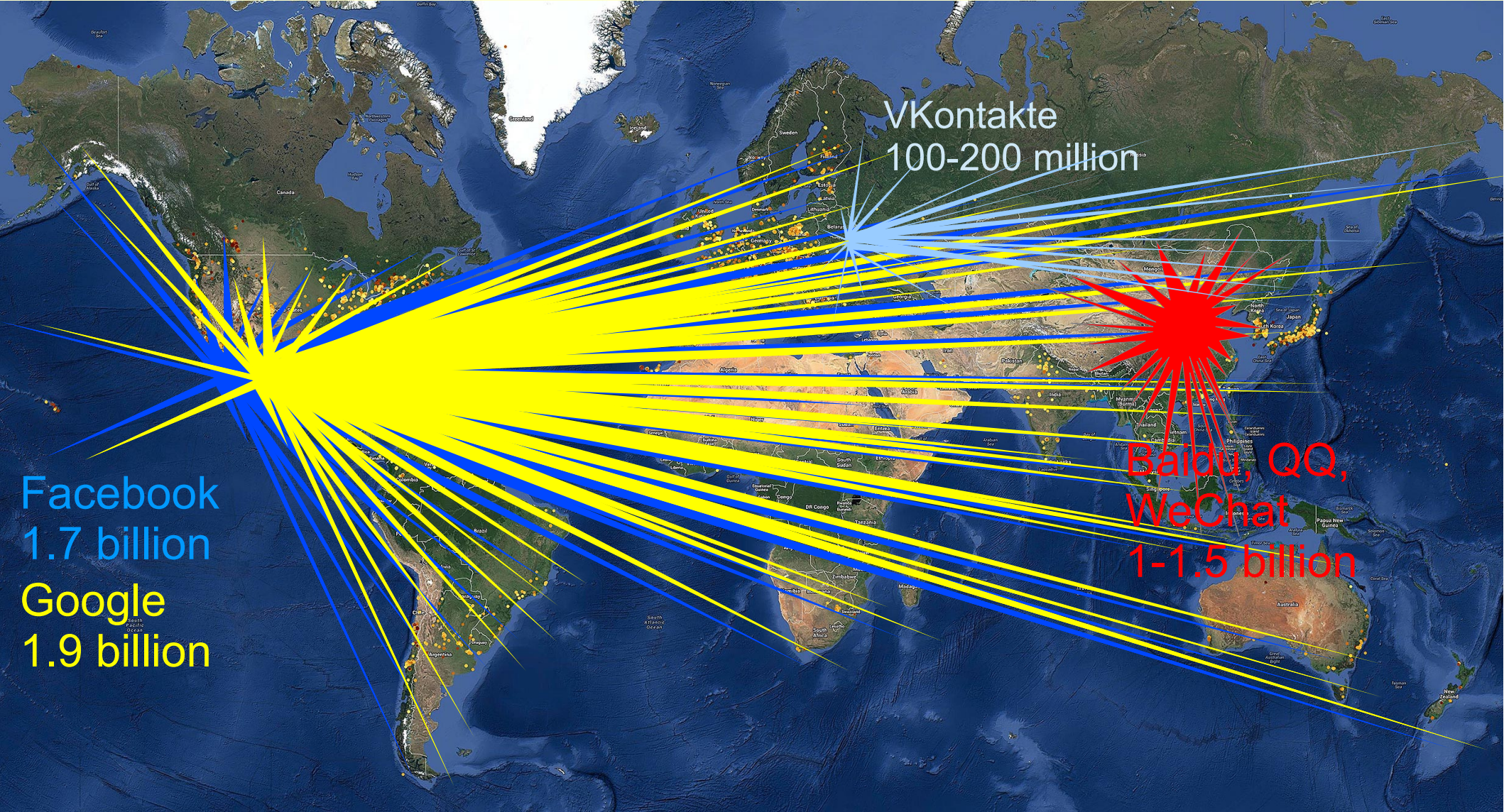


# Assessment of personal environments in social networks with Automatic Intelligent Internet Agents (Aigents)



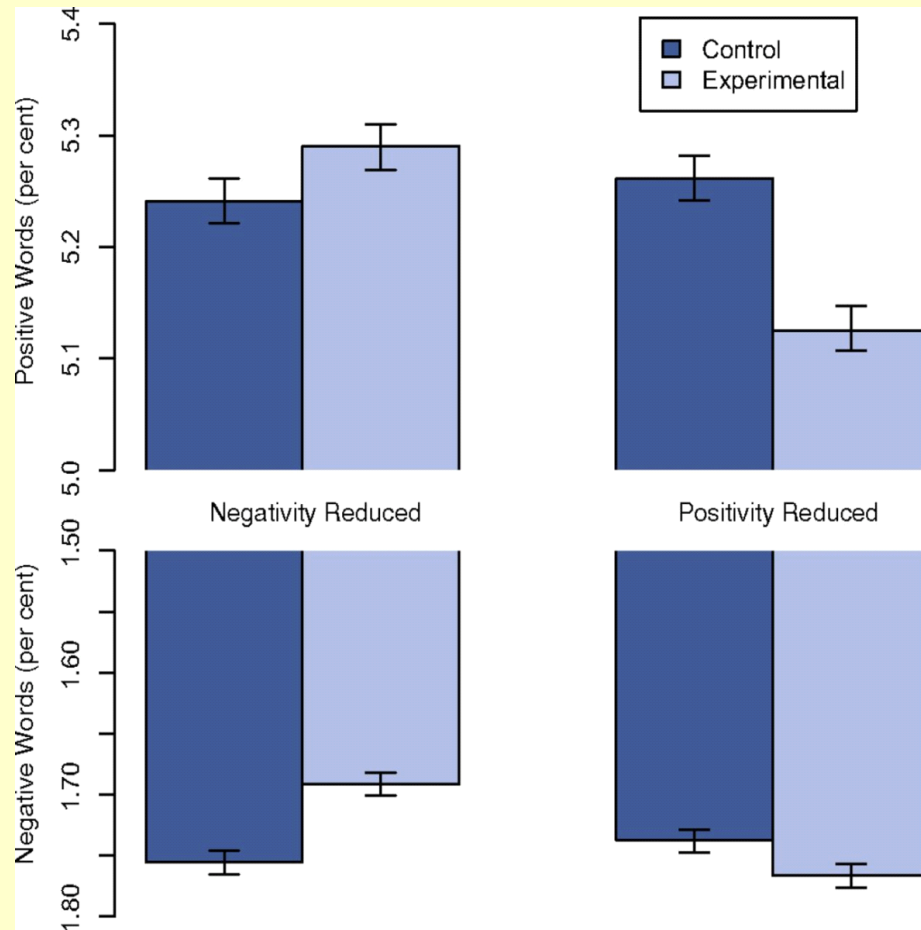
Anton Kolonin, [akolonin@aigents.com](mailto:akolonin@aigents.com)

# Numbers of monthly users of global social networks Google+Facebook in the world, Baidu+QQ+WeChat - in China



# “Facebook Experiment”

By change of “average sentiment” in personal news feed, manage mood of users “positively” or “negatively” - en masse around the world



Kramer A.D., Guillory J.E., Hancock J.T. Experimental evidence of massive-scale emotional contagion through social networks. *PNAS* 2014;111(24):8788-8790.

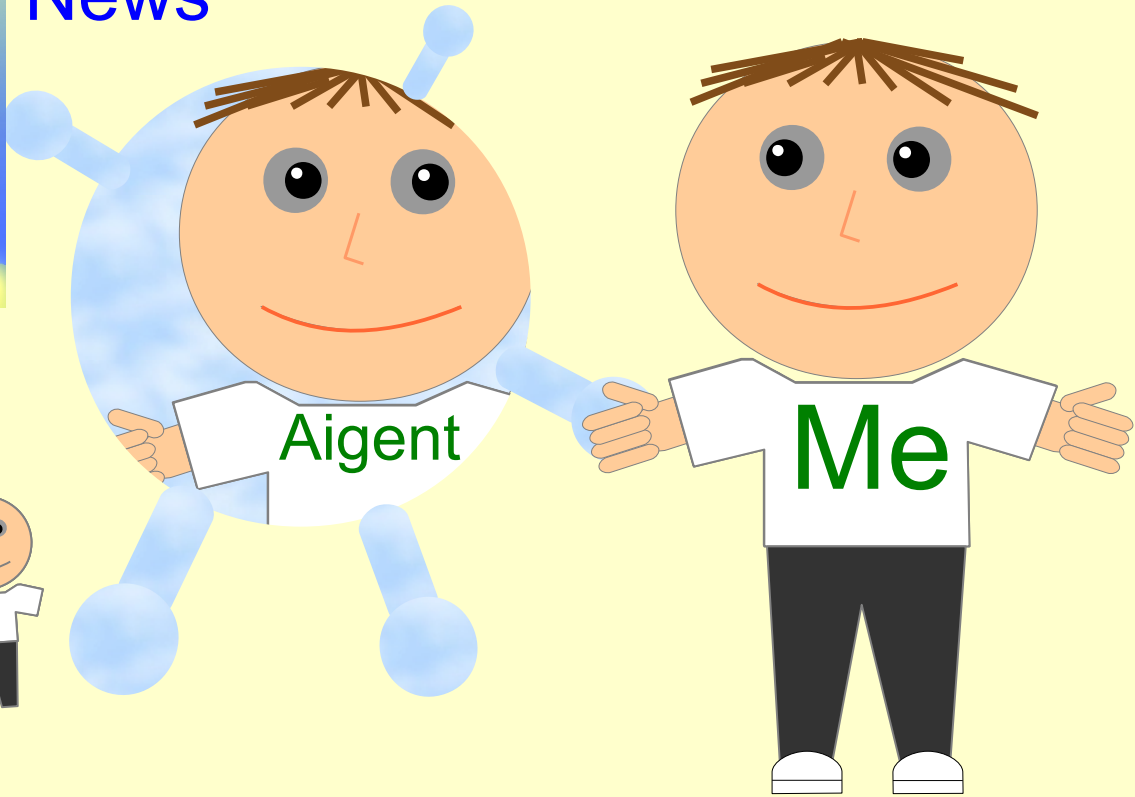
(slide provided by Y.L.Orlov)

# Personal Intelligent Agent

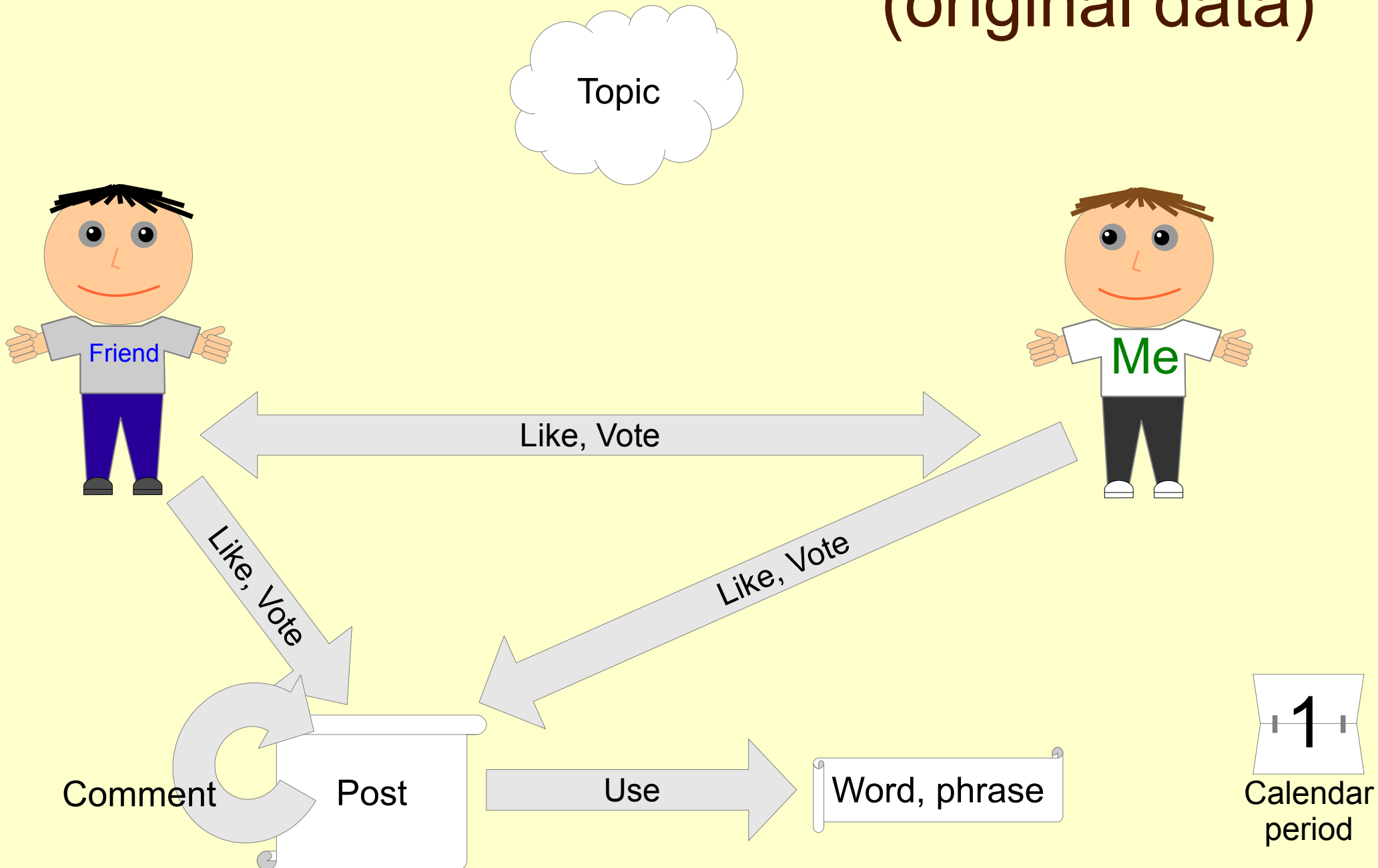
serves as a “crystal ball” in the world of social and informational networks, recognizes your preferences, knows your friends and finds what you need



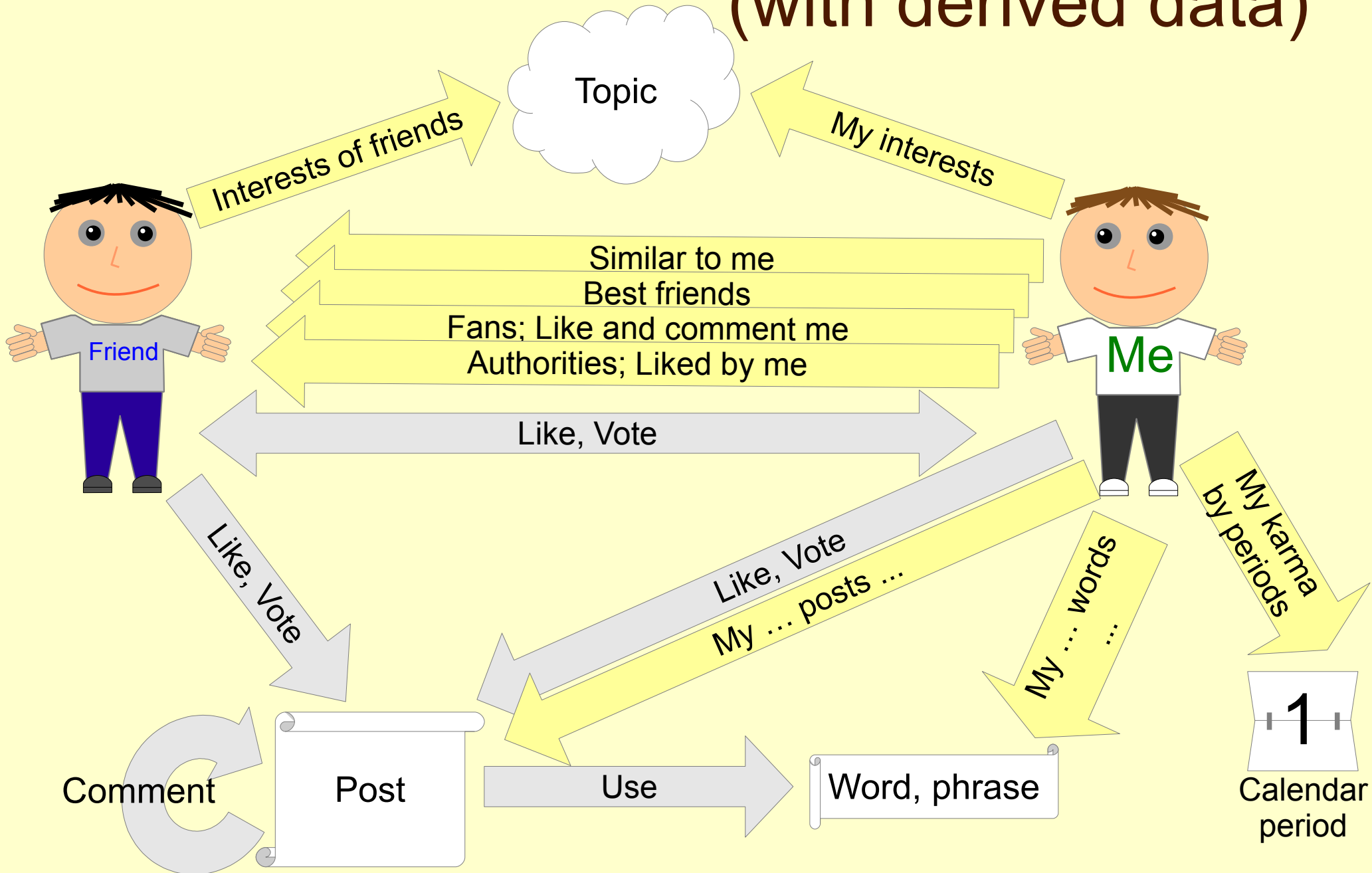
News



# Personal Social Analytics Domain Model (original data)

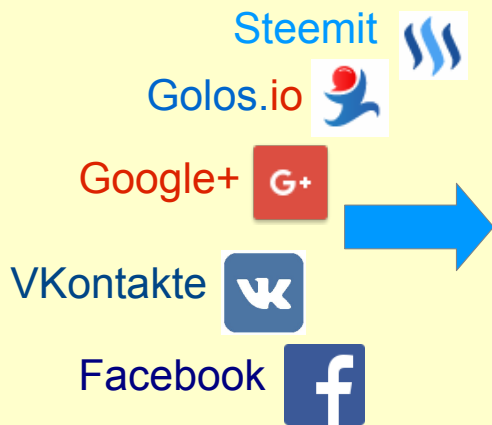



# Personal Social Analytics Domain Model (with derived data)



# Personal and social analytics

my interests  
interests of my friends  
similar to me  
best friends  
fans  
like and comment me  
authorities  
liked by me  
my karma by periods  
my words by periods  
my favorite words  
my posts liked and commented  
my best words  
my words liked and commented  
words liked by me  
my posts for the period



 **Aigents Report for Facebook**  
(2016-01-31 - 2017-01-31, number of posts 193)

## My karma by periods

Period	Karma,%	Likes	Comments
2017-01	76	54	15
2016-12	100	55	36
2016-11	37	15	19
2016-10	66	46	14
2016-09	90	52	30
2016-08	22	16	4
2016-07	44	20	20
2016-06	45	31	10
2016-05	38	14	21
2016-04	42	26	12
2016-03	23	17	4
2016-02	66	47	13
2016-01	0	0	0

# Friends, Fans and Authorities – on Steemit

## Best friends

Rank,%	Friend	My likes	Likes	Comments
100	thecryptofiend	128	214	126
39	rigaronib	91	105	81
17	dwinblood	45	84	79
16	dreemit	53	66	68
10	ausbitbank	33	101	28
9	stellabelle	41	50	50
6	steemsports	103	27	0
5	timcliff	24	58	34
5	thetruthfairy	14	141	2
5	the-ego-is-you	22	51	42
4	krnel	43	24	13

## Authorities

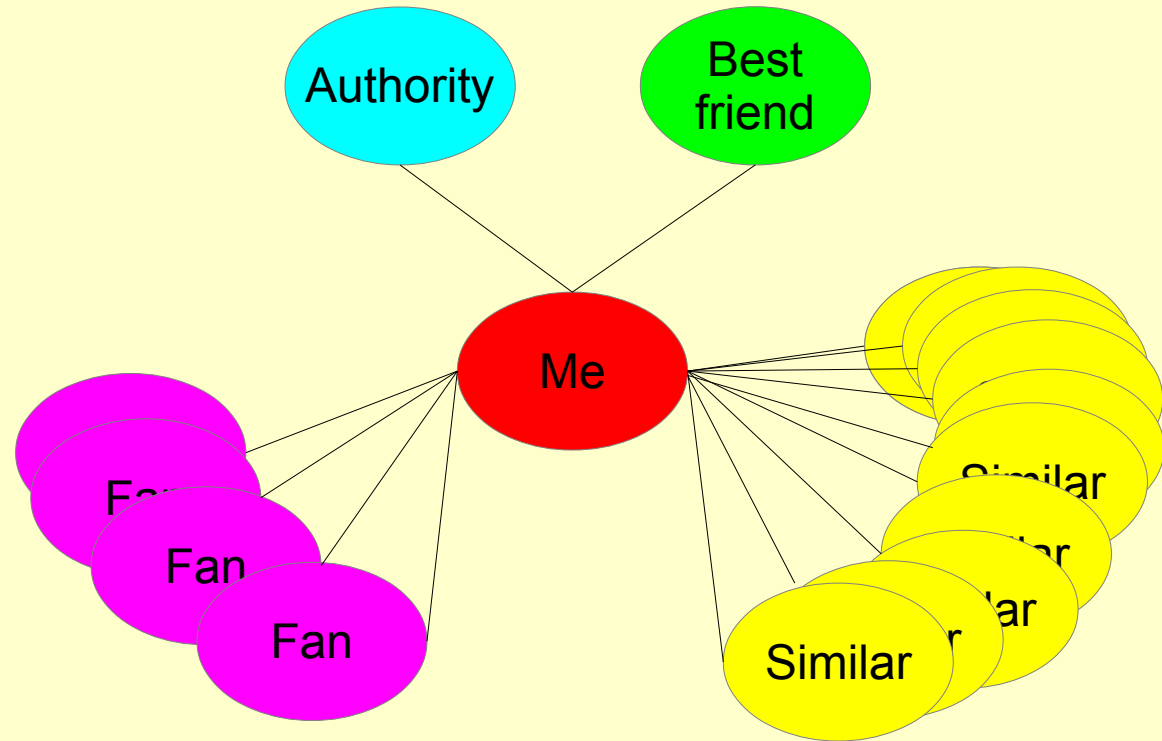
Rank,%	Friend	My likes	Likes	Comments
100	rubens9119	14	0	0
29	steemadvice	4	0	0
29	elewarne	4	0	0
29	sweetsssj	4	0	0
27	curie	65	16	0
26	wowpeach	11	0	2
26	steemsports	103	27	0
21	tanyabtc	3	0	0
21	pakganern	3	0	0
21	profanarky	3	0	0
21	hansolo	3	0	0

## Fans

Rank,%	Friend	My likes	Likes	Comments
100	trans-juanmi	0	141	0
96	selwi	0	135	0
95	juliosalas	0	134	0
92	jeff-kubitz	0	125	5
63	christoph3	0	89	0
60	steemleak	0	84	0
56	paimike	0	79	0
54	juanmiguelsalas	1	151	0
52	bue-witness	0	74	0
52	mini	0	74	0
52	healthcare	0	74	0

## Similar to me

Rank,%	Friend	Crosses	My likes	Likes	Comments	Words
100	lifeworship	456	12	33	23	people know stee
96	dreemit	705	53	66	68	time up people r
94	trevor.george	572	8	29	25	people more up ti
94	stellabelle	388	41	50	50	people steemit lik
92	j3dy	569	10	25	26	people up now h
92	riskdebonair	427	7	36	13	people time like p
91	the-ego-is-you	440	22	51	42	people know ther
87	timcliff	351	24	58	34	up know see like pc
87	jamesbrown	565	4	11	9	people now up ti
86	thecryptofiend	625	128	214	126	more time people
86	biophil	622	1	27	8	people who time
85	ats-david	613	8	10	15	all people who th
85	spark	345	3	13	17	people then now
83	nonameslefttouse	509	6	6	27	time up people r
82	meesterboom	347	20	29	36	up know see like
81	rigaronib	354	91	105	81	one know up nov





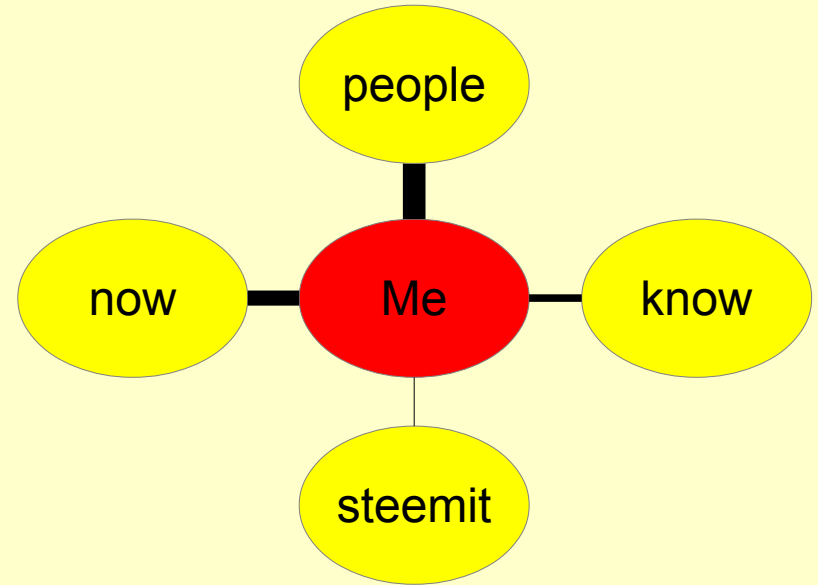
# Karma and word use over time - on Steemit

## My words by periods

Period	Karma,%	Likes	Comments	Words
2017-03	53	2539	154	know now find people make tupac <small>top ear supply dark what prove eye search systems offered too facts beauty not experiencing necessity parts deep killer blessed  no sense feelings being reality assure remaining sense wanted systems protection single apps without exact people present percentage</small>
2017-02	100	4656	384	now earth know post people very f <small>word fusion someone speaking decision rules pure previous despite feel course development said got confidence years truly pocket  also focus not knowing means winners never break strong action not planned anything on the right right your power who shape it  reappear more because the future will never knowing produce more other right experience remember change technology education being  the price your imagination never greatest future time into learning emerging smart that philosophy better reality better the imagination</small>
2017-01	68	3162	286	alek post community now story   <small>word complete claim author single put stable changes success fall terms youtube earning code stores great achieve face correct for  model having the energy being power broken everyone behavior there reason about that complexity beauty present progress when time  level education make because you will technology progressing services protection against other people and you right together sharing justice  to work without payment you can avoid high rewards the network your technology reality beauty beauty improvement that you should</small>
2016-12	81	3866	236	people now steemit know david <small>card making the states price served stream fall exactly structure task benefit payout revolution took at include genocide banking  writing better beauty not being systems being sound and someone produce their that was right because better the future sharing our  the network education against that educational being our world organizations practice together some individual other relevant teaching science  the world without without being present upon calling to security their others to revolution called for better the end of difference you</small>
2016-11	35	1680	78	steemit people think post pizzagate <small>man events decided value worthless soon currently ignored unwanted vague references via quiz understanding near google rapid  now continue life love and club network other ego network being reality being upon when better progressed learning the decision</small>
2016-10	29	1420	41	kataya people joma now king sun w <small>data three usual last efforts ground here some using confidence water ahead achieve subtle school candidate spending delivered si  model present better right best together being other alternative drug religion dress standards adjustment independence entrance selection social being it  the social right fighting science early support could learning can sharing insight their engineering ignoring foundation design being public opinion  at of education representing entrance culture high reward technological success upon social network into social presenting learning on the face on</small>
2016-09	5	181	51	know get like much im help pres <small>witnesses holding fairly google providing least posted scott citizens offered often guys united soldiers choose previous  risk after choice segment journey hearts purple learning imagine right told mentally worse produced screaming water acid xiv su</small>

## My favorite words

Rank,%	Word	My likes	Likes	Comments	Posts	Occurrences
100	people	104	10702	672	104	407
95	now	111	11674	751	111	385
80	know	116	11036	791	116	327
74	steemit	96	9082	643	96	302
72	like	111	11082	770	111	293
69	post	113	11097	866	113	281
64	get	103	10134	707	103	261
64	way	79	8079	489	79	260
62	very	97	10140	687	97	252
62	find	99	10405	685	99	251
61	make	104	10336	734	104	249



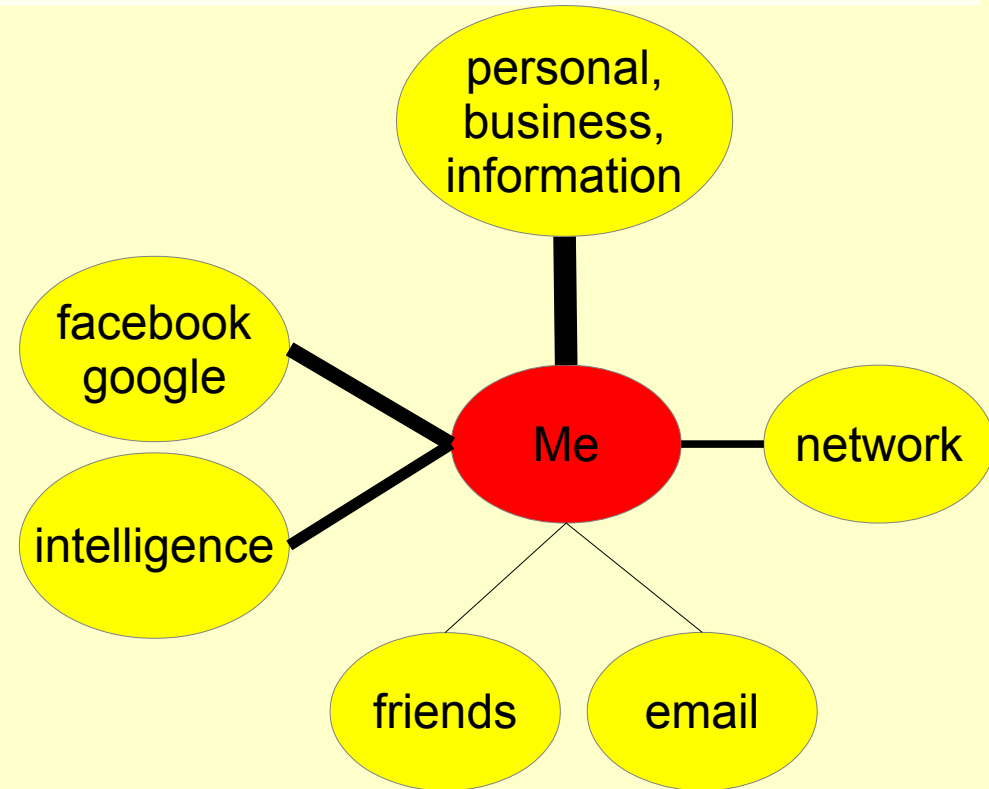
# Interests and word use – on Facebook

## My favorite words

Rank,%	Word	My likes	Likes	Comments	Posts	Occurences
100	social	18	77	26	33	82
68	report	3	5	2	4	32
67	web	18	62	25	29	48
58	networks	13	44	11	21	41
56	news	19	68	19	34	45
44	personal	10	64	22	18	34
44	facebook	8	46	13	10	23
37	now	15	85	24	30	33
36	google	10	40	15	17	26
34	email	6	23	6	10	23
34	fresh	1	3	0	1	8
32	list	2	4	1	2	10
31	intelligence	8	63	24	19	31
31	steemit	3	5	2	3	11
31	vkontakte	3	5	2	3	11
29	periods	2	4	1	2	9
28	business	8	32	15	17	25
26	information	9	41	17	21	26
25	get	5	16	8	10	20
25	id	1	1	1	1	6
25	options	1	3	0	1	6
25	user	4	28	4	10	24
25	выявление	1	9	4	1	6
25	friends	6	13	9	10	17
24	posts	4	12	2	7	16
24	make	6	23	5	8	13
24	data	9	43	9	15	17
24	network	8	25	6	12	15
23	liked	4	12	2	5	11
23	bot	4	16	11	7	15
23	agents	4	22	10	8	17
21	activity	4	9	4	5	10

## My interests

Topics	Number of posts
business, data, information, networks, personal, user, web	63
email, facebook, get, google	34
intelligence	20
network	14
friends	10
email, make	9



# Similarity over friends – on Facebook

## Similar to me

Rank,%	Friend	Crosses	My likes	Likes	Comments	Words
100	Aigents	375	1	26	40	social web news networks personal now report intelligence more information google bus <small>computer complex humans think business компания год week computing myi connections to access my data account update any data in generated access to data data interacted before computers reference photo file</small>
52	Misha Kolonin	17	8	8	11	more time make good like need computer build over down look my together picture name accounts post <small>computer complex humans think business компания год week computing myi connections to access my data account update any data in generated access to data data interacted before computers reference photo file</small>
47	Сергей Шумский	15	1	5	1	intelligence learning cognitive human machine best order groups perform distributed design компания бизнес человек компания <small>computer complex humans think business компания год week computing myi connections to access my data account update any data in generated access to data data interacted before computers reference photo file</small>
23	Georgy Dralkin	33	4	7	5	более агентов другие сам системы пользователя этом сегодня <small>computer complex humans think business компания год week computing myi connections to access my data account update any data in generated access to data data interacted before computers reference photo file</small>
22	Vladimir Zavalov	12	6	2	6	time время event антон сами было лично дочка чего есть только подставка <small>computer complex humans think business компания год week computing myi connections to access my data account update any data in generated access to data data interacted before computers reference photo file</small>
18	Владимир Зюбин	7	0	0	2	webmind проект время действительно логика case аналитика <small>computer complex humans think business компания год week computing myi connections to access my data account update any data in generated access to data data interacted before computers reference photo file</small>
17	Виктор Голиков	14	3	10	11	сети агентов агент интеллекта антон планетарного решение назад гибридного есть масштаба сожалению app <small>computer complex humans think business компания год week computing myi connections to access my data account update any data in generated access to data data interacted before computers reference photo file</small>
16	Ilya Nenashev	19	2	1	5	будет новости новых поиска пользователя сами было агентами одно <small>computer complex humans think business компания год week computing myi connections to access my data account update any data in generated access to data data interacted before computers reference photo file</small>
15	Gleb Protopopov	1	1	8	1	google <small>computer complex humans think business компания год week computing myi connections to access my data account update any data in generated access to data data interacted before computers reference photo file</small>
13	Victor Smirnov	10	0	5	2	области может бена россии сами ии оренбург выпустить работы интересно <small>computer complex humans think business компания год week computing myi connections to access my data account update any data in generated access to data data interacted before computers reference photo file</small>

# Personal and social analytics – “Bottness”

<https://steemit.com/psychology/@akolonin/aigents-bot-on-facebook-and-telegram-with-flexible-personal-karma-analytics>

book Google+ Google Docs NPS Business Dev Science Links Life Laximo ZO Tutorials Landsvet

Aigents:  
[https://aigents.com/tmp/aigents\\_b57775f474xy8c34509d2a1e55566as0744.html](https://aigents.com/tmp/aigents_b57775f474xy8c34509d2a1e55566as0744.html)

User:  
My vkontakte report

Aigents:  
[https://aigents.com/tmp/aigents\\_b57775f474xy8c34ase3r45a1e55566as0744.html](https://aigents.com/tmp/aigents_b57775f474xy8c34ase3r45a1e55566as0744.html)

User:  
my logout

Aigents:  
Ok.

For more, stay in touch with us at:  
<http://aigents.com>  
<https://www.youtube.com/aigents>  
<https://www.facebook.com/aigents>  
<https://plus.google.com/+Aigents>  
<https://vk.com/aigents>

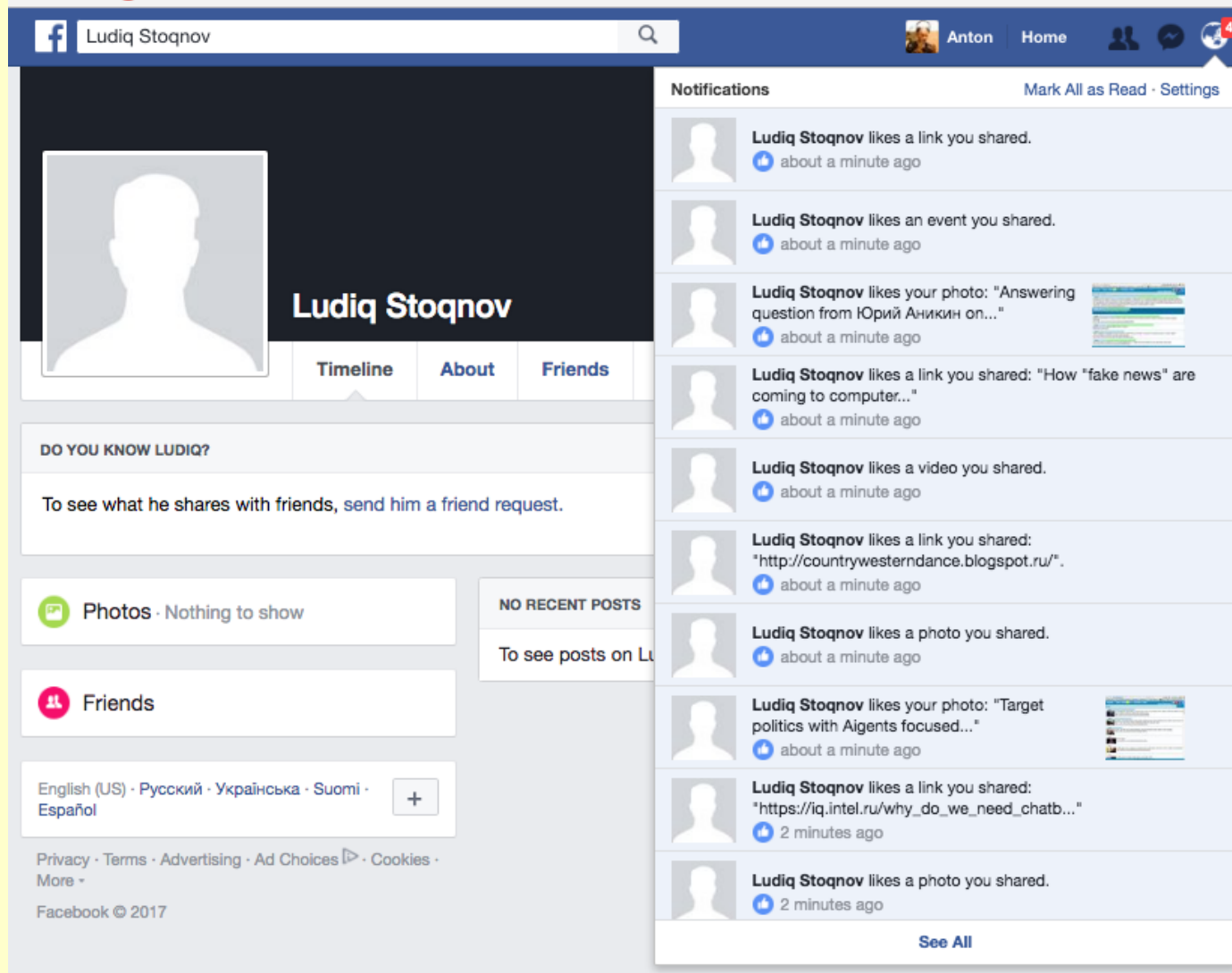
psychology aigents technology news science PROMOTE

21 hours ago by akolonin 44 | \$0.67 | 93 votes | Reply Edit | 0 3 | f t in e

## Bot Detection Criteria:

- Literacy - high
- Like rate – high
- Repost rate - high
- Complexity - low
- Vocabulary – poor
- “Karma” – low?
- *what else?*

# Typical “portrait” of a “bot”



## Bot Detection Criteria:

- Literacy - high
- Like rate – high ✓
- Repost rate - high
- Complexity - low
- Vocabulary – poor
- “Karma” – low ✓
- + **No friends**
- + **No likes**
- + **No history**

# Personal analytics based on text with IBM Watson “Personality Insights”

## Studying human social environment and state with social network data

Anton Kolonin  
Institute of Cytology and Genetics SB RAS  
Aigents Group  
Novosibirsk, Russia  
akolonin@gmail.com

**Abstract**—The paper describes approach, practical solution and intermediate results for self-driven exploration of personal interests structure and nearest social environment for an individual in order to correct their own behavioral patterns and interactions with communication partners on social networks on the Internet.

**Keywords**—collective consciousness; mental state; personal awareness; social network

### I. INTRODUCTION

Tight connectivity of humans in modern world-wide social networks is rapidly increasing and now is getting close to connectivity of human brain. Importance of the latter transition for evolution and humanity could not be underestimated because of amount of nodes and links in modern computer networks is exponentially growing with addition of artificial agents being involved in “hybrid” human-computer networks. It becomes critically important to understand phenomena of social interactions in such over-connected societies, so that effects of social behavior based on collective consciousness could be well understood, predictable and manageable – from perspective of humans exposed to modern information networks and from perspective of entire society.

One of the key factors of modern social communities across the world is high volatility and scale of social dynamics, with social clusters being created, updated, merged, split and disappeared rapidly, which leads to qualitative changes in principals of social organization [1]. The impact of social network communications on each individual interacting with Internet on daily basis is normally underestimated by average human. At the same time, it can be significant enough to alter state of consciousness of a single person or entire community [2]. That means, having ability to measure impact of digital social environment of a human or society instrumentally would be beneficial for a person or entire society, so they could adapt to the social environment and/or correct their course of action in its regard.

### II. APPROACH AND PRACTICAL SOLUTION

We consider approach for building computational model encompassing knowledge acquired by entire society by means of evidence supplied by each of its members, called “social

evidence-based knowledge representation” [3]. In this work we focus on the nearest social surrounding of a person interacting with social networks – in attempt to build personal mental model identifying contextual clusters of private interest as well as capture structure if inter-personal relations in the nearest environment, building collective consciousness model of the community that person is belonging to. This would potentially let person identify their state within their social environment and increase their personal awareness.

To achieve this goal, we build software application which extracts social network data for specific user, given their agreement and then extracts patterns of “natural classification” [4] from it and evaluate different sorts of social relationship within the social cluster the user belongs to.



Fig. 1. Using “natural classification” technology to unravel “clusters of interests” of given user (upper table) and “clusters of friends’ interests” (bottom table) with Aigents Report for social network.

We use Aigents software application and web service [5] in order to collect information on personal environment of a human in social network. Each user of the application can connect Aigents service to number of social networks (such as Facebook, VKontakte or Google+) and let it collect public data from it. Most of social networks are substantially restricted in regard to scope of information that can be collected to endorsed application programmatically, so in most

## Summary

You are shrewd.

You are authority-challenging: you prefer to challenge authority and traditional values to help bring about positive changes. You are solemn: you are generally serious and do not joke much. And you are unstructured: you do not make a lot of time for organization in your daily life.

Your choices are driven by a desire for discovery.

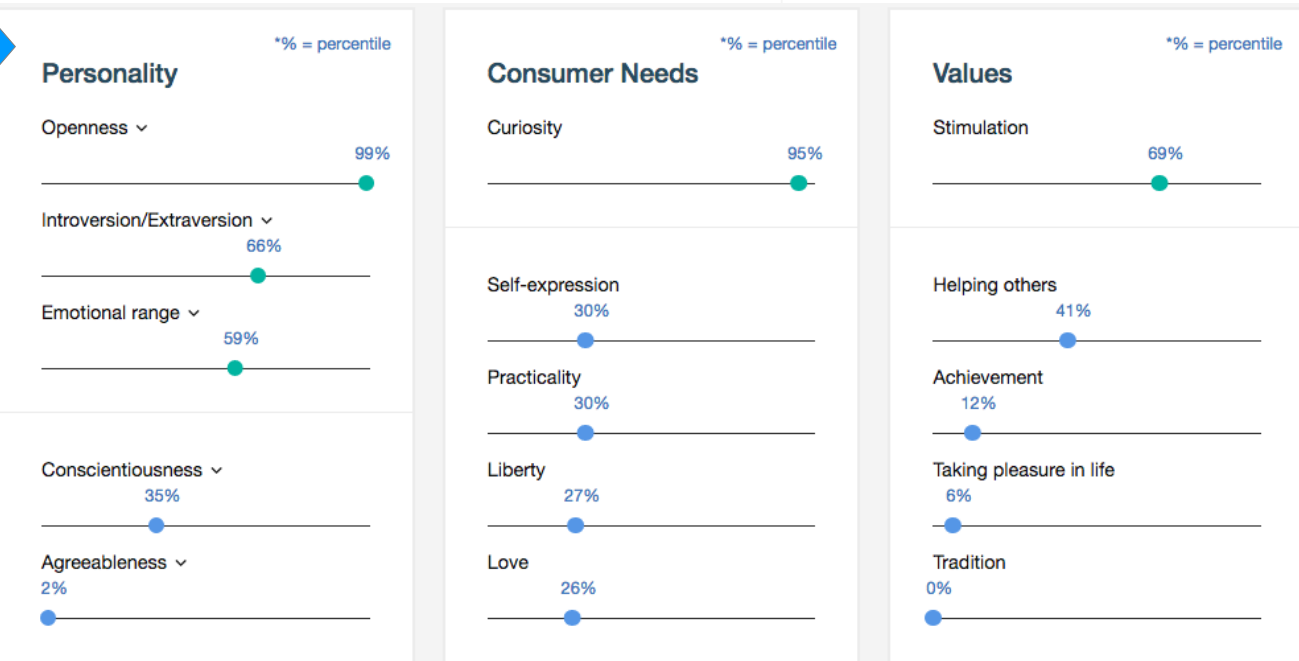
You are relatively unconcerned with both tradition and taking pleasure in life. You care more about making your own path than following what others have done. And you prefer activities with a purpose greater than just personal enjoyment.

You are likely to \_\_\_\_\_

- be concerned about the environment
- read often
- volunteer to learn about social causes

You are unlikely to \_\_\_\_\_

- like country music
- prefer safety when buying automobiles
- like romance movies



# Personal analytics on Aigents site

– how to start using at <https://aigents.com/> ?

1. Register with social network

2. Order the report

3. Get the report

The screenshot shows the Aigents website interface. On the left is a news feed with articles from various sources like nytimes.com and reuters.com. On the right is a report titled 'Отчет Aigents для Google (beta) - Election Tracker (2016-04-02 - 2017-04-03, число публикаций 80)'. The report contains three tables:

**Мои интересы**

Темы	Число публикаций
bot, email, get, google, networks, personal, report	28
intelligence	9
facebook, report	7
today	4

**Интересы моих друзей**

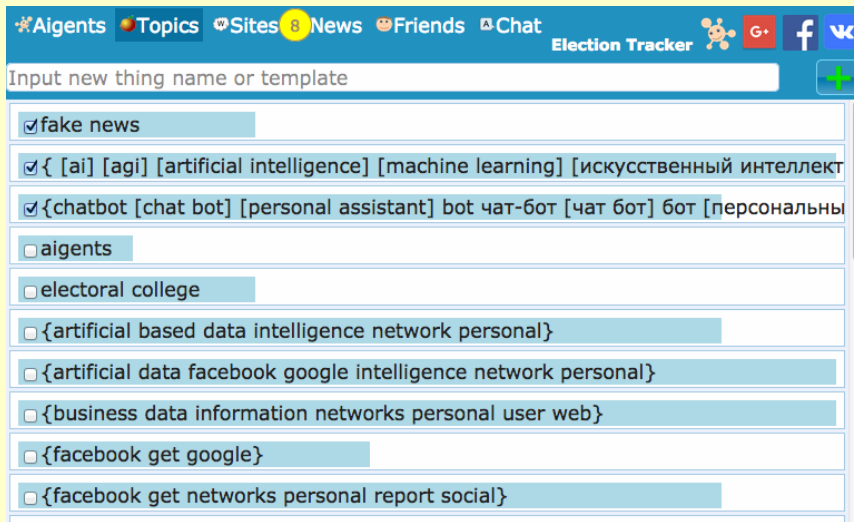
Темы	Число друзей	Друзья
br, knowledge	2	Alex Shkotin, carey g. butler
blockchain	1	Mark Watson

**Похожи на меня**

Ранг, %	Друг	Пересечений	Мои одобрения	Одобрения	Комментарии	С
100	carey g. butler	20	0	1	3	r
86	Alex Shkotin	9	0	7	3	r
10	Mark Watson	3	0	2	1	t

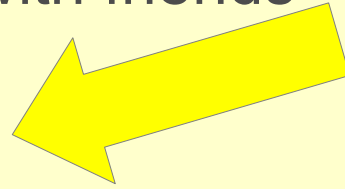
# I teach my Aigent while it learns from me

It learns from my interactions with friends

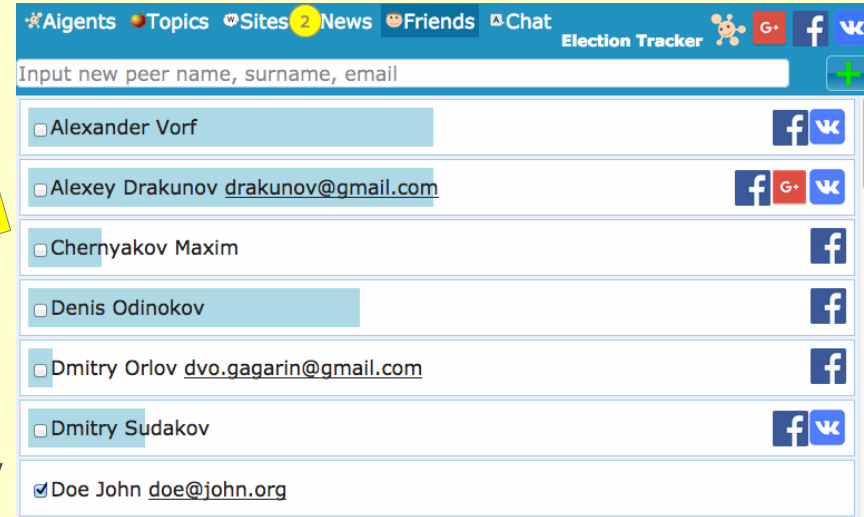


The screenshot shows the Aigents interface with a search bar and a list of templates. The templates include:

- fake news
- { [ai] [agi] [artificial intelligence] [machine learning] [искусственный интеллект]
- {chatbot [chat bot] [personal assistant] bot чат-бот [чат бот] бот [персональны
- aigents
- electoral college
- {artificial based data intelligence network personal}
- {artificial data facebook google intelligence network personal}
- {business data information networks personal user web}
- {facebook get google}
- {facebook get networks personal report social}

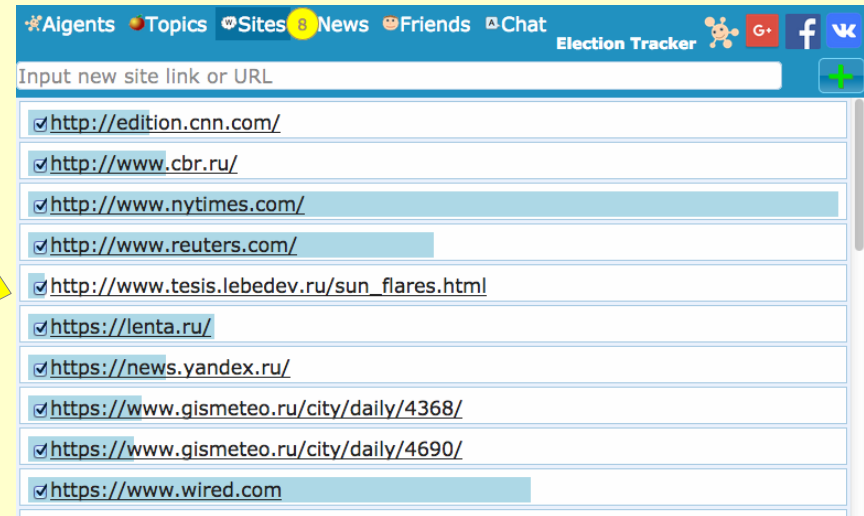
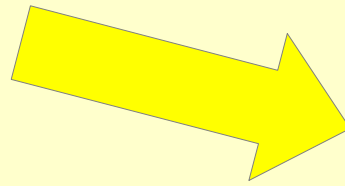


I adjust my profile and provide feedback



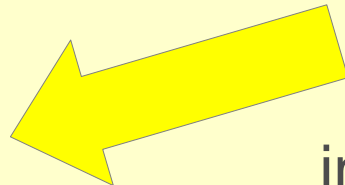
The screenshot shows the Aigents interface with a search bar and a list of peers. The peers include:

- Alexander Vorf
- Alexey Drakunov [drakunov@gmail.com](mailto:drakunov@gmail.com)
- Chernyakov Maxim
- Denis Odinkov
- Dmitry Orlov [dvo.gagarin@gmail.com](mailto:dvo.gagarin@gmail.com)
- Dmitry Sudakov
- Doe John [doe@john.org](mailto:doe@john.org)



The screenshot shows the Aigents interface with a search bar and a list of site links. The links include:

- <http://edition.cnn.com/>
- <http://www.cbr.ru/>
- <http://www.nytimes.com/>
- <http://www.reuters.com/>
- [http://www.thesis.lebedev.ru/sun\\_flares.html](http://www.thesis.lebedev.ru/sun_flares.html)
- <https://lenta.ru/>
- <https://news.yandex.ru/>
- <https://www.gismeteo.ru/city/daily/4368/>
- <https://www.gismeteo.ru/city/daily/4690/>
- <https://www.wired.com>



It extracts and delivers information having it sorted out by relevance



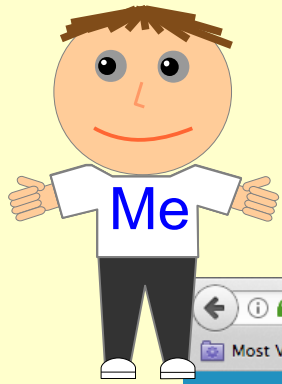
The screenshot shows the Aigents interface with a search bar and search results. The results include:

- today  
i encourage all of you to use your natural and well-developed skills to adapt to changes here at home as well. . i know this was a hotly contested election we do not all feel the same way about the outcome," said tillerson  
<http://www.reuters.com/article/newsOne/idUSKBN15H2G0>
- yesterday  
facebook ceo mark zuckerberg famously dismissed the impact of fake news as a red herring that betrayed a lack of faith in democracy  
<https://www.wired.com/2017/02/trump-tech-finds-troll-cant-ignore>
- yesterday  
Okay, Aigents now can be accessible as Facebook or Telegram bot, including capability to retrieve reports on personal activity on social networks with ability to configure contents of the reports manually. First of all, you can connect to your personal Aigent living at <https://aigents.com/> (and still accessible by means of Web user interface) in two alternative ways. Use Facebook Aigents bot at <https://www.messenger.com/t/aigents> or Telegram Aigents bot at



# News relevance assessment

## Personal and Social relevances



A screenshot of a web browser displaying a news feed. The browser's address bar shows 'https://aigents.com'. The page has a blue header with navigation links: 'Aigents', 'Topics', 'Sites', 'News', 'Friends', and 'Chat'. There are also social media icons for Google+, Facebook, and VK. The main content area shows a list of news items, each with a date and a title. The first item is dated '2017-02-01' and has a title about 'freedom of speech with clear limits.' and 'facebook ceo mark zuckerberg'. The second item is also dated '2017-02-01' and has a title about 'artificial intelligence inside the poker ai'. The third item is dated '2017-02-01' and has a title about 'facebook ceo mark zuckerberg famously dismissed the impact of fake news'. The fourth item is dated '2017-02-01' and has a title about 'fake news overtook facebook'. The fifth item is dated '2017-02-01' and has a title about 'social media facebook reboots trending topics'. The sixth item is dated '2017-01-30' and has a title about 'artificial intelligence google's go-playing ai'. The seventh item is dated '2017-01-30' and has a title about 'in a world full of fake news spin'. A green arrow points from the 'Friends' icon in the header to the first news item. A blue arrow points from the 'Me' character to the first news item.

Copyright 2017 Anton Kolonin, Aigents Group

# Personal social analytics with Aigents and news monitoring – now available via chat-bots in Telegram (@AigentsBot) and Facebook Messenger (Aigents)

The image displays two chat interfaces side-by-side. The left interface is a Facebook Messenger chat with the bot 'Aigents'. The right interface is a Telegram chat with the bot 'Aigents bot'.

**Facebook Messenger Chat (Left):**

- URL: <https://www.messenger.com/t/aigents>
- Bot Name: Aigents Messenger
- Messages:
  - Aigents: Hi! Welcome to Aigents!
  - User: Ask one of the three - "news", "sites" or "topics" and get response for today.
  - Aigents: Your name election, surname tracker.
  - User: what my name, surname?
  - Aigents: my facebook report
  - User: [https://aigents.com/tmp/aigents\\_f326074ce1e18bd114710dcfa0e12d3d.html](https://aigents.com/tmp/aigents_f326074ce1e18bd114710dcfa0e12d3d.html)
  - User: what your name?
  - Aigents: My name aigents.
  - User: news
  - Aigents: There sources '<http://www.reuters.com/article/businessNews/idUSKBN14P0B7>', text "rival general motors co ( gm.n ) plans to roll out ibm's ( ibm.n ) watson artificial intelligence software in its onstar system early next year in order to

**Telegram Chat (Right):**

- Bot Name: Aigents bot
- Messages:
  - User: my email akolonin@gmail.com
  - Aigents: What you [redacted]?
  - User: my fir [redacted]
  - Aigents: Ok. Hello Election Tracker!  
My Aigents 1.1.60 Copyright © 2017 Anton Kolonin, Aigents Group.
  - User: what sources <https://www.wired.com/2017/01/mike-pompeos-cia-director-hearing-3-questions-congress-must-ask>, times yesterday text
  - Aigents: WIRED  
**Mike Pompeo's CIA Director Hearing: 3 Questions Congress Must Ask**  
Tensions between the incoming administration and the intelligence community mean it's more important than ever that the Senate asks tough questions.
  - Aigents: There text president-elect trump's dismissive attitude toward our spy agencies' attribution of election meddling to russia has created a problematic rift: text trump is in the process of

# Thank you for attention!

## Questions?



**Site:** <https://aigents.com>

**ВКонтакте:** <https://vk.com/aigents>

**Golos:** <https://gołos.io/@aigents>

**Steemit:** <https://steemit.com/@aigents>

**Youtube:** <https://www.youtube.com/aigents>

**Facebook:** <https://www.facebook.com/aigents>

**Facebook Messenger:**

<https://www.messenger.com/t/aigents>

**Telegram Messenger:**

<https://web.telegram.org/#/im?p=@AigentsBot>

Anton Kolonin, [akolonin@aigents.com](mailto:akolonin@aigents.com)