ITMO UNIVERSITY

Saint Petersburg, Russia

Visualization of statistics from VK

by example of outer space communities.

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16th January, 2018

Main question:

How can we popularize information about the outer space in social network?

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#notScienceWay

Concrete questions:

Who is the audience of groups about Space?

How this audience does react on specific events?

What is the best way of sale data on the market?

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#DataVisualization

Table of content

Introduction

- VK collect a vast amount of data about member of groups
- VK group stat shows data just for one group
- The majority of entities as a text
- VK allows to download stats from groups with trivial *stats.get* command

Non-intuitive and unfitted for presentation purpose

Introduction

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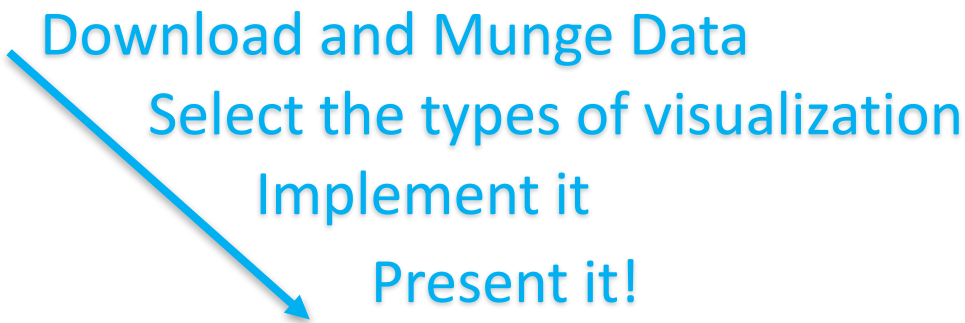

DATA

Date	Item	Parameter 1	Parameter 2	Value
19.11.2017	views			574
19.11.2017	visitors			399
19.11.2017	gender	Ж		98
19.11.2017	gender	М		285
19.11.2017	age	1-18		51
19.11.2017	age	18-21		52
19.11.2017	cities	Москва		38
19.11.2017	cities	Санкт-Петербург		25
19.11.2017	cities	Новосибирск		9
19.11.2017	cities	Краснодар		8
19.11.2017	cities	Минск		6
19.11.2017	cities	Красноярск		5
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Thx, Anastasia!

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- 4 groups and more than 30k rows annually per each
- Row-by-row isn't a hierarchical structure
- No regions, just a cities

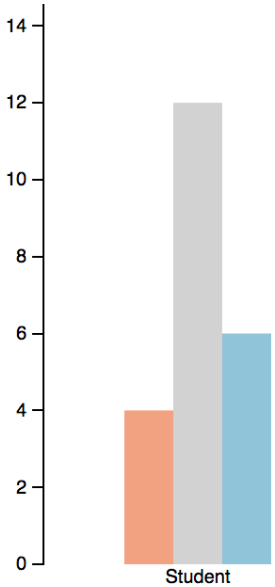
Require modification

python + pandas

$$y_i t = \beta' x_{it} + \mu_i + \epsilon_{it}$$

JSON

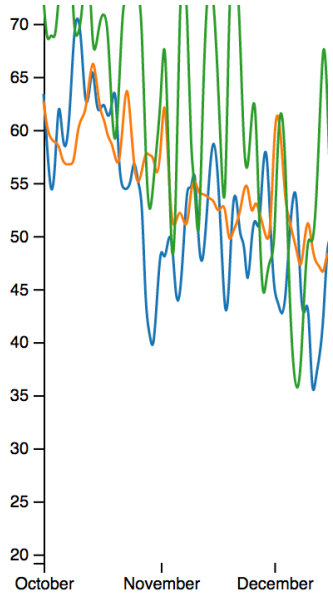
Solved task: Information about distinct groups on one graph



\+ Great for specific data
\+ Easier implementation
– A mess with wide range of values
– Non-fitted for time series

VS.

Great visualization for long time period +
Lightness despite of the values +
Non-trivial interactivity –
Looks awful without of context –



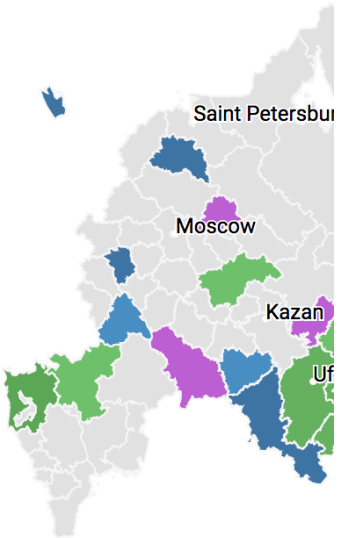
Solved task: GEO and regional distribution

City	Value
Moscow	574
St. Petersburg	399
Perm	98
Kazan	285
Sochi	51
Ufa	52
Vladivostok	38
Omsk	25
Tomsk	9
Krasnodar	8
Novosibirsk	6

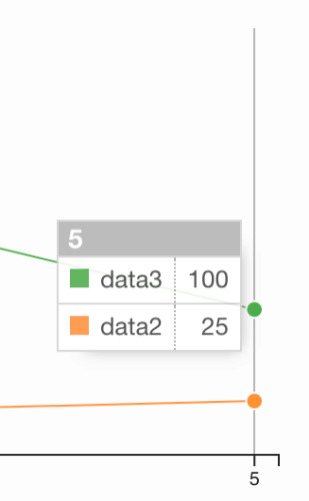
\+ Fitted for text data
\+ High accuracy and focusing on values
– Require a lot of space on the page
– A bit boring

VS.

The most natural way for GEO visualization +
High interactivity +
Required data adaptation –
High-load on the client side –



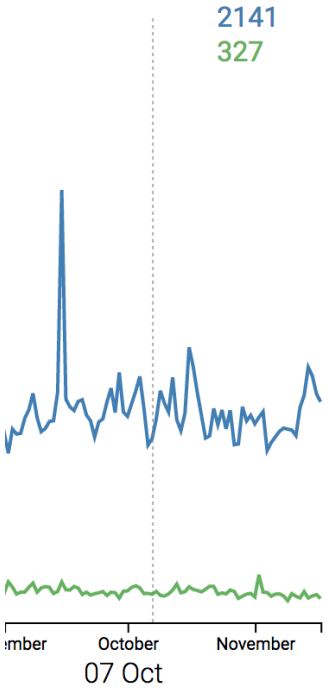
Solved task: Dynamics over days



+ Focusing on values
– Can disturb over *day-by-day* iteration
– Overflow graph

VS.

No interferences with graph itself +
Focusing on values +
Unclear without context –



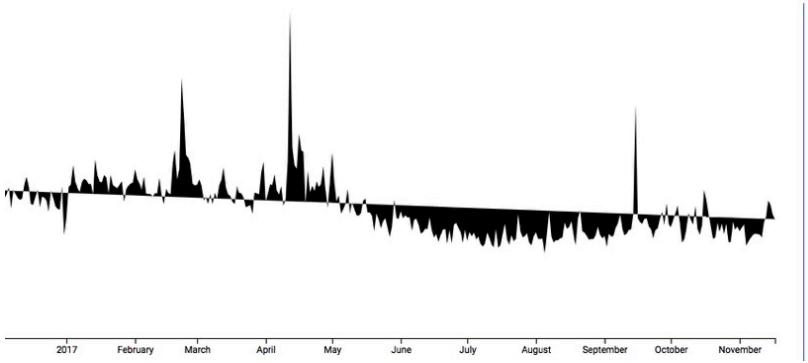
Implementation

Groups about space:

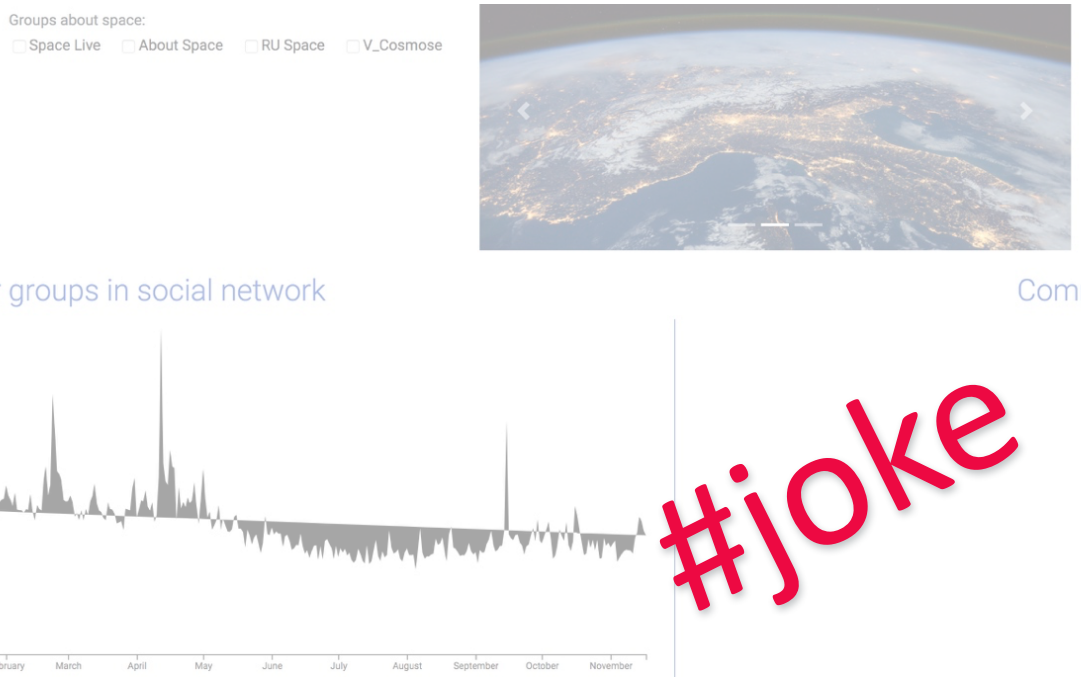
Space Live About Space RU Space V_Cosmose

itistics for groups in social network

Common



Implementation



#joke

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LIVE DEMO

https://alexworldd.github.io/SpaceVK/

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CONCLUSION

- The given result could be easily adapted for any kind of group
- Implemented techniques and methods are universal
- High-performance and smooth animation has been achieved by data modification
- The prospect and evolution ways for further work

Questions?

Thank you for attention!

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