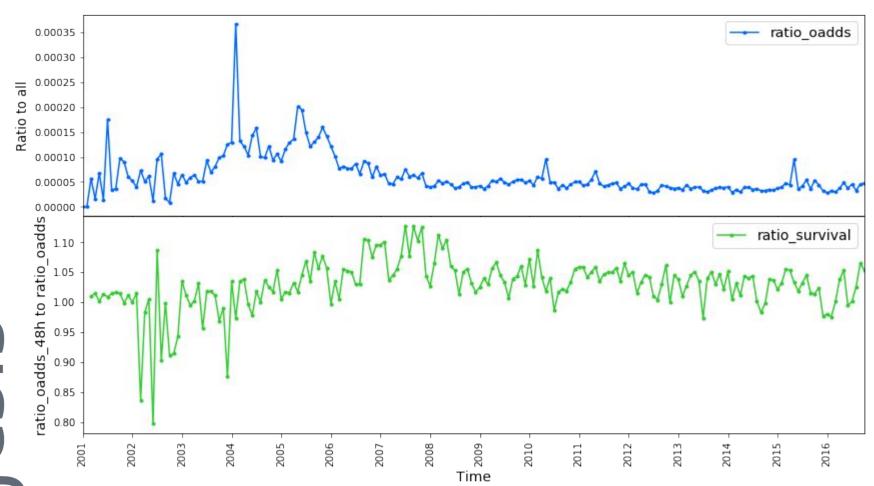


? 1-grams



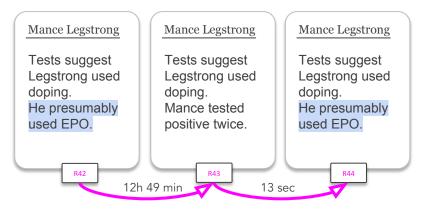


? 1-grams "conservative"



Calculating conflict

n-gram-based conflicts



Rank	String (cT _n)	n	cT _n
1	barneys	1058	27.9
2	speciation	2289	24.4
3	kishimoto	1146	21.7
4	phishing	1061	14.7
5	smackdown	1248	12.8
6	dumbledore	1159	12.6
7	multicellular	1057	12.4
8	asda	1480	12.3
9	kemal	6126	11.8
10	bungie	2528	11.3
11	voldemort	1243	11.2
12	halo	1521	11.1
13	guitar	2562	10.9
14	mediawiki	1784	10.9
15	alleles	2293	10.4

Top 10 articles with most conflict for string "voldemort"

Rank of most controversy for string	<i>n</i> of string in article	Article title	Global article controversy ranking
1	137	Lord Voldemort	3101
2	39	Harry Potter (character)	686
3	37	Harry Potter	647
4	103	Death Eater	7845
5	34	Albus Dumbledore	2178
6	29	Severus Snape	3979
7	68	Magical objects in Harry Potter	9349
8	22	Harry Potter and the Deathly Hallows – Part 2	18563
9	60	Magic in Harry Potter	5878
10	55	List of supporting Harry Potter characters	7157

gesis

n-gram-based conflicts



AII

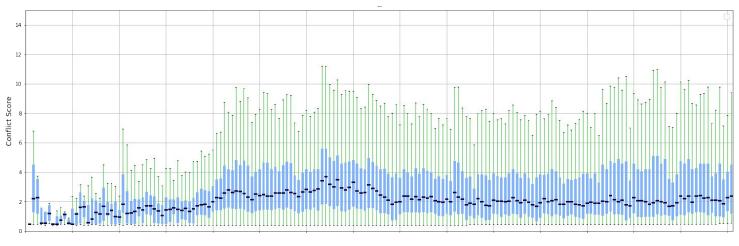
Rank	String	na	cT _{na}
1	declaration	1	258.6
2	newsletter	1	257.4
3	7224491	1	257.4
4	tory	1	256.8
5	outlines	1	256.8
6	request	1	256.8
7	2015	1	256.8
8	memberships	1	256.8
9	massive	1	256.8
10	write	1	256.8

Appear at least 10 times in article

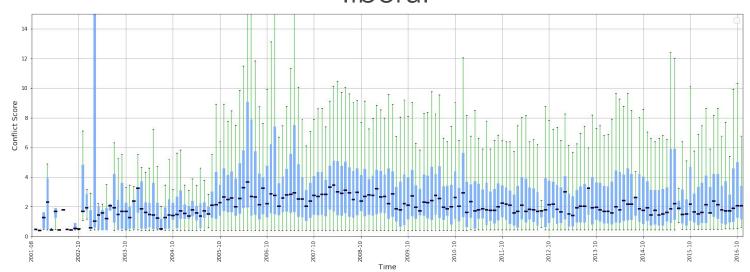
Rank	String	na	cT _{na}
1	unionist	13	208.8
2	february	46	202.5
3	december	15	202.2
4	bill	29	199.5
5	2013	29	197.5
6	economy	13	188.0
7	stay	14	184.5
8	org	46	184.4
9	2015	120	181.1
10	counts	10	178.6

n-gram-based conflicts



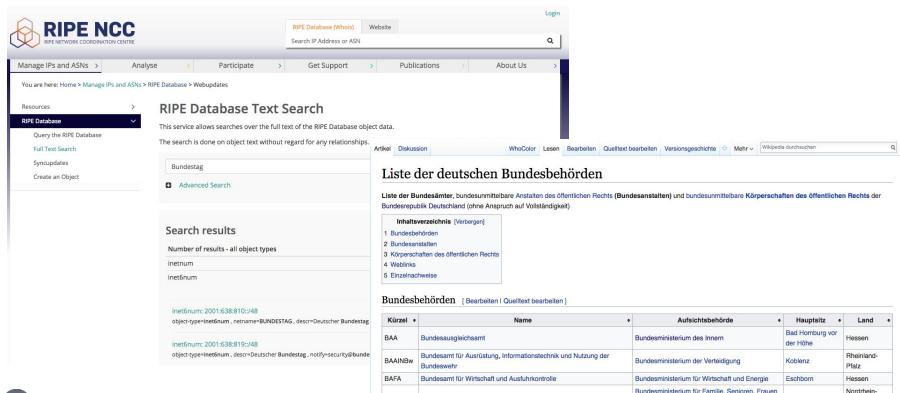


"liberal*"



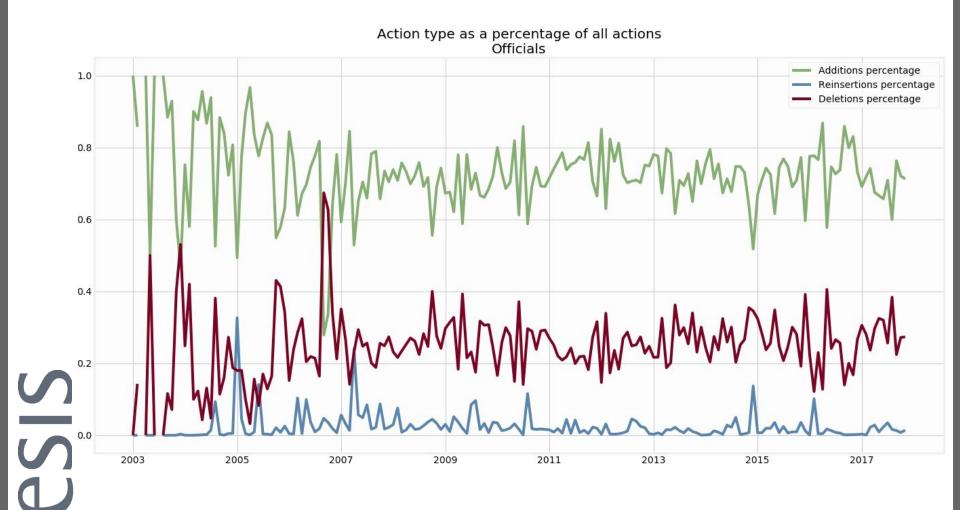
Are German officials doing something productive on WP?

IP ranges



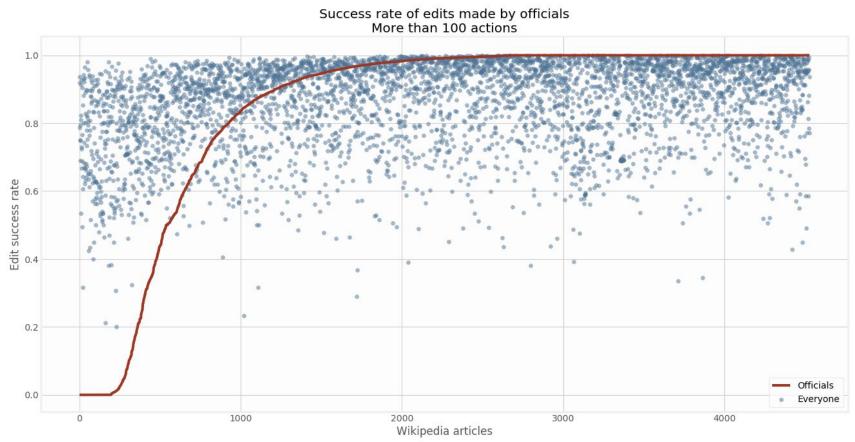


Type of actions officials



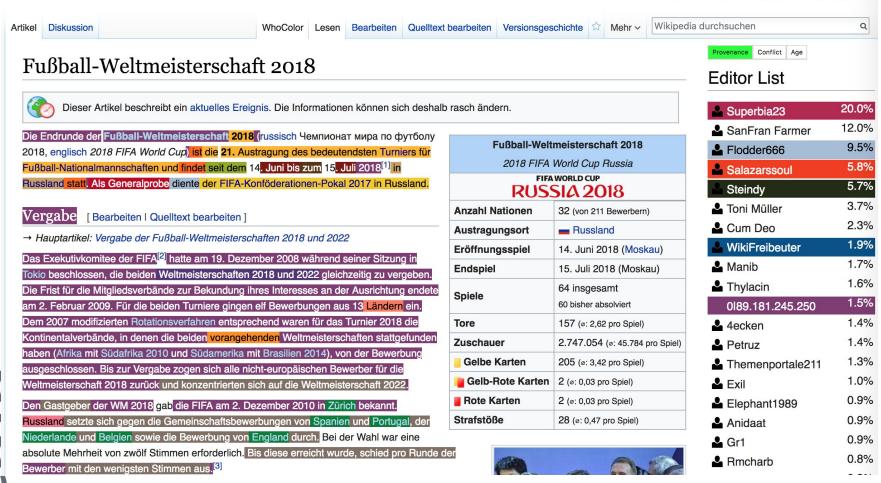
gesis

Success rate officials



Tools: mark up

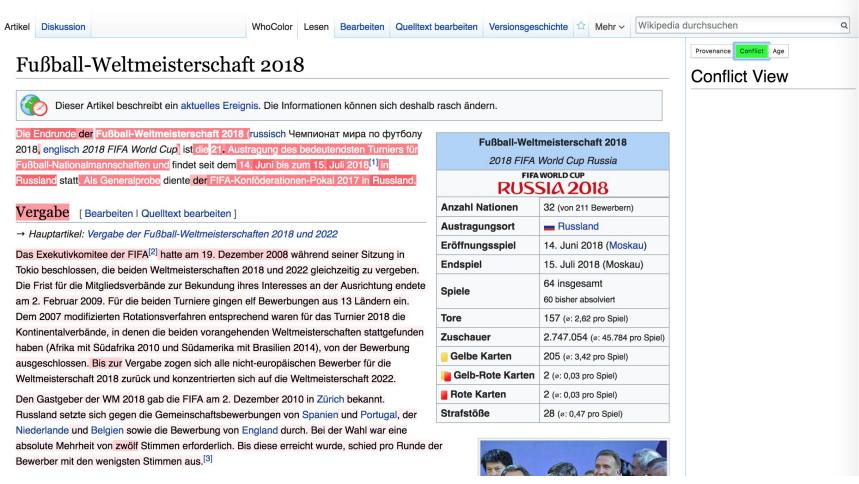
WhoColor



Diskussion Einstellungen Beta Beobachtungsliste Beiträge Abmelden

Jesis

WhoColor



Diskussion Einstellungen Beta Beobachtungsliste Beiträge Abmelden

gesis

WhoColor



WikiEdu dashboard

Epidemiology ENPH 450

Home

Timeline Stu

Students

Articles

Uploads

Activity

Hand, foot, and mouth disease ®

How did the article viewer work for you?

the reported half loss is ancied, nowever, it is temporary and half growth resumes without treatment

Minor complications due to symptoms can occur such as dehydration, due to mouth sores causing discomfort with intake of foods and fluid.^[25]

Epidemiology

Hand, foot and mouth disease most commonly occurs in children under the age of 10.^{[4][17]} It tends to occur in outbreaks during the spring, summer, and autumn seasons.^[6] This is believed to be due to heat and humidity improving spread.^[20] HFMD is more common in rural areas than urban areas; however, socioeconomic status and hygiene levels need to considered.^[26] Poor hygiene is a risk factor for HFMD.^[27]

Outbreaks have occurred in China, Japan, Hong Kong, the Republic of Korea, Malaysia, Singapore, Thailand, Taiwan and Vietnam. [20] HFMD most commonly affects young children under the age of 10 and more often under the age of 5, but can also affect adults with varying symptoms. [18]

Since 1997 there have been 71 large enterovirus outbreaks reported, mostly in East and South East Asia, primarily affecting children. From the years 2008 to 2014, more than 1 million HFMD cases have been reported in China each year.

Outbreaks

• In 1998 there was an outhreak in Taiwan affecting mainly children [29] There were 105 severe complications and 78 children

Edits by:

DonnieTrump

Apelle1

View on wiki





WhoColor API

Documentation can be found at api.wikiwho.net.

Created by GESIS - Leibniz Institute for the Social Sciences, CSS group

Extended html	Show/Hide List Operations Expand Operations
GET /{page_title}/	Get the extended html of last revision of an article
GET /{page_title}/{rev_id}/	Get the extended html of a specific revision of an article
[BASE LIBL: /de/whocolor/v1 0 0-beta API VERSION: 1 0 0-beta]	



Tools:

editor productivity / disputes

Interactive Jupyter Notebooks that query api.wikiwho.net (screenshots of prototype, to be released)





Logout









Forschungspraktikum Computational Social Science

This web service serves to measure the influence of a user in Wikipedia. Many foreign APIs were used. Further information can be found in the Github documentation. This project was a part of a research internship in the winter term 2017/18 at the University of Koblenz-Landau in cooperation with the GESIS - Leibniz Institute for the Social Sciences. If you have any questions please do not hesitate to contact us.

Please insert a Username or Userid or use the preloaded datasets below!

ANON		
	Search!	
		nput' (int)

Go to Workbook two

Start a new query!

User-related information for the wikipedia user: ANON and all contributed articles

Network Statistics

Username: ANON
Userid: 123456
Gender: unknown

Registration Date: 2005-12-05T22:24:18Z

Days registered: 12 y 7 m 7 d

Editcount: 7911 Edits per day: 1.7198

Link to Userpage: https://en.wikipedia.org/wiki/User:ANON

Articles Summary

Number of article pages user ANON has created, deleted, redirected

Pages created:110
Pages deleted: 1
Page redirects: 0

Article pages created by user ANON

BokehJS 0.12.14 successfully loaded.

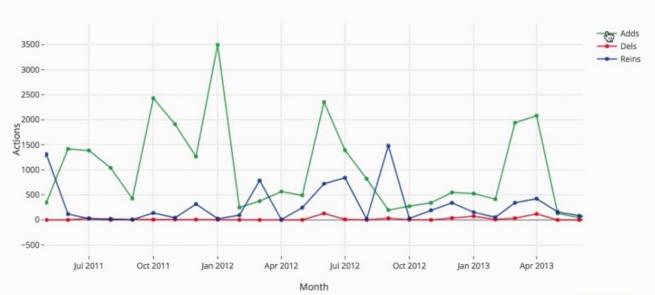
#	Talk Page Title	Page Length	Creation Date
0	Iris (transponder)	2347	2018-05-06 00:13
1	International Roadmap for Devices and Systems	1664	2017-07-26 17:24
2	Neural circuit reconstruction	5517	2016-10-06 19:45
3	Goldstone Solar System Radar	3016	2015-11-04 23:30
4	Solar Star	6458	2015-06-03 16:25
5	List of organizations opposing mainstream scie	9959	2014-10-09 23:50
6	Deep space bands	1463	2014-07-13 00:09
7	Drosophila connectome	6150	2013-08-18 16:47
8	Universal Space Network	2016	2013-04-08 15:15
9	Autapse	18967	2013-03-28 15:08
10	Three-mirror anastigmat	7165	2012-06-13 03:19
11	Super-LOTIS	2487	2012-01-10 14:07

	Article Name	Artic	total_adds	adds	adds_	st adds_sur	total_del	s dels_stop	dels_surv_48h	dels	tota	reins_sto	reins_sur	reins_sur	total_actions	total	total_actions_sur
3	1L6	5	1	0	1	1	0	0	0	0	0	0	0	0	1	0	1
4	2007 BCS comp	1	73	23	73	1	0	0	0	0	0	0	0	0	73	23	73
5	2N3055	4	5	2	5	2	0	0	0	0	0	0	0	0	5	2	5
6	2nd Avenue	1	1	0	1	1	0	0	0	0	0	0	0	0	1	0	1
7	5-Inch Forward	3	285	85	285	2	0	0	0	0	0	0	0	0	285	85	285
8	9 Songs	2	4	1	4	1	0	0	0	0	0	0	0	0	4	1	4
9	A Treatise on th	5	832	2	832	8	0	0	0	0	3	2	3	1	835	2	835
10	A Treatise upon	5	10	3	10	1	0	0	0	0	0	0	0	0	10	3	10
11	A treatise on th	5	10	3	10	1	0	0	0	0	0	0	0	0	10	3	10

Activity Overview



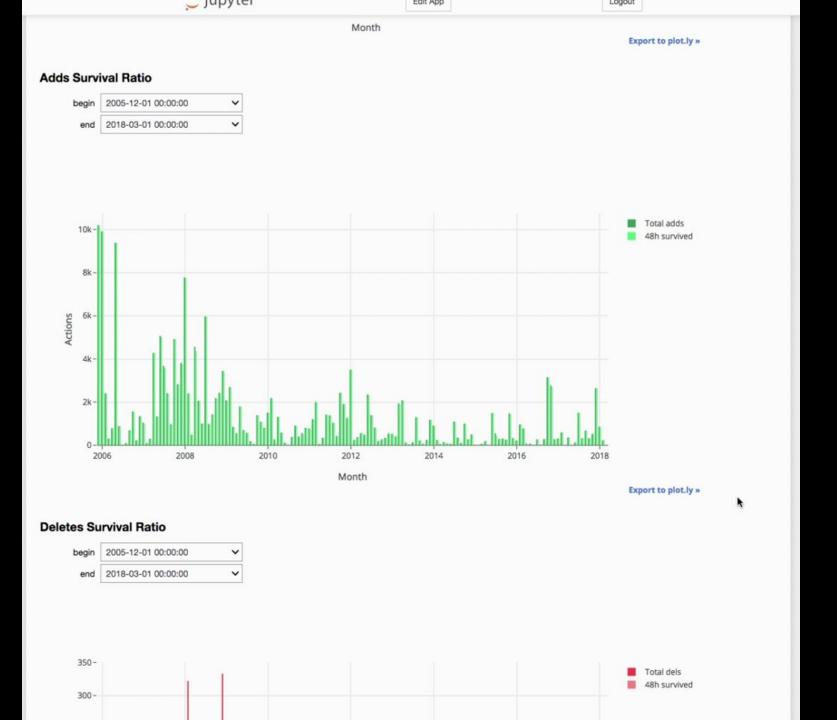




Export to plot.ly »

Adds Survival Ratio





Jupyter Avg. Actions per Eaits within Hour: 22,9001 Avg. Actions per Edits After one Hour: Avg. Actions per Edits Exactly in one Hour: 0.0336591 Avg. Sessions Within one Hour: 1.81366 Avg. Sessions After one Hour: 3.37171 Avg. Sessions Exactly in one Hour: 0.00390244

Articles with the highest Conflict Rate

Conflict rate is compute as follows:

For a given article: A and editor: X, if X added/deleted a token and another editor B del/add the same token after X and X add/del it after B again, it will be count as a conflict.

Edit App

For computing the conflict score, the following code is used

t1 = difference between add/del1 by A and del/add2 by B in seconds

t2 = difference between add/del2 by B and del/add3 by A in seconds

$$c_1 = \frac{\lg 3600}{\lg(t_1 + 2.0)}$$

$$c_2 = \frac{\lg 3600}{\lg(t_2 + 2.0)}$$

S = Sum of all c1 and c2 over a token

A = Actions of A in this token

$$conflictscore = \frac{S}{A}$$

this returns a value between 0 and 7.5, and the value diverges to 0, the longer the time between add / del, so changes for under 1 hour are weighted stronger.

Stored 'TopConflictScore df' (DataFrame) Old dataset successfully loaded!



BokehJS 0.12.14 successfully loaded.

	Articlename	Conflict Score	
0	Aluminium	0.536824449534087	
1	Trigeminal neuralgia	0.3455059860451581	
2	Genetic code	0.27731690618353194	
3	Zélia Cardoso de Mello	0.2671895899231287	
4	Navier-Stokes existence and smoothness	0.2570721829550357	
5	Zinc Oxide and You	0.23558820264279445	
6	Dr. Heinz Doofenshmirtz	0.2309817060407737	
7	Waveguide filter	0.2267588096885622	
8	Binomial theorem	0.20082561468266652	
9	Argon	0.18845347753822345	

Select an article and see further information





Aluminium 904

Userinformation for the User: ANON and the Article Aluminium

Link to Article: https://en.wikipedia.org/wiki/Aluminium

This table shows all monthly actions the wikipedia user ANON has done in article Aluminium



#	Month	Article	total_adds	adds_stopword	adds_surv_48h	adds_survived	total_dels	dels_stopword	dels_surv_48h	dels_survived_	total_reins
0	2007-11	Aluminium	40	18	40	1	0	0	0	0	9
1	2007-10	Aluminium	0	0	0	0	0	0	0	0	0
2	2007-09	Aluminium	0	0	0	0	0	0	0	0	9
3	2007-08	Aluminium	0	0	0	0	0	0	0	0	0
4	2007-07	Aluminium	0	0	0	0	0	0	0	0	300
5	2007-06	Aluminium	0	0	0	0	0	0	0	0	0
6	2007-05	Aluminium	0	0	0	0	0	0	0	0	156
7	2007-04	Aluminium	0	0	0	0	0	0	0	0	25

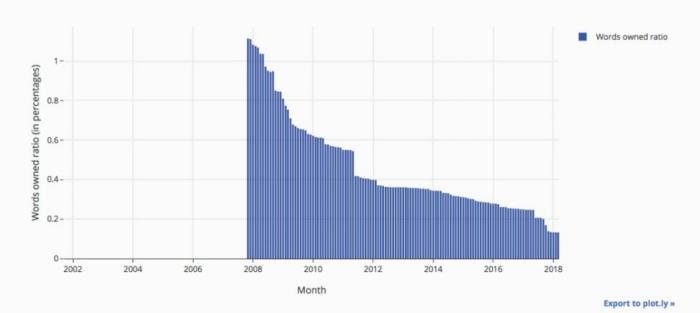
Graphical representation of monthly activity



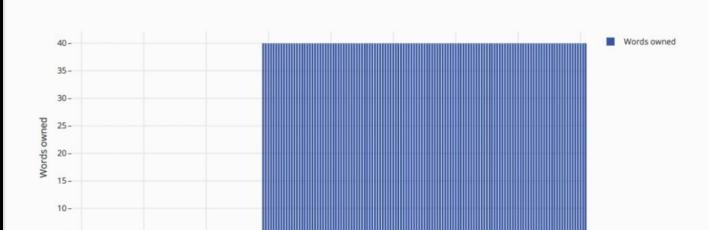




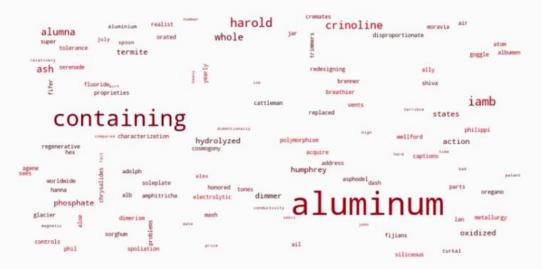
Graphical representation of monthly words owned ratio



Graphical representation of monthly number of owned words



All deleted Tokens for this article



Edit App

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Show deleted and added Tokens for a selected period

The table below shows all tokens added by the author. You can use the filter to restrict the tokens.

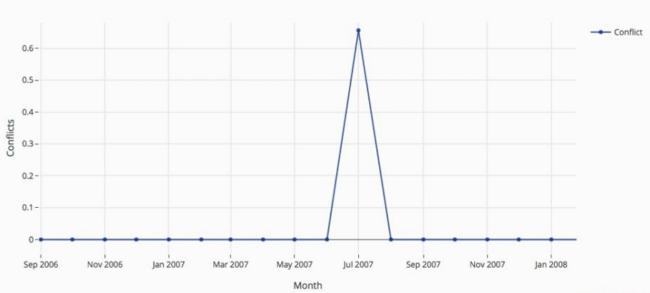
Added Tokens

begin	2007-03-01	~
end	2007-10-26	

-		
9	2005-10-01	0
10	2005-11-01	0

Visualization of Conflict Score by month

Conflict Overview



Export to plot.ly »

Logout

Conflict Score Token List



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#	Token Id	String	Conflict Score	Actions	
0	50	soft	0.8232959872425243	2	
1	51	lightweight	0.8232959872425243	2	
2	145	aluminium	1.6984734732139977	3	
3	158	heroult	1.6984734732139977	3	
4	172	aluminium	1.6984734732139977	3	
5	189	aluminium	1.6984734732139977	3	
6	235	aluminium	1.6984734732139977	3	
7	256	aluminium	1.6984734732139977	3	
8	267	aluminium	1.6984734732139977	3	
9	273	aluminium	1.6984734732139977	3	

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TokTrack dataset: zenodo.org/record/345571 ICWSM paper:

https://aaai.org/ocs/index.php/ICWS M/ICWSM17/paper/view/15689



the end



API: api.wikiwho.net



github.com/wikiwho



Website (with tools): www.wikiwho.net