BIG DIVE

TECH. CUSTOM EDITION

A project by TOP-IX
designed for Intesa Sanpaolo

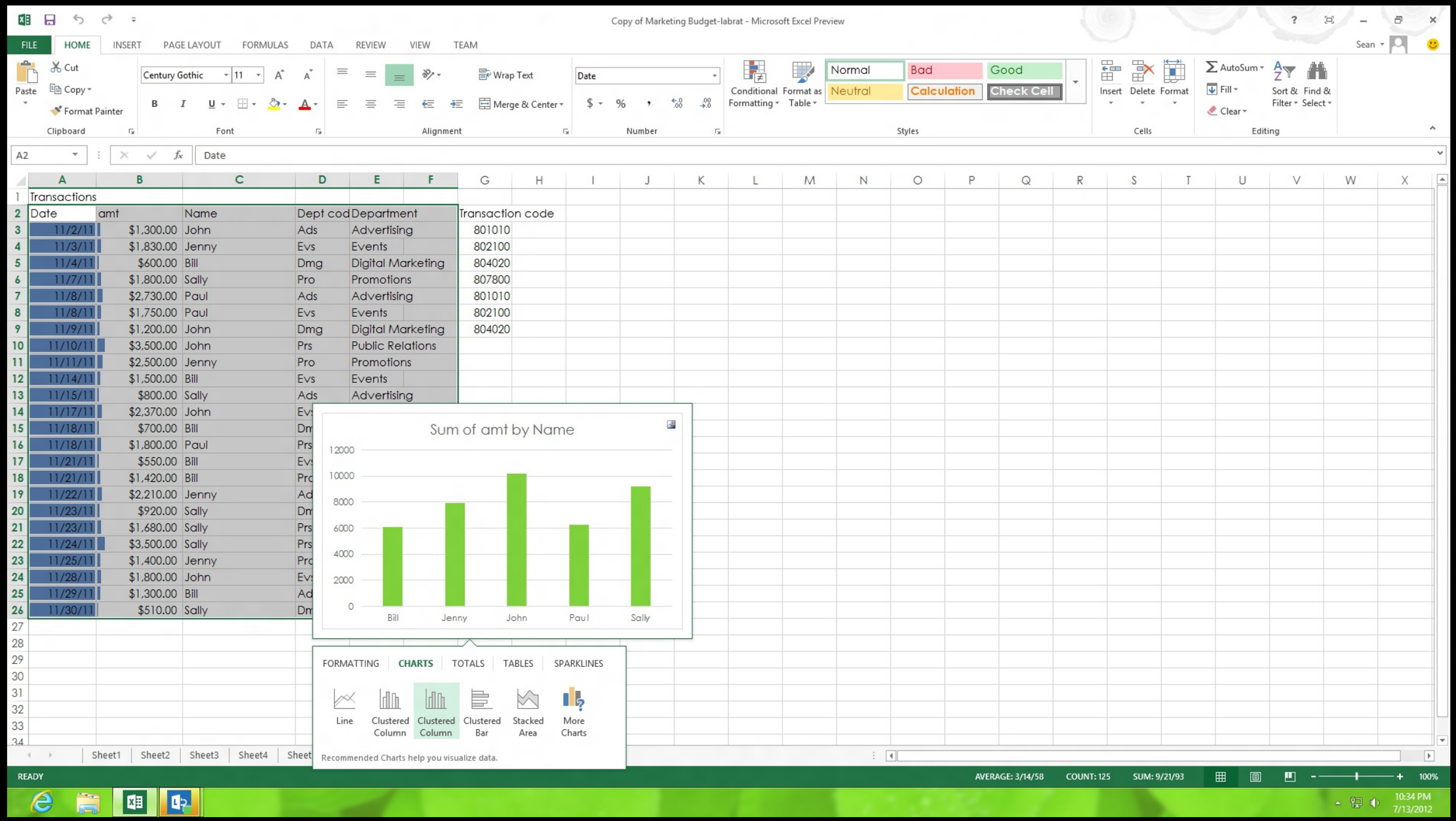
#DataViz

TODO

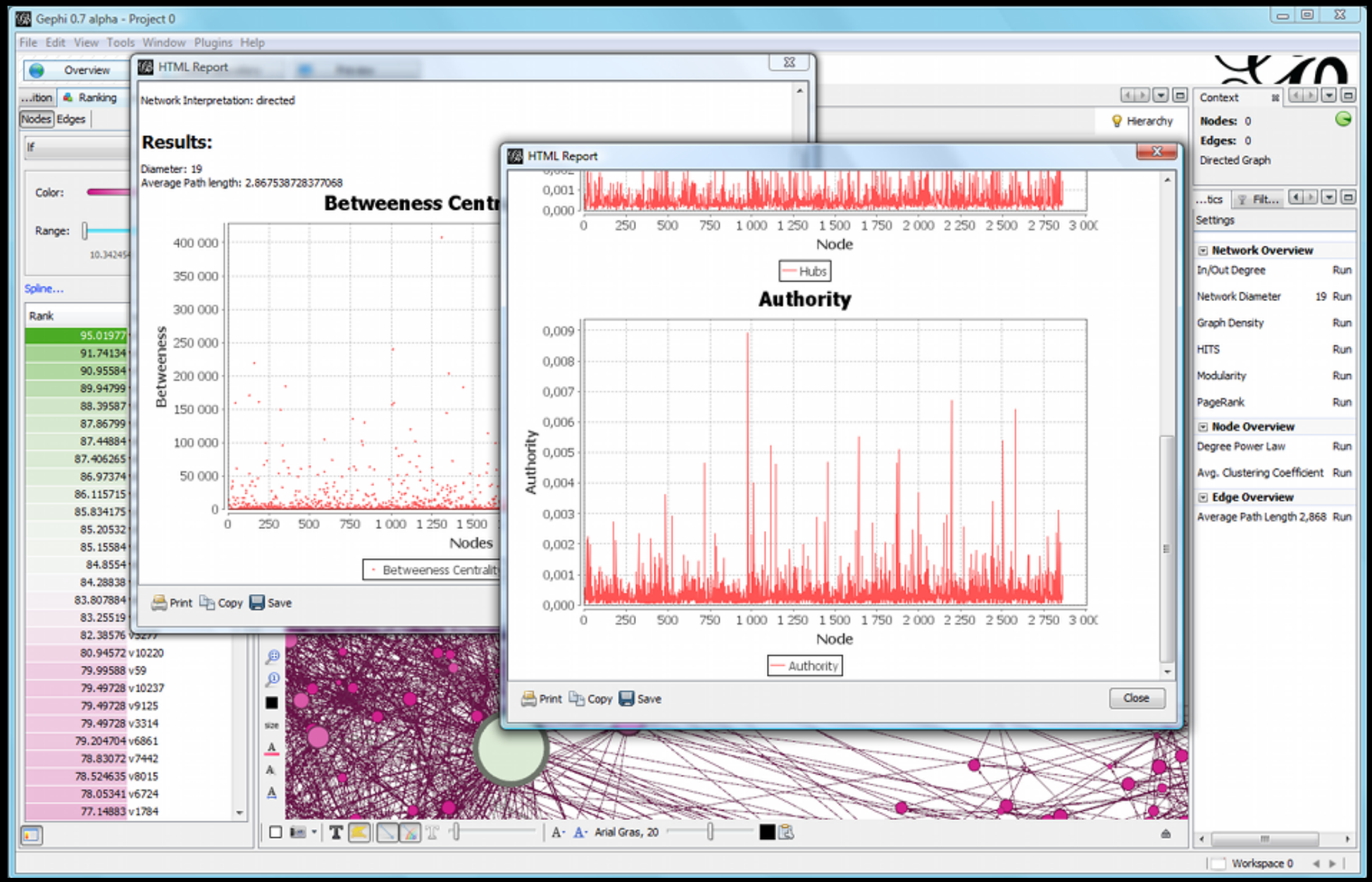

TODO

	A	B	C
1	**Query**	**Searches**	**Volume**
3	pga	5244	11.08230719
4	pga.com	2583	6.610499028
5	freegolfinfo	64	4.147764096
6	golf tips	1884	3.046014258
7	golf	176386	1.62022035
8	pga tour	4142	1.360985094
9	michigan football	5105	0.777705768
10	golf swing	1596	0.777705768
11	pga golf	1406	0.712896954
12	pga championship	504	0.583279326
13	mgoblue	311	0.583279326
14	putting tips	133	0.518470512
15	golf shank	22	0.453661698
16	michigan wolverines	2587	0.453661698
17	golf lessons	463	0.453661698
18	us open	6077	0.388852884
19	online golf tips	8	0.388852884
20	university of michigan	4948	0.32404407
21	golf schools	1657	0.32404407
22	how to play golf	394	0.32404407
23	free video golf lessons	5	0.32404407
25	stratton	976	0.259235256
26	swing plane	15	0.259235256

Excel


Copy of Marketing Budget-labrat - Microsoft Excel Preview
FILE
HOME
INSERT
PAGE LAYOUT
FORMULAS
DATA
REVIEW
VIEW
TEAM
Sean
Paste
Cut
Copy
Format Painter
Century Gothic
11
Wrap Text
Merge & Center
Date
Conditional Formatting
Format as Table
Normal
Bad
Good
Neutral
Calculation
Check Cell
Insert
Delete
Format
AutoSum
Fill
Clear
Sort & Filter
Find & Select
Clipboard
Font
Alignment
Number
Styles
Cells
Editing
A2
Date
Transactions
Date
amt
Name
Dept cod
Department
Transaction code
11/2/11 $1,300.00 John Ads Advertising 801010
11/3/11 $1,830.00 Jenny Evs Events 802100
11/4/11 $600.00 Bill Dmg Digital Marketing 804020
11/7/11 $1,800.00 Sally Pro Promotions 807800
11/8/11 $2,730.00 Paul Ads Advertising 801010
11/8/11 $1,750.00 Paul Evs Events 802100
11/9/11 $1,200.00 John Dmg Digital Marketing 804020
11/10/11 $3,500.00 John Prs Public Relations
11/11/11 $2,500.00 Jenny Pro Promotions
11/14/11 $1,500.00 Bill Evs Events
11/15/11 $800.00 Sally Ads Advertising
11/17/11 $2,370.00 John
11/18/11 $700.00 Bill
11/18/11 $1,800.00 Paul
11/21/11 $550.00 Bill
11/21/11 $1,420.00 Bill
11/22/11 $2,210.00 Jenny
11/23/11 $920.00 Sally
11/23/11 $1,680.00 Sally
11/24/11 $3,500.00 Sally
11/25/11 $1,400.00 Jenny
11/28/11 $1,800.00 John
11/29/11 $1,300.00 Bill
11/30/11 $510.00 Sally
Sum of amt by Name
12000
10000
8000
6000
4000
2000
0
Bill
Jenny
John
Paul
Sally
FORMATTING
CHARTS
TOTALS
TABLES
SPARKLINES
Line
Clustered Column
Clustered Column
Clustered Bar
Stacked Area
More Charts
Recommended Charts help you visualize data.
Sheet1
Sheet2
Sheet3
Sheet4
READY
AVERAGE: 3/14/58
COUNT: 125
SUM: 9/21/93
100%
10:34 PM
7/13/2012

Gephi


Gephi 0.7 alpha - Project 0
File Edit View Tools Window Plugins Help
Overview
Ranking
Nodes Edges
Color:
Range:
Spline...
Rank
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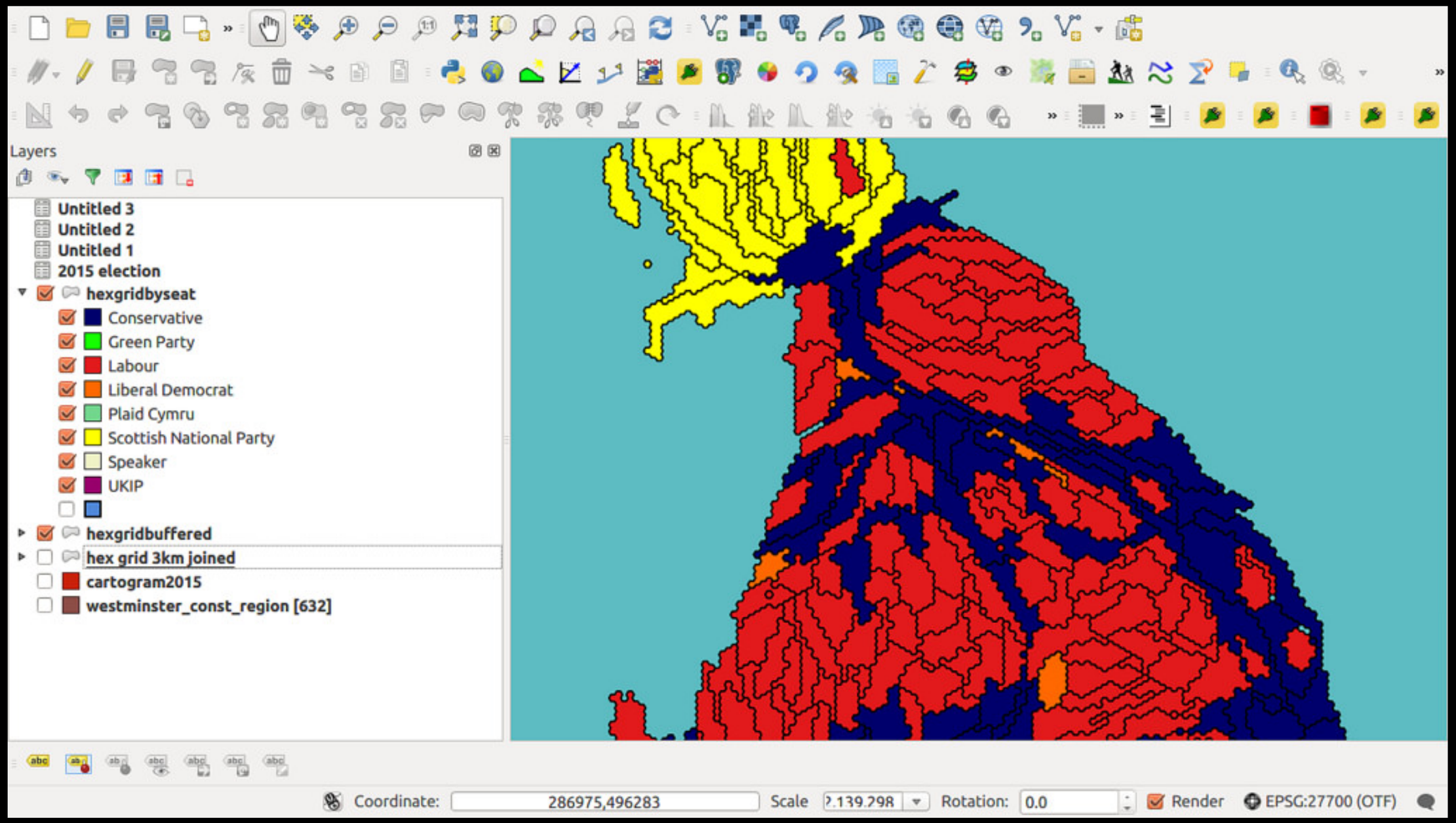
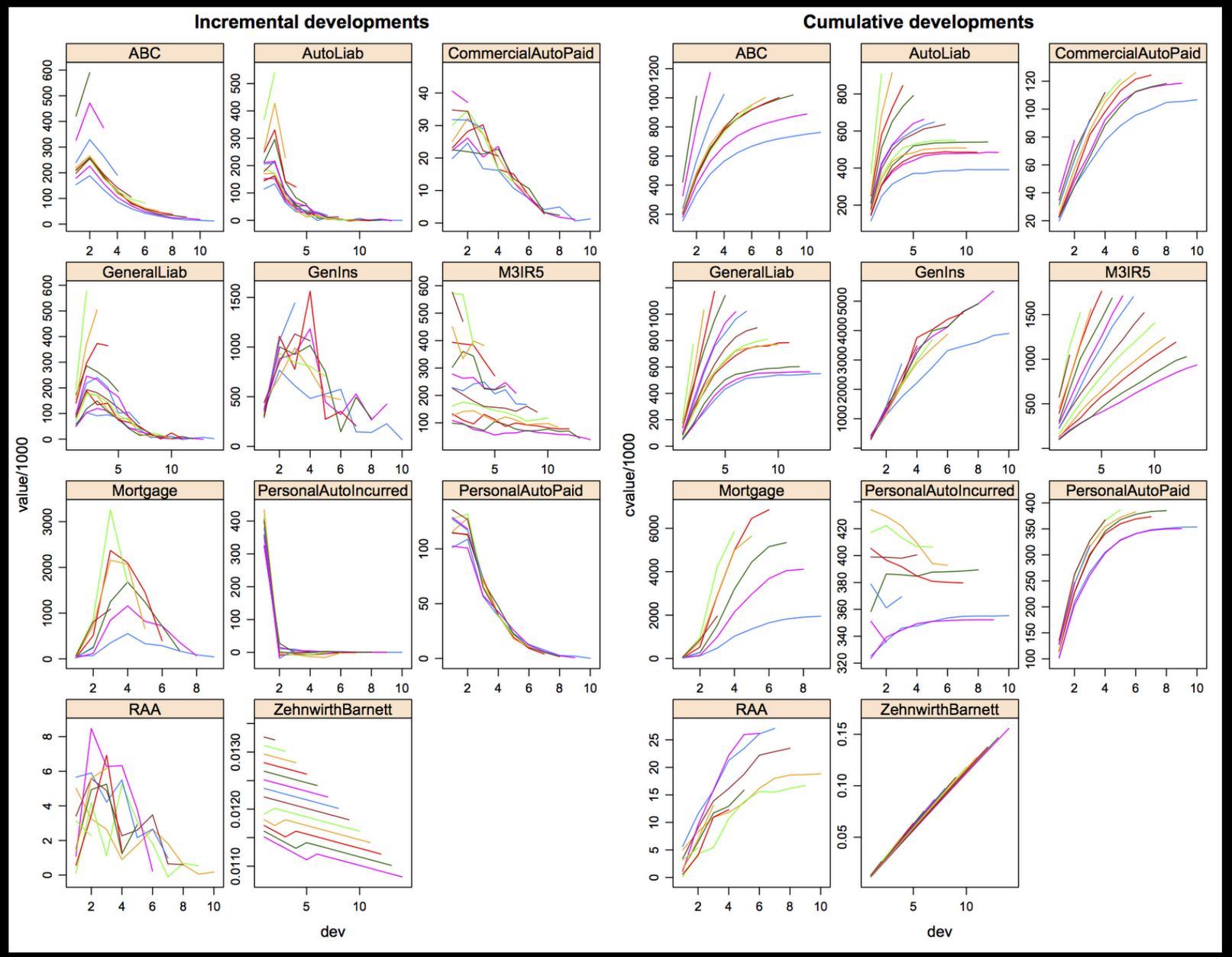
91.74134
90.95584
89.94799
88.39587
87.86799
87.44884
87.406265
86.97374
86.115715
85.834175
85.20532
85.15584
84.8554
84.28838
83.807884
83.25519
80.94572 v10220
79.99588 v59
79.49728 v10237
79.49728 v9125
79.49728 v3314
79.204704 v6861
78.83072 v7442
78.524635 v8015
78.05341 v6724
77.14883 v1784
HTML Report
Network Interpretation: directed
Results:
Diameter: 19
Average Path length: 2.867538728377068
Betweeness Centr
Betweeness
Nodes
Betweeness Centrality
Print Copy Save
HTML Report
Node
Hubs
Authority
Authority
Node
Authority
Print Copy Save
Close
Hierarchy
Context
Nodes: 0
Edges: 0
Directed Graph
Settings
Network Overview
In/Out Degree Run
Network Diameter 19 Run
Graph Density Run
HITS Run
Modularity Run
PageRank Run
Node Overview
Degree Power Law Run
Avg. Clustering Coefficient Run
Edge Overview
Average Path Length 2,868 Run
Arial Gras, 20
Workspace 0

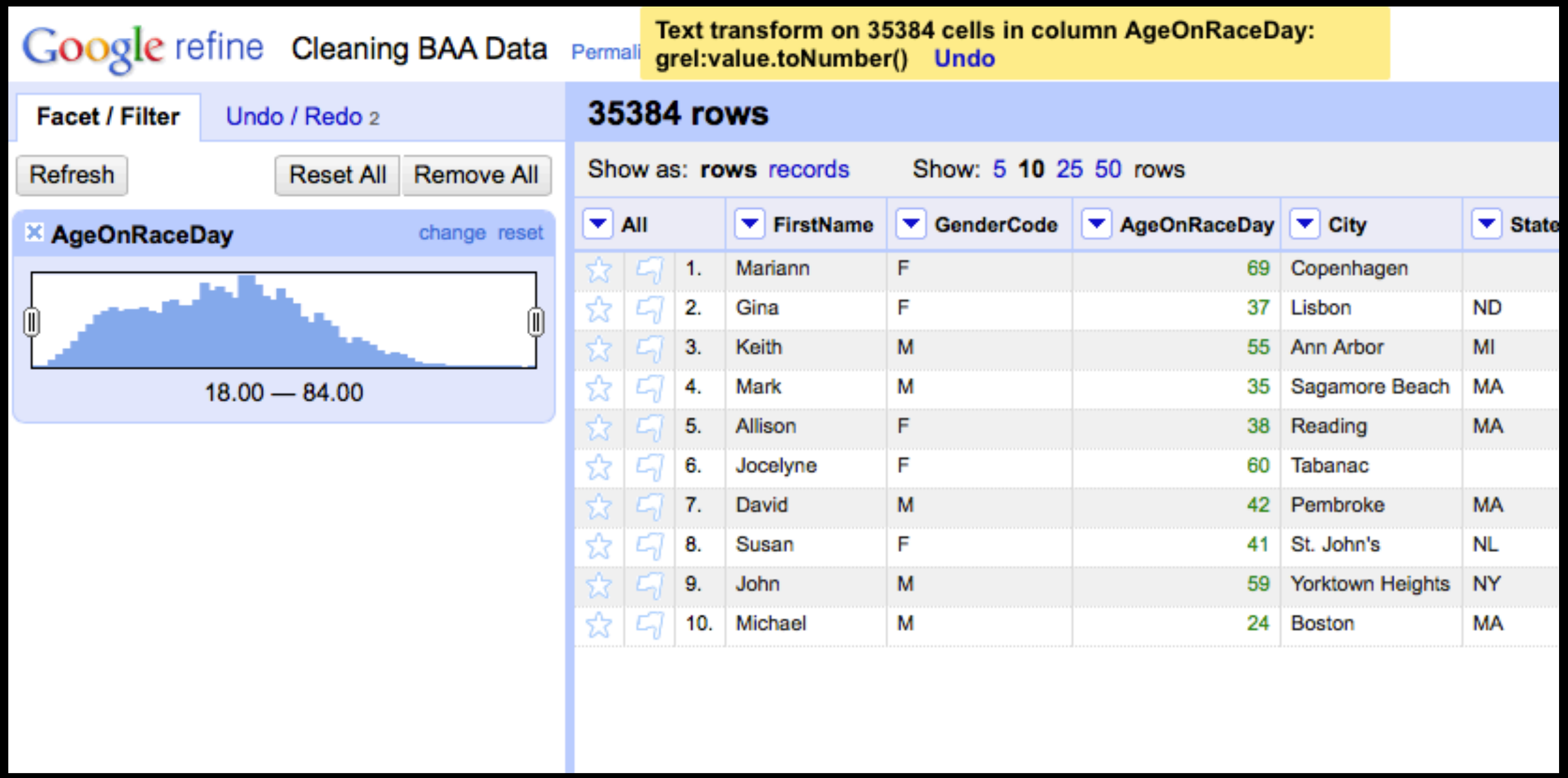
Qgis


Layers
Untitled 3
Untitled 2
Untitled 1
2015 election
hexgridbyseat
Conservative
Green Party
Labour
Liberal Democrat
Plaid Cymru
Scottish National Party
Speaker
UKIP
hexgridbuffered
hex grid 3km joined
cartogram2015
westminster_const_region [632]
Coordinate:
286975,496283
Scale
Rotation:
0.0
Render
EPSG:27700 (OTF)

R


Incremental developments
Cumulative developments
ABC
AutoLiab
CommercialAutoPaid
GeneralLiab
GenIns
M3IR5
Mortgage
PersonalAutoIncurred
PersonalAutoPaid
RAA
ZehnwirthBarnett
value/1000
cvalue/1000
dev

Refine


Google refine
Cleaning BAA Data
Permali
Text transform on 35384 cells in column AgeOnRaceDay:
grel:value.toNumber()
Undo
Facet / Filter
Undo / Redo 2
Refresh
Reset All
Remove All
AgeOnRaceDay
change
reset
18.00 — 84.00
35384 rows
Show as: rows records
Show: 5 10 25 50 rows
All
FirstName
GenderCode
AgeOnRaceDay
City
State
1. Mariann F 69 Copenhagen
2. Gina F 37 Lisbon ND
3. Keith M 55 Ann Arbor MI
4. Mark M 35 Sagamore Beach MA
5. Allison F 38 Reading MA
6. Jocelyne F 60 Tabanac
7. David M 42 Pembroke MA
8. Susan F 41 St. John's NL
9. John M 59 Yorktown Heights NY
10. Michael M 24 Boston MA

Tableau


Airline Flights and Delays
By State
By Airline
Southwest
Delta
American
US Airlines
United
AirTran
Continental
JetBlue
Alaska
Northwest
Frontier
Hawaiian
Number of Flights
Number of Planes
Flight Date
12/28/08 to 11/27/11
Airline
AirTran
Alaska
American
Continental
Delta
Frontier
Hawaiian
JetBlue
Northwest
Southwest
United
US Airlines
Fleet age
Avg. Delay
10.9 min
Nov 1, 09
May 2, 10
Oct 31, 10
May 1, 11
Oct 30, 11
tableau
Section
Blog
Community
Examples
Register
Training
User-generated
Time on Page
Visits

Chart Libraries

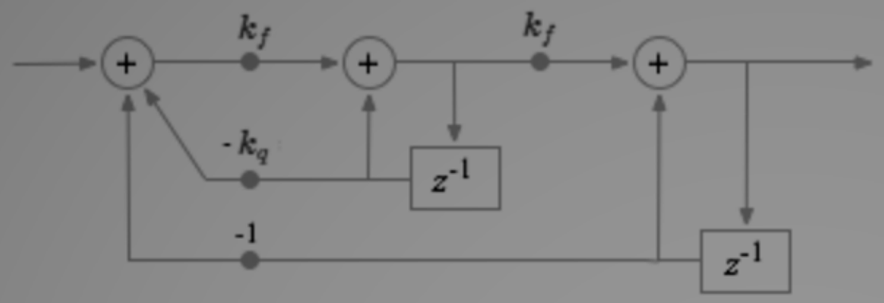
20 best JavaScript charting libraries

by VAIBHAV SINGHAL — 1 year ago in DESIGN & DEV

15 | 2,354 SHARES | BB OFF | http://tnw.to/i4w64

Park attendance would rise by 34%, to 100 million visits each year.

Below is a simplified digital adaptation of the analog state variable filter.



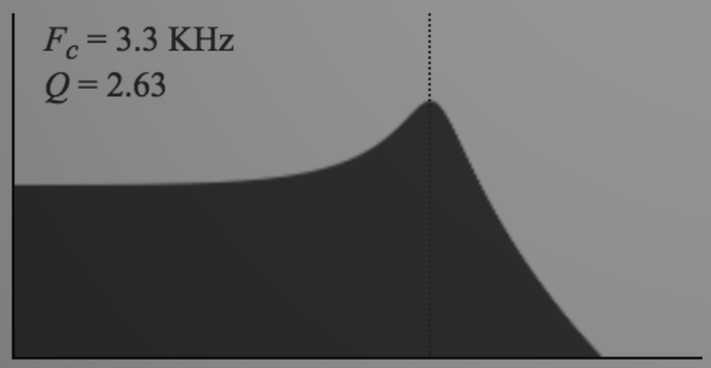
This topology is particularly useful for embedded audio processing, because F_c (cutoff frequency) and Q (resonance) are controlled by independent coefficients, k_f and k_q. (With most filters, the coefficients are functions of both parameters, which precludes pre-calculated lookup tables.)

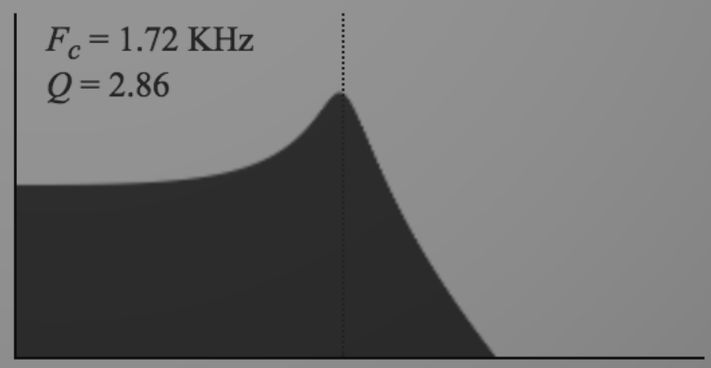
The coefficients and transfer function are:

$$k_f = 2sin(\pi\frac{F_c}{Fs}) \qquad k_q = \frac{1}{Q}$$

$$H(z) = \frac{k_f{}^2}{1-(2-k_f(k_f+k_q))z^{-1}+(1-k_fk_q)z^{-2}}$$

Some example frequency responses:





For a more extensive example, see Ten Brighter Ideas.

For the motivation and philosophy behind reactive documents, see Explorable Explanations.

a SETOSA project

Explained Visually

Explained Visually (EV) is an experiment in making hard ideas intuitive inspired the work of Bret Victor's Explorable Explanations.
Sign up to hear about the latest.

Conditional probability

setosa.io/ev

FOURIER TRANSFORM

ENTING SIGNALS AS SUMS OF SINES

saw in the previous section that any point on a two-dimensional surface can be expressed using a pair of an or polar coordinates. We also showed that there are *transforms* which allow us to switch between these presentations at will. A similar situation exists for signals. We may choose to represent signals using time-coordinates or frequency-based coordinates. The *Fourier Transform* is our tool for switching between these presentations.

nd it helpful to think of the frequency-domain representation as a *list of phasors*. The Discrete Fourier orm takes your time-domain signal and produces a list of phasors which, when summed together, will uce your signal. In very broad strokes, the two representations can be thought of as looking something like

THE FOURIER TRANSFORM

Frequency Domain Representation
"A List of Phasors"

jackschaedler.github.io

Time Domain Representation
"A List of Samples"

combine or sum phasors by stringing them together into a chain. The center of the first phasor is placed at gin, and the center of each subsequent phasor is "attached" to the tip of the previous phasor. Once the chain sors is constructed, we allow each phasor to begin rotating. We can reconstruct the time domain signal by the *vertical* distance from the origin to the tip of the *last* phasor. The following visualization allows you to th the relative magnitudes of five phasors which are linked together in a "chain".[1]

1. Which is all a rather wordy and roundabout way to say that you just *sum them up*. The symbolic expression is straightforward, and it looks

PHICS

NOBEL LAUREATES

ALL WOMEN ALIVE SHARED MULTIPLE 2016

COUNTRIES TIME

1900 '10 '20 '30 '40 '50 '60 '70 '80 '90 2000 '10

USA

U.K.

Germany

France

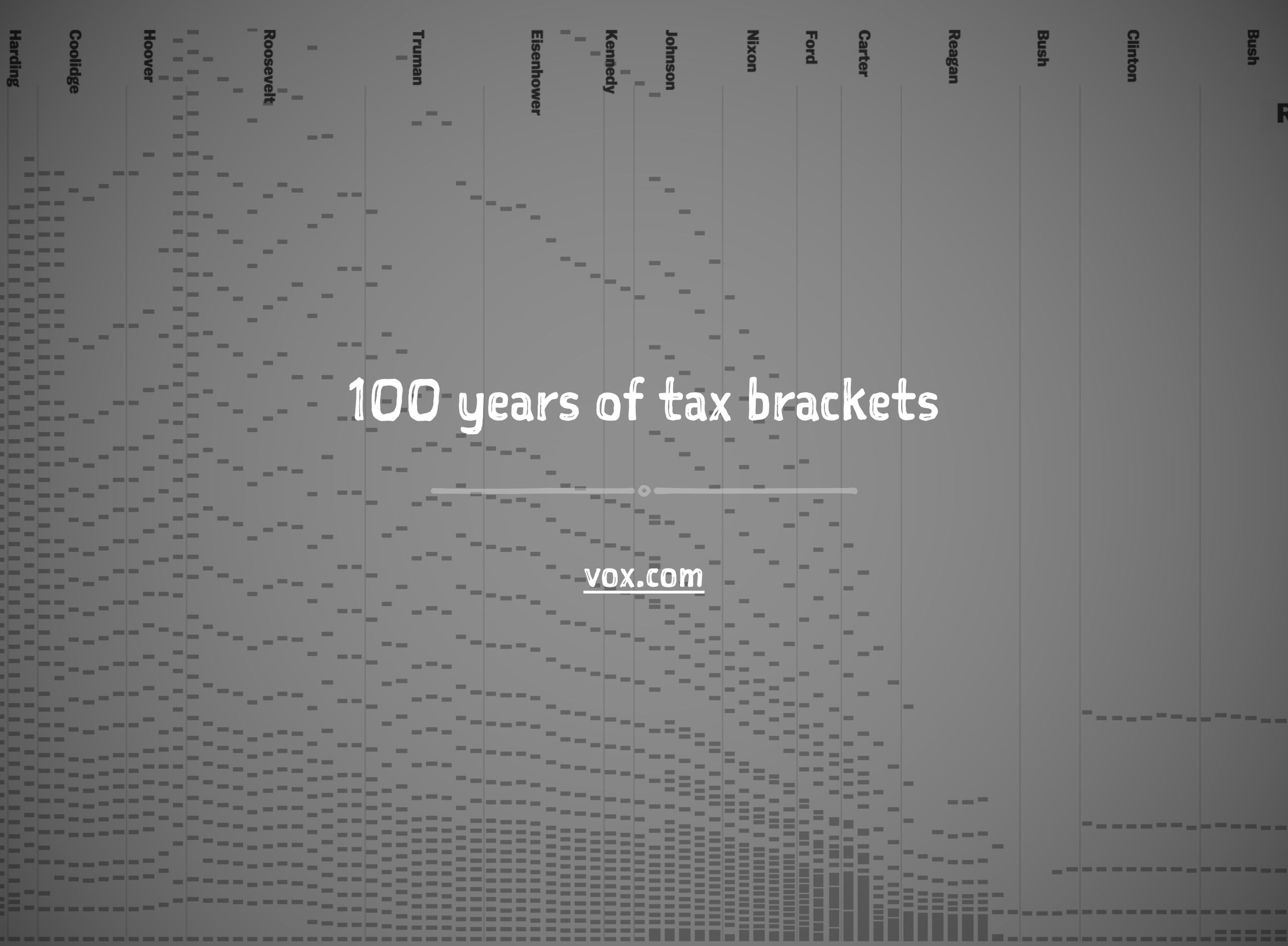
Sweden

Russia

Poland

NOBEL LAUREATES

fingfx.thomsonreuters.com


Bush
Clinton
Bush
Reagan
Carter
Ford
Nixon
Johnson
Kennedy
Eisenhower
Truman
Roosevelt
Hoover
Coolidge
Harding
100 years of tax brackets
vox.com

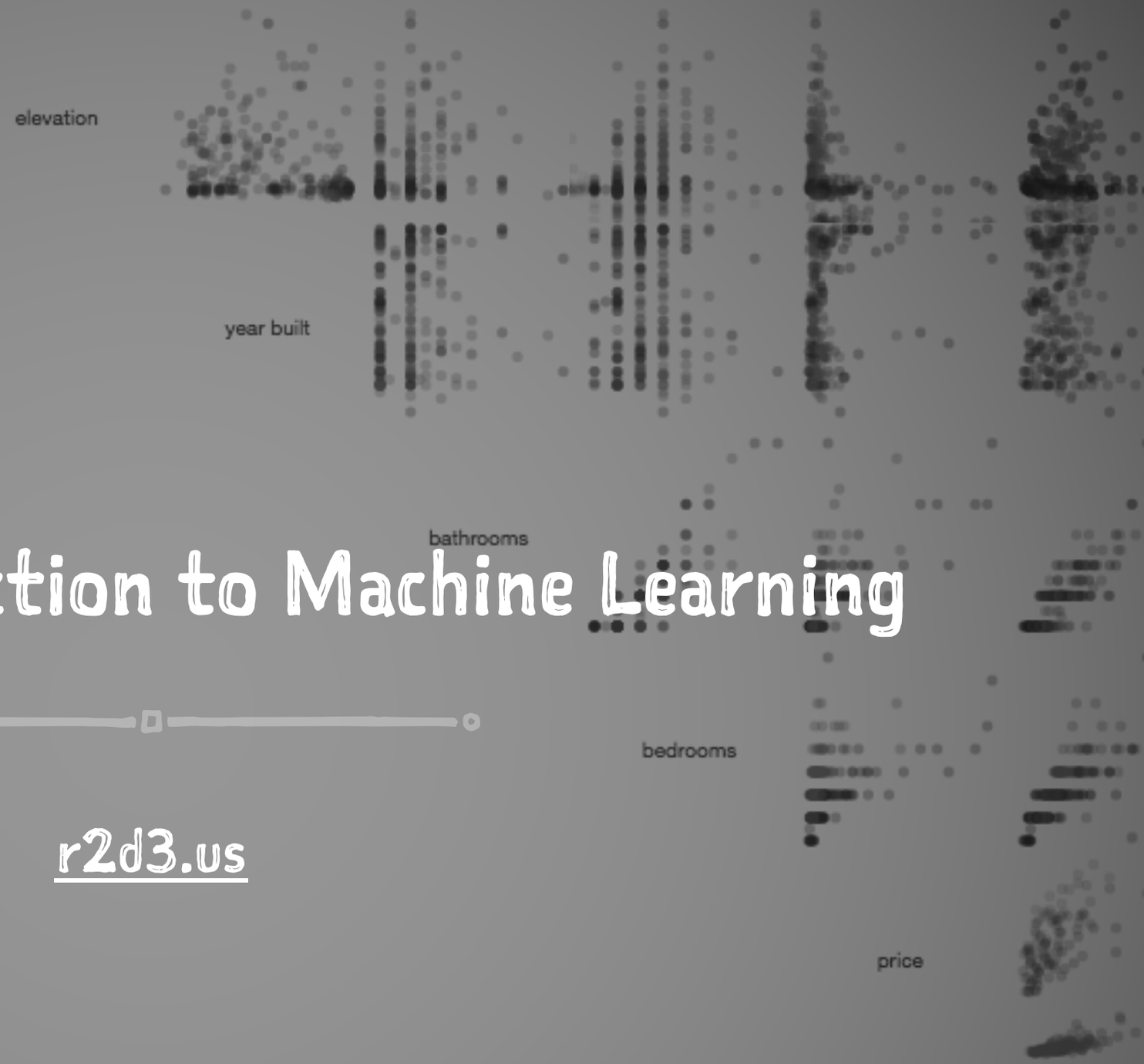
ow, machine
ng

rns in data is where machine learning
achine learning methods use
rning to identify boundaries.

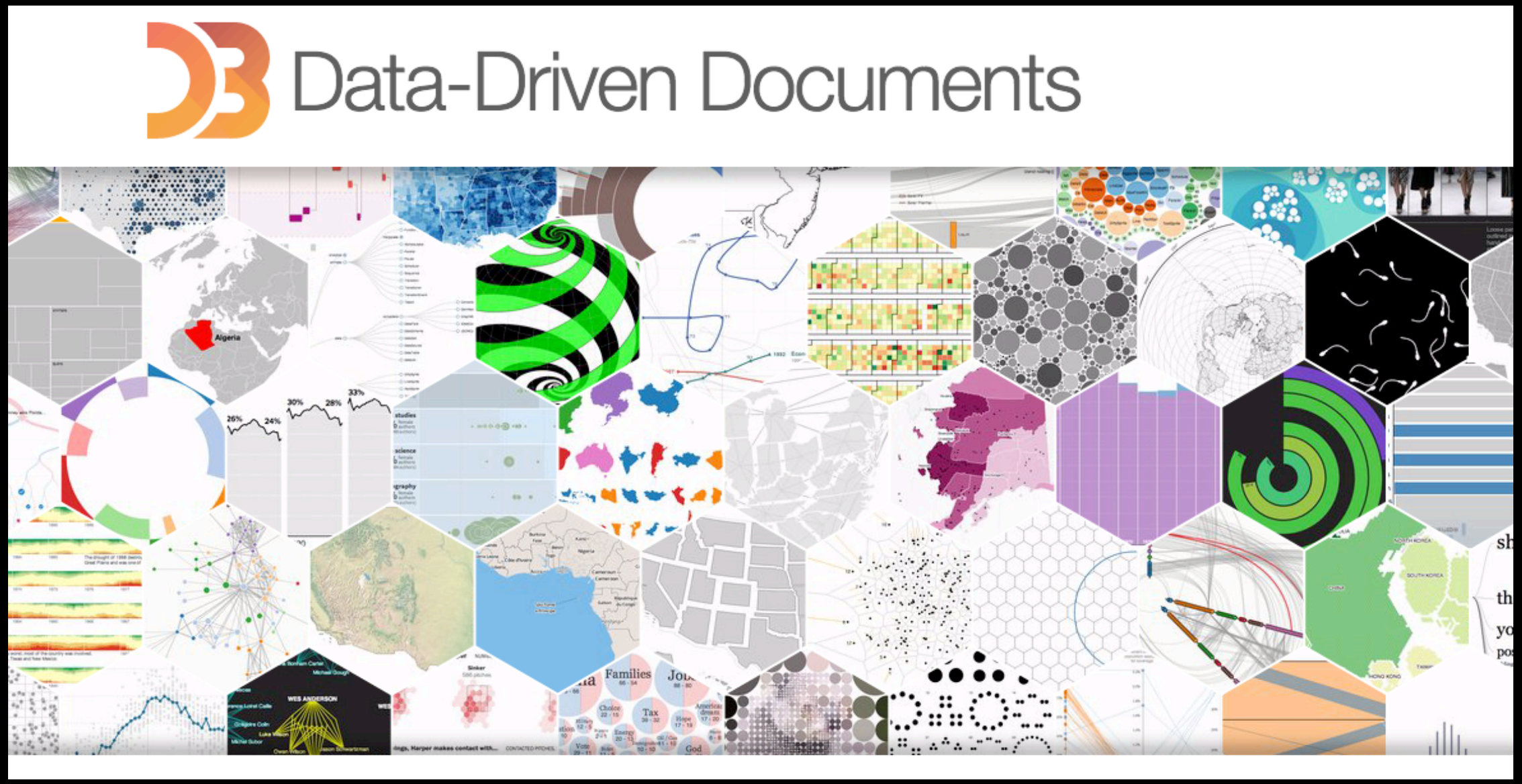
e of a machine learning method is a
e. Decision trees look at one variable
are a reasonably accessible (though
machine learning method.

A Visual Introduction to Machine Learning

r2d3.us

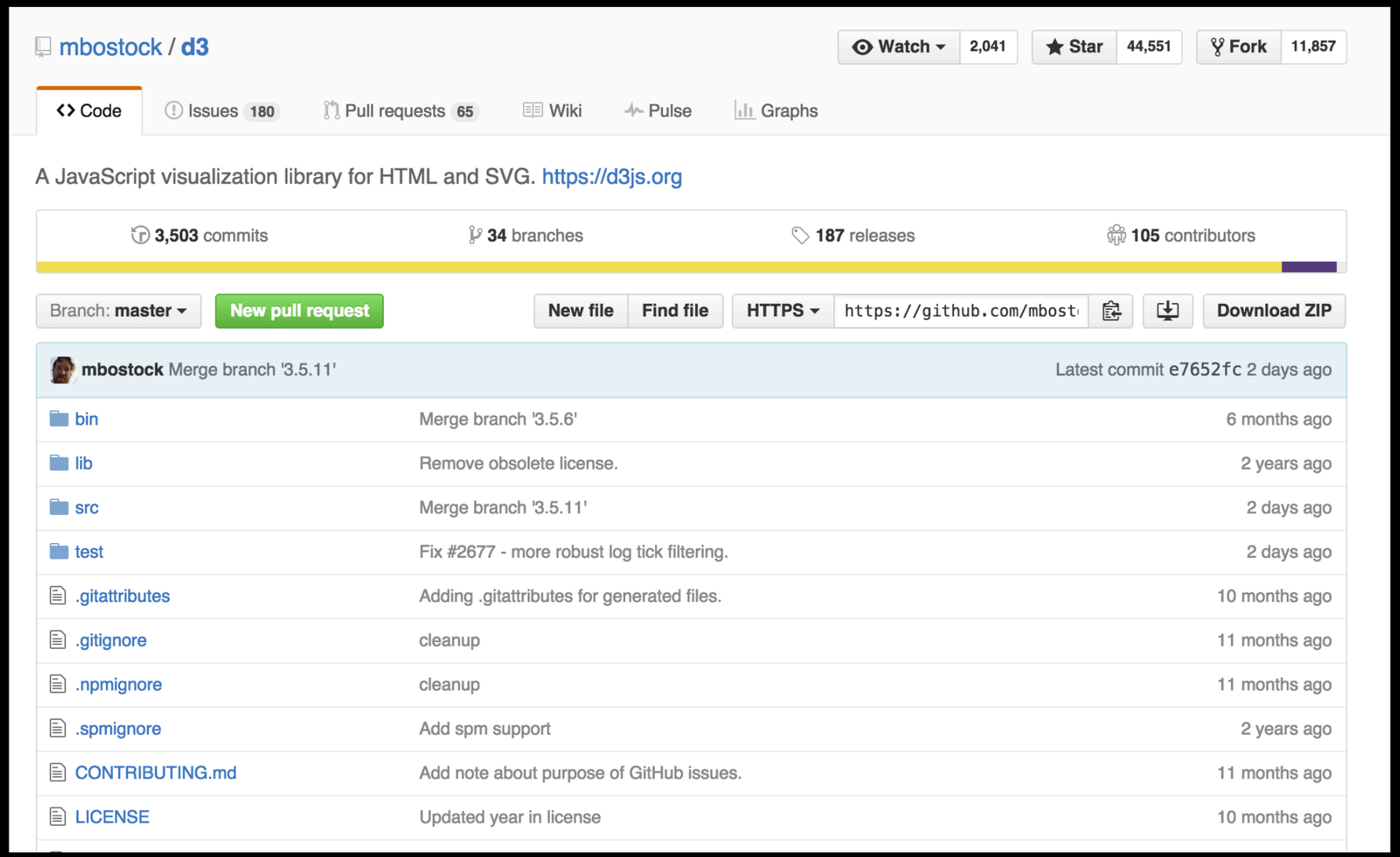


d3.js



Community driven

Top Ten in popularity on Github.com

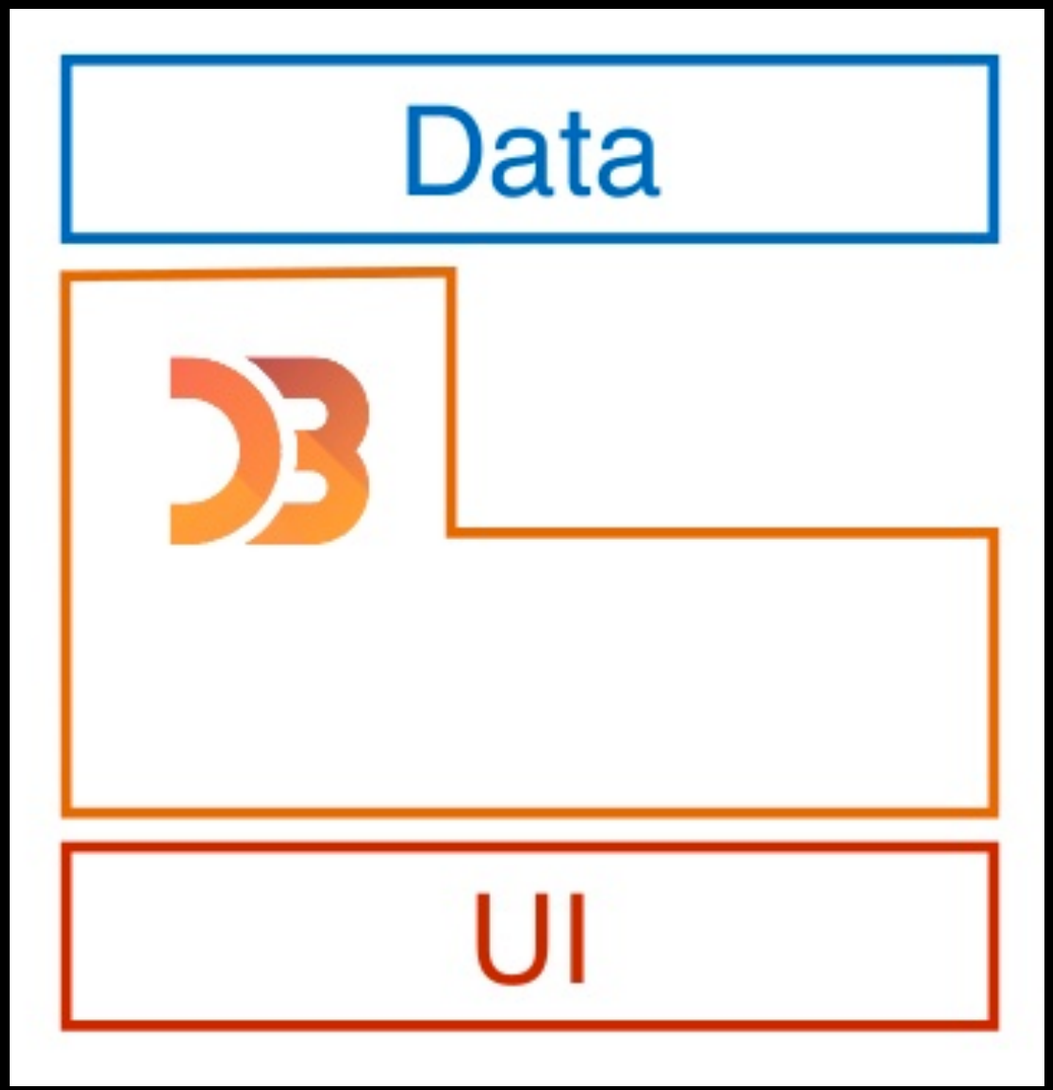


W3C Standard

Future Proof, rely to HTML, SVG, CSS and JS

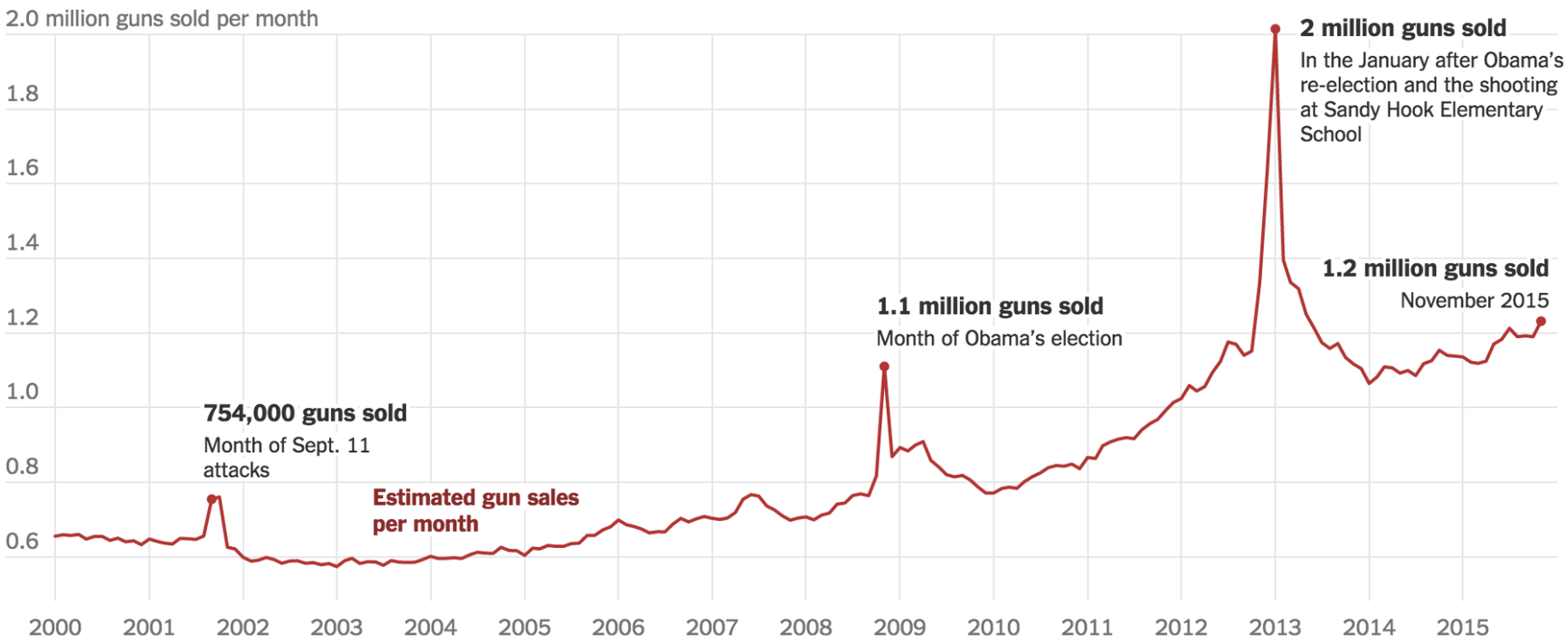
D3: Data-Driven Document

The Document is the W3C Document Object Model



Supported by NYT

By GREGOR AISCH and JOSH KELLER DEC. 10, 2015



For gun makers, it was a familiar story. On Sunday, President Obama called for making it harder to buy assault weapons after the terrorist attack in San Bernardino, Calif. On Monday, the stock prices of two top gun makers, Smith & Wesson and Ruger, soared.

"President Obama has actually been the best salesman for firearms," said Brian W. Ruttenbur, an analyst with BB&T Capital Markets, a financial services firm.

Instead of a common custom api:

```
YetAnotherLibrary.circle(0, 0, 50);
```

D3.js offer an abstract api:

```
D3.append('circle')
      .attr('cx', 0)
      .attr('cy', 0)
      .attr('r', 50)
```

Learn by examples

Gallery

Edit New Page

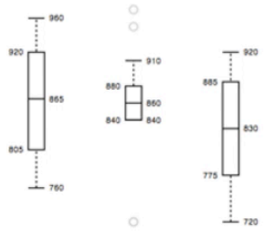
nswamy14 edited this page 10 days ago · 1026 revisions

Wiki ▸ Gallery

Welcome to the **D3 gallery**! More examples are available on bl.ocks.org/mbostock. If you want to share an example and don't have your own hosting, consider using Gist and bl.ocks.org. If you want to share or view live examples try runnable.com or vida.io.

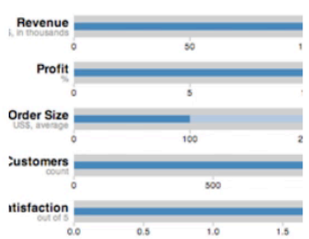
Visual Index

Box Plots

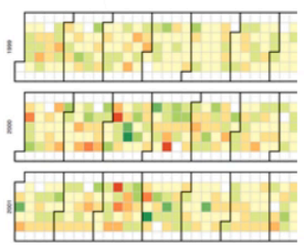


Bubble Chart

Bullet Charts



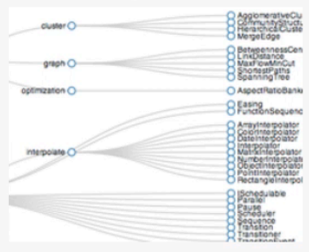
Calendar View



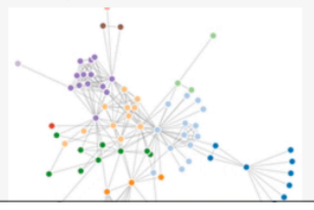
Non-contiguous Cartogram

Chord Diagram

Dendrogram



Force-Directed Graph



Author
Chart Type
Title

Untagged 1575
Map 236
Reusable 98
Network 69
Bar Chart 62
Line Chart 58
Math 46
Scatterplot 41
Area Chart 34
Pie Chart 27
Bubble Chart 25
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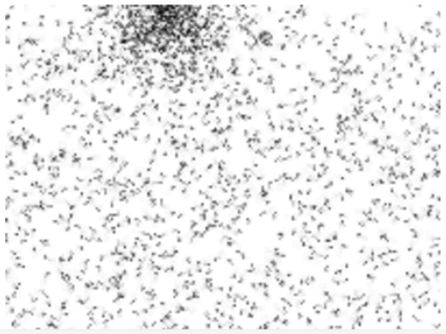
Parallel Coordinates 15
Stacked Bar Chart 14
Sankey 14
Choropleth 14
Experiment 12
Heatmap 11
Cartogram 11
Sunburst 11

113th U.S. Congressional Districts

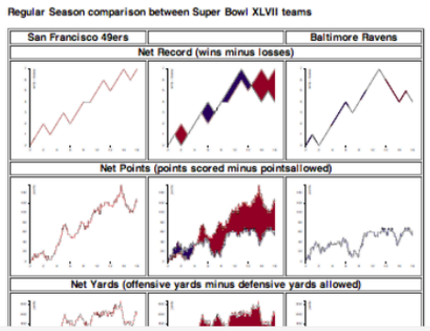
Mike Bostock

California's Getting Fracked

20000 points in random motion Kai Chang

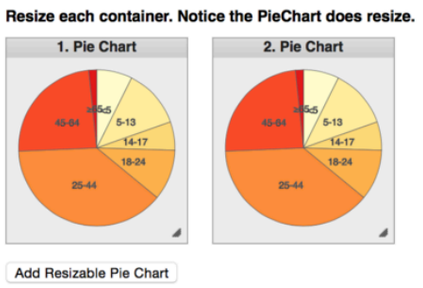


2012 NFL Conference Champs Dylan Harper



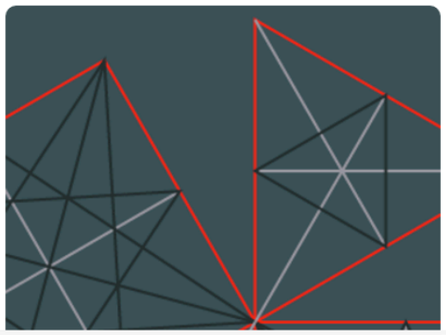
Resizing Pie Charts II

Bill White



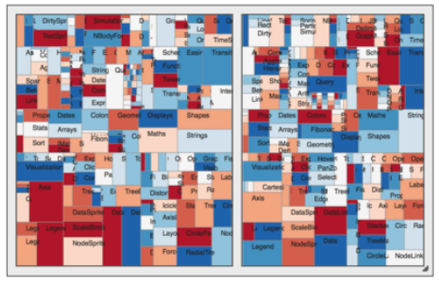
25 great circles

Dealga McArdle



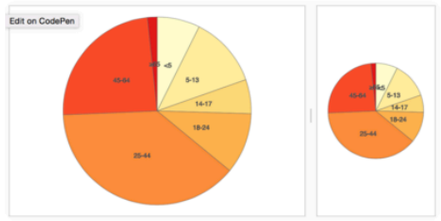
Resizing Treemaps

Bill White



Resizing Pie Charts

Bill White



3D bar chart with D3.js and x3dom Harry Voorhees

D3 in 3D with ThreeJS CodePen Bill White

401k Fees Vary Widely for Similar Companies (Scatter) Amelia Greenhall

512 Paths to the White House

Mike Bostock; Shan Carter

Dimple Animated Bubble Pies John Kiernander

Dimple Styling Example John Kiernander

A Bar Chart Mike Bostock

Dimple Ring Bubbles John Kiernander

bl.ocksplorer.org

Many examples of d3.js usage are posted daily on http://bl.ocks.org/, however they aren't easy to find. If you are looking for a specific example of how to use a particular API call, you may be out of luck... until now.

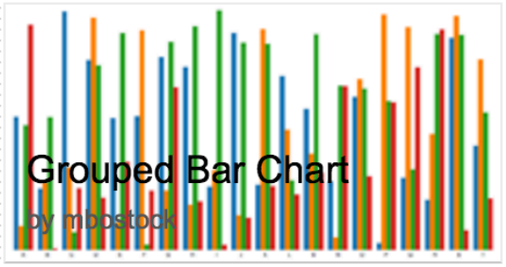
Type any d3 API call below and see the blocks (or gists) that use it.

d3.svg.axis

Go

Start typing any d3 api name, for example `d3.svg.axis`...

Results for "d3.svg.axis"

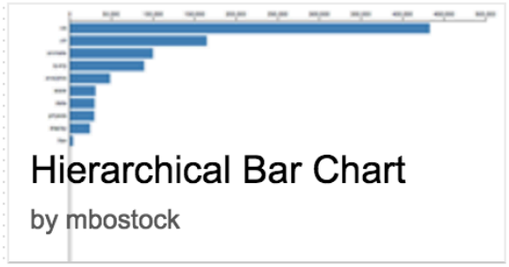


Grouped Bar Chart

by mbostock

Axis Component

by mbostock



Hierarchical Bar Chart

by mbostock

Sortable bar chart

by biovisualize

Line chart with icicle diagram range selector

by biovisualize

D3 - using SVG Bounding Box to get the "automatic padding"

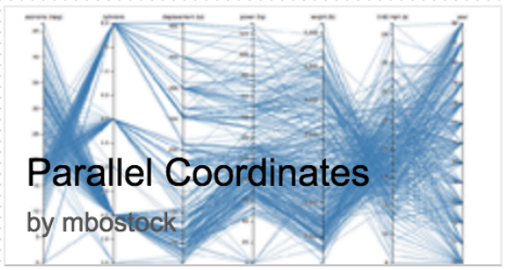
by zjonsson

D3 - using SVG Bounding Box to get the "automatic padding"

by enjalot

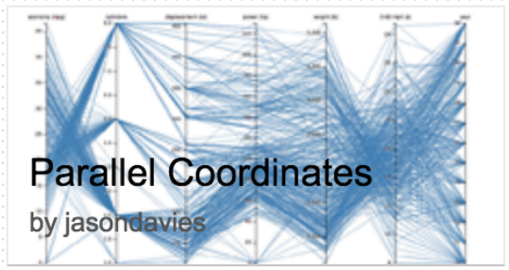
Icesave capital structure - nest/layout example

by zjonsson



Parallel Coordinates

by mbostock

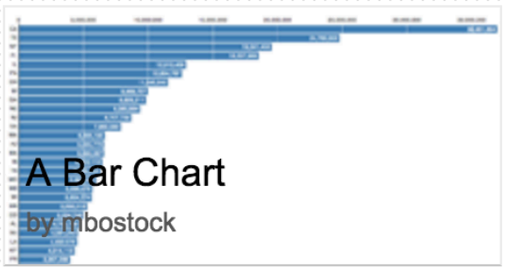


Parallel Coordinates

by jasondavies

Log-Log Plot

by mbostock



A Bar Chart

by mbostock

Third party libraries, plugins and utilities D3.js based

Awesome D3 

This list keeps track of interesting D3js libraries, plugins and utilities.
We decided not to list tutorials, resources or concepts here, because there is already a **very good list of readings** out there you can check out and contribute to.

Curators: Moritz Klack and Christopher Möller of webkid.io

Charts

- bullet chart - Bullet chart
- cirrus.js - A multi-renderer charts library
- cubism - Time Series Visualization
- cola.js - Layout for graph visualization and exploration
- c3 - Reusable chart library
- dc - For heavy amounts of data
- dimple - An object-oriented API for business analytics
- d3.chart - Framework for building reusable charts
- d3-flame-graph - Flame graphs from hierarchical data.
- d3fc - A collection of interactive chart components
- D3Funnel - A funnel and pyramid chart library
- d3panels - Interactive charts with linked brushing
- d3pie - A configurable pie chart lib and generator
- D3xter - Straight forward plotting
- D4 - Re-usable charts DSL
- epoch - A general purpose, real-time visualization library
- fancycharts - Library to visualize percentage values

It solves math problems

Geo Projections

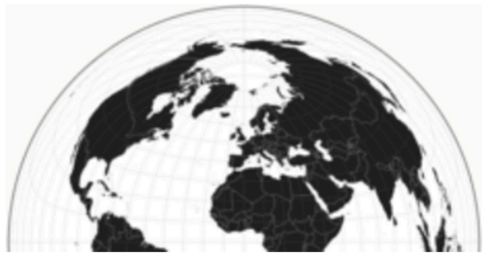
Edit New Page

张天旭 edited this page on Jun 29 · 121 revisions

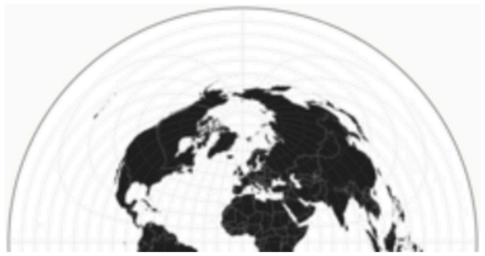
D3 includes several common projections by default, as shown below. Numerous (less-commonly used) projections are available in the extended geographic projections plugin and the polyhedral projection plugin.

d3.geo.albersUsa

d3.geo.azimuthalEqualArea



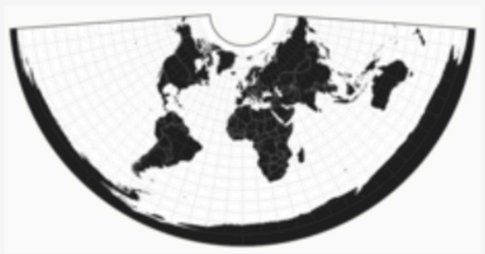
d3.geo.azimuthalEquidistant



d3.geo.conicEqualArea

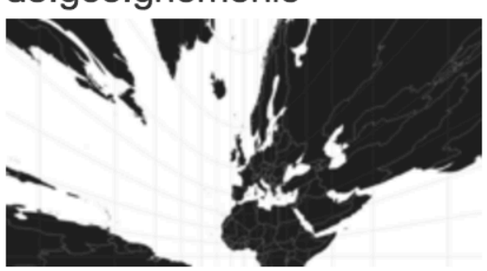
d3.geo.conicConformal

d3.geo.conicEquidistant



d3.geo.equirectangular

d3.geo.gnomonic



d3.geo.mercator

d3.geo.orthographic

d3.geo.stereographic

d3.geo.transverseMercator

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API 中文手册

API Reference

API Reference (русскоязычная версия)

API リファレンス

Api 参考

Arrays

Behaviors

Bundle Layout

Chord Layout

Cluster Layout

CN Home

Colors

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https://github.com/mbostc

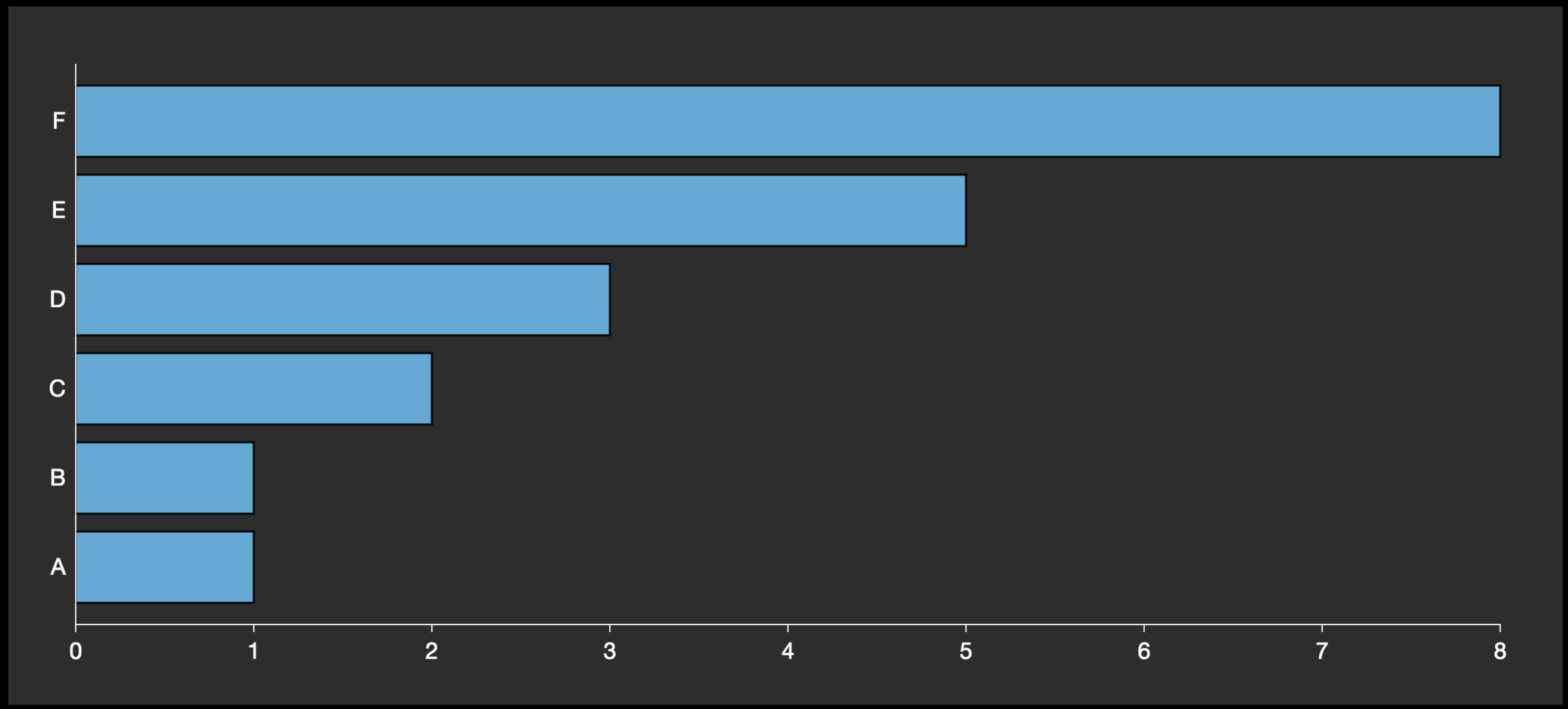
Main D3.js Principle

Data Structure should follow the Visual Structure

Data structure

```
var data = [1, 1, 2, 3, 5, 8];
```

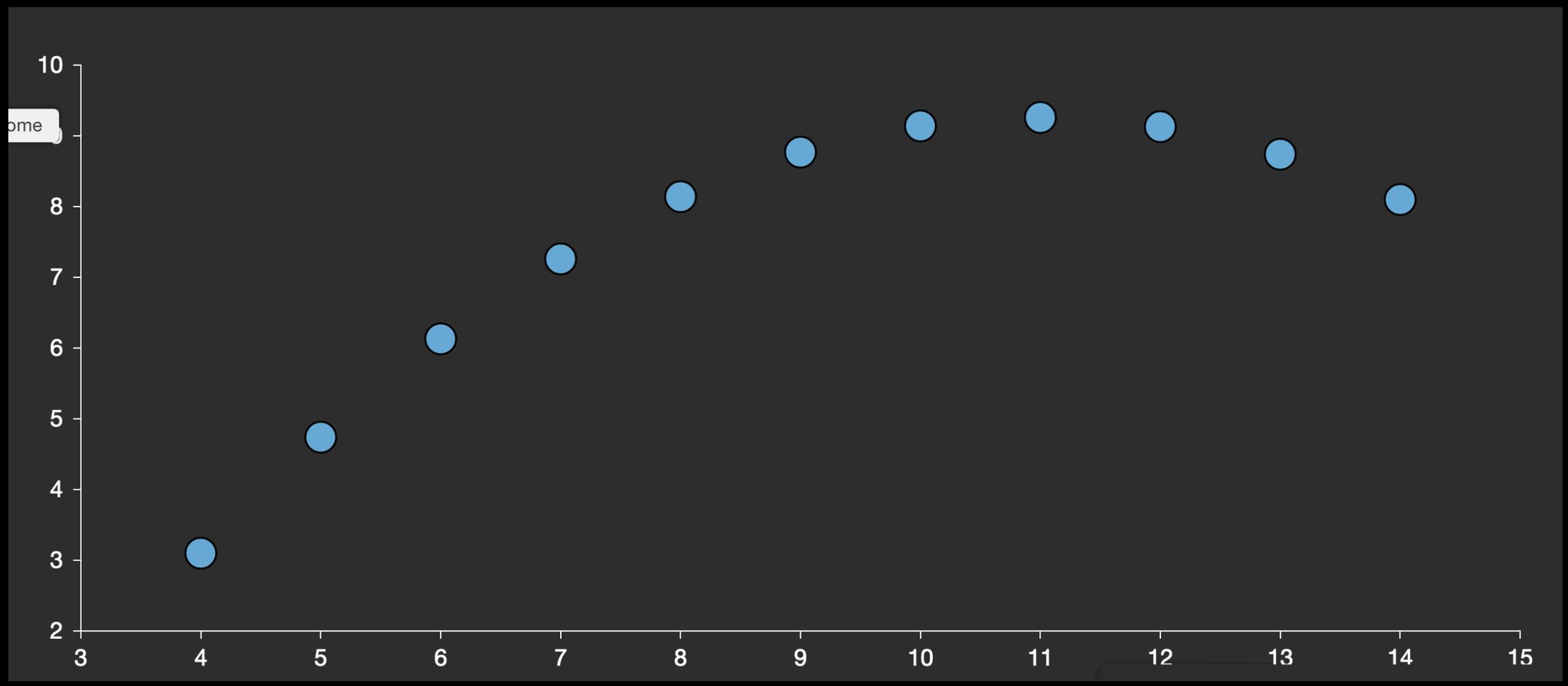
Visual structure



Data structure

```
var data = [
    {x: 10.0, y: 9.14},
    {x:  8.0, y: 8.14},
    {x: 13.0, y: 8.74},
    {x:  9.0, y: 8.77},
    {x: 11.0, y: 9.26}
];
```

Visual structure



Selections

Array of abstract informations:

```
var data = [1, 1, 2, 3, 5, 8];
```

Array of visual element:

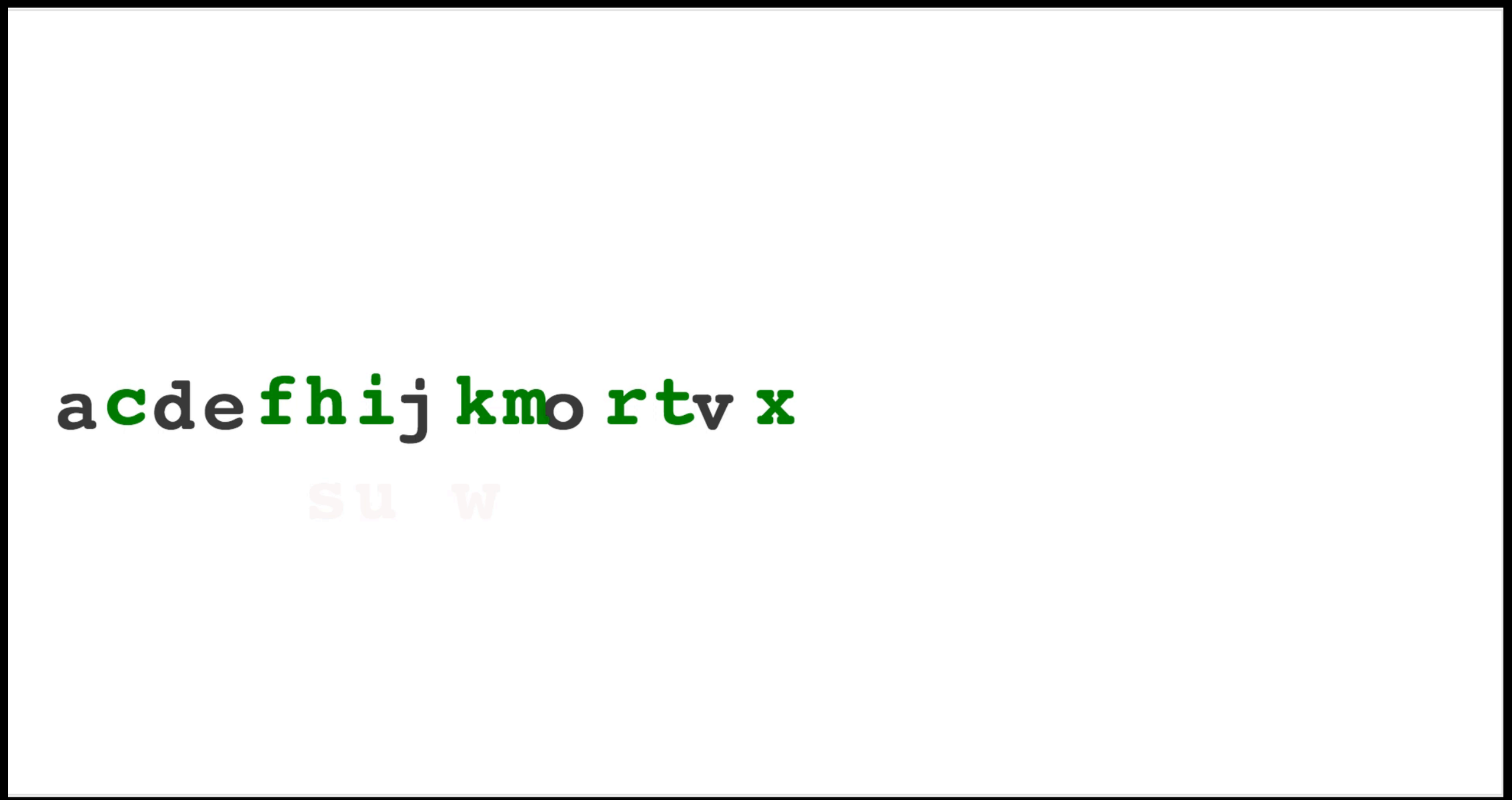
```
var circle = d3.selectAll("circle")
```

Data Binding

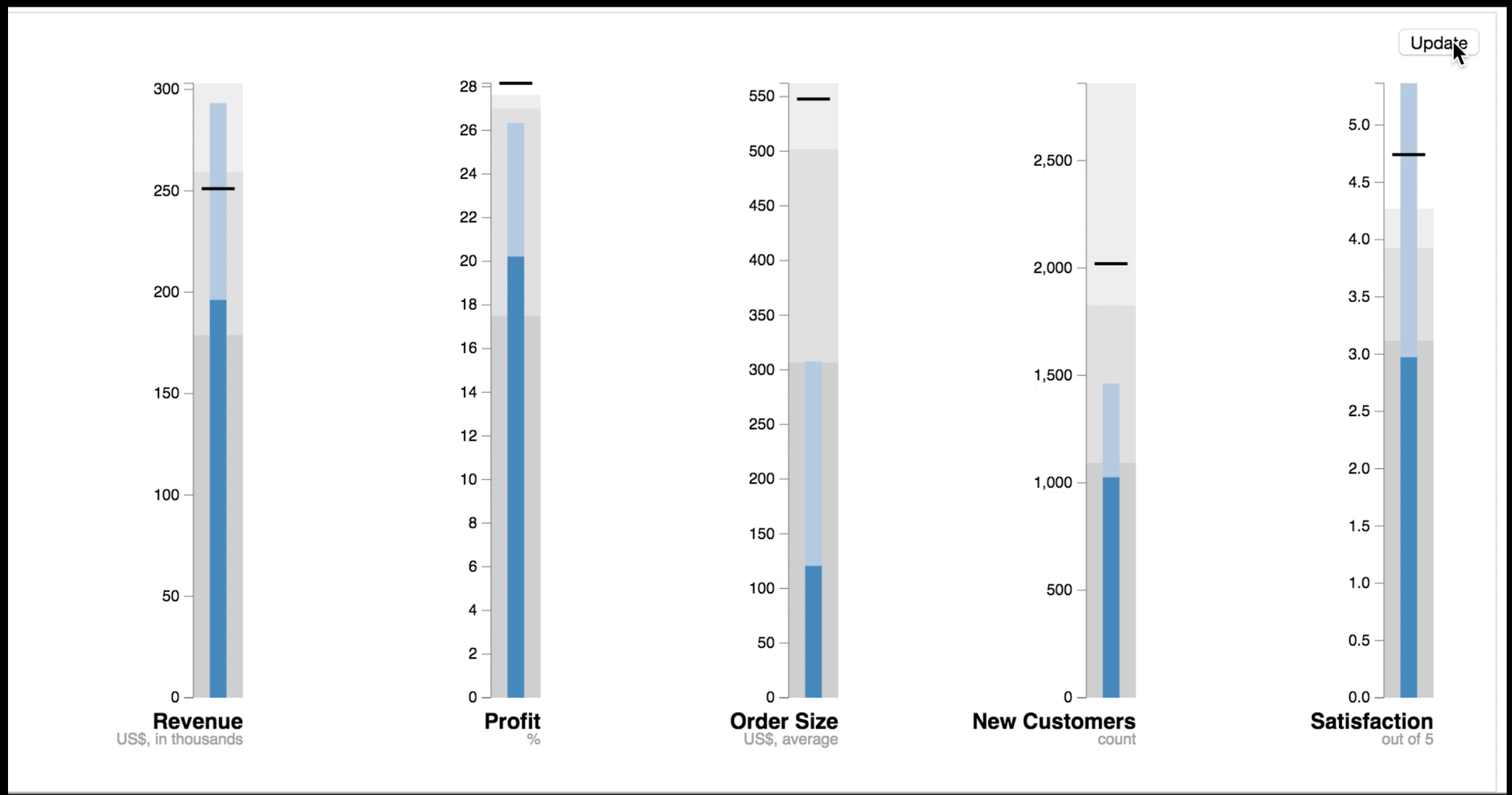
Mapping between information and visual element:

```
svg.selectAll("circle")
    .data(data)
  .enter().append("circle")
    .attr("cx", x)
    .attr("cy", y)
    .attr("r", 2.5);
```

Enter-Update-Exit ballet



Transitions



Data Sources

- CSV
- JSON
- XML

Fixing Data Sources

- Functions to transform data
- Functions to arrange data
- Functions for type coercion

Grazie!

Fabio Franchino | @fabiofranchino - f.franchino@todo.to.it