



Take the most of Power BI with Custom Visuals



26-02-2019 Margarida Prozil

WHO AM I?

Margarida Prozil



Senior BI developer at Unilabs **Data Intelligence** team



Special interest for the **healthcare** field



Love to work with **Power BI** and be part of its dynamic community



Author of a certified custom visual - **Playaxis**

BEFORE BEGINNING

PBIPT #2 - Why Power BI? News, Roadmap, Custom Visuals, Transformation with PBI

26/02/2019 18:00:00



172

Nº Members

148

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22/02/2019

Day With More Subscribers



13-02-2019 12:02:42

Nuno Silva



Nº Attendees by Date

150

100

50

0

10-2

17-2

24-2

OUTLINE

1. Tips for better data visualization
2. How to Build a Custom Visual
 - 2.1. Pre-requisites | Setup | Creating a new visual | Anatomy
 - 2.2. Visual Elements | Data Binding | Monetization
3. Explore Custom Visuals at the Office Store
4. How to Adapt an Existing Visual



Tips for better data visualization



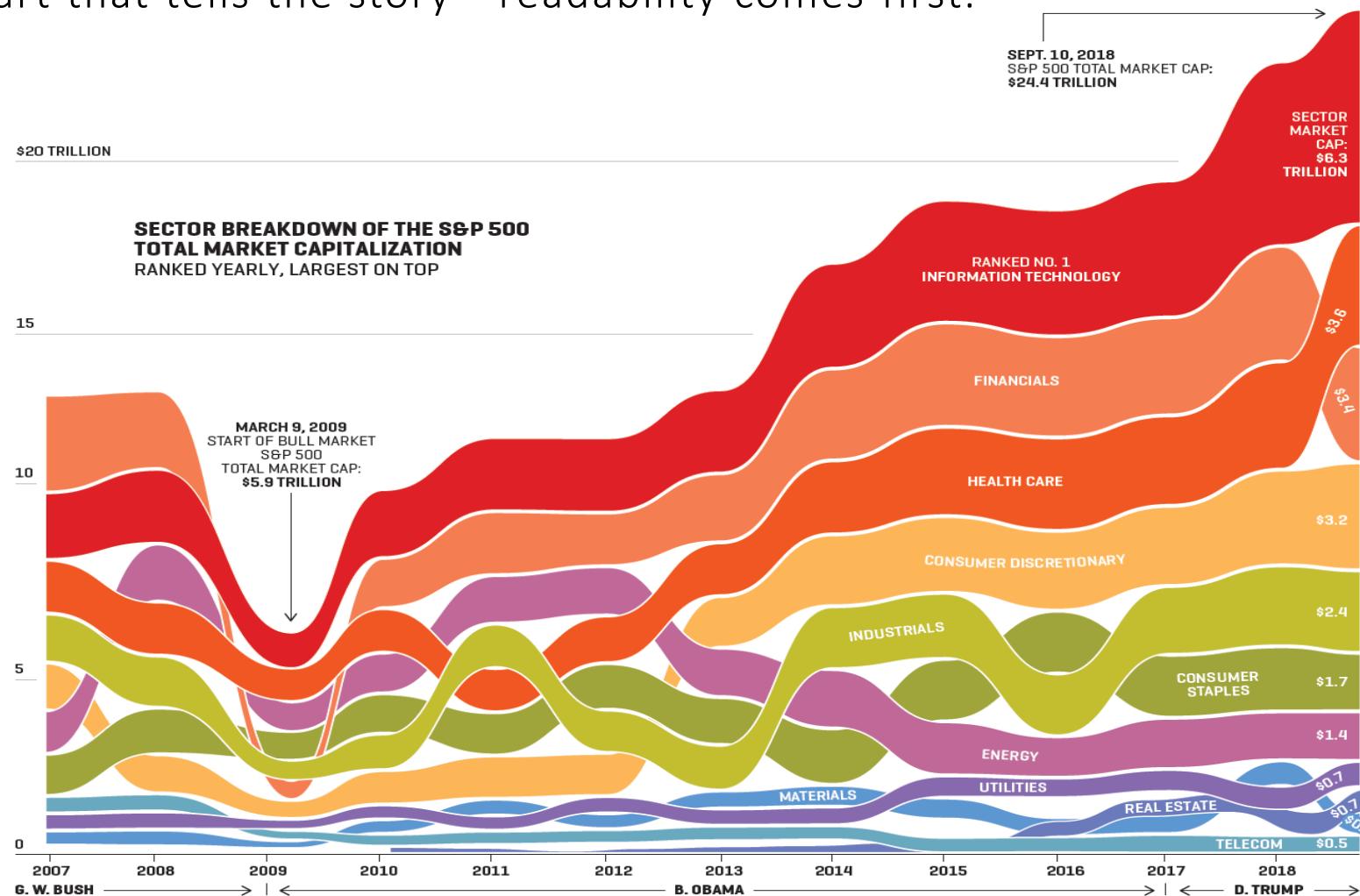


1. Tell a story

Choose the chart that tells the story - readability comes first

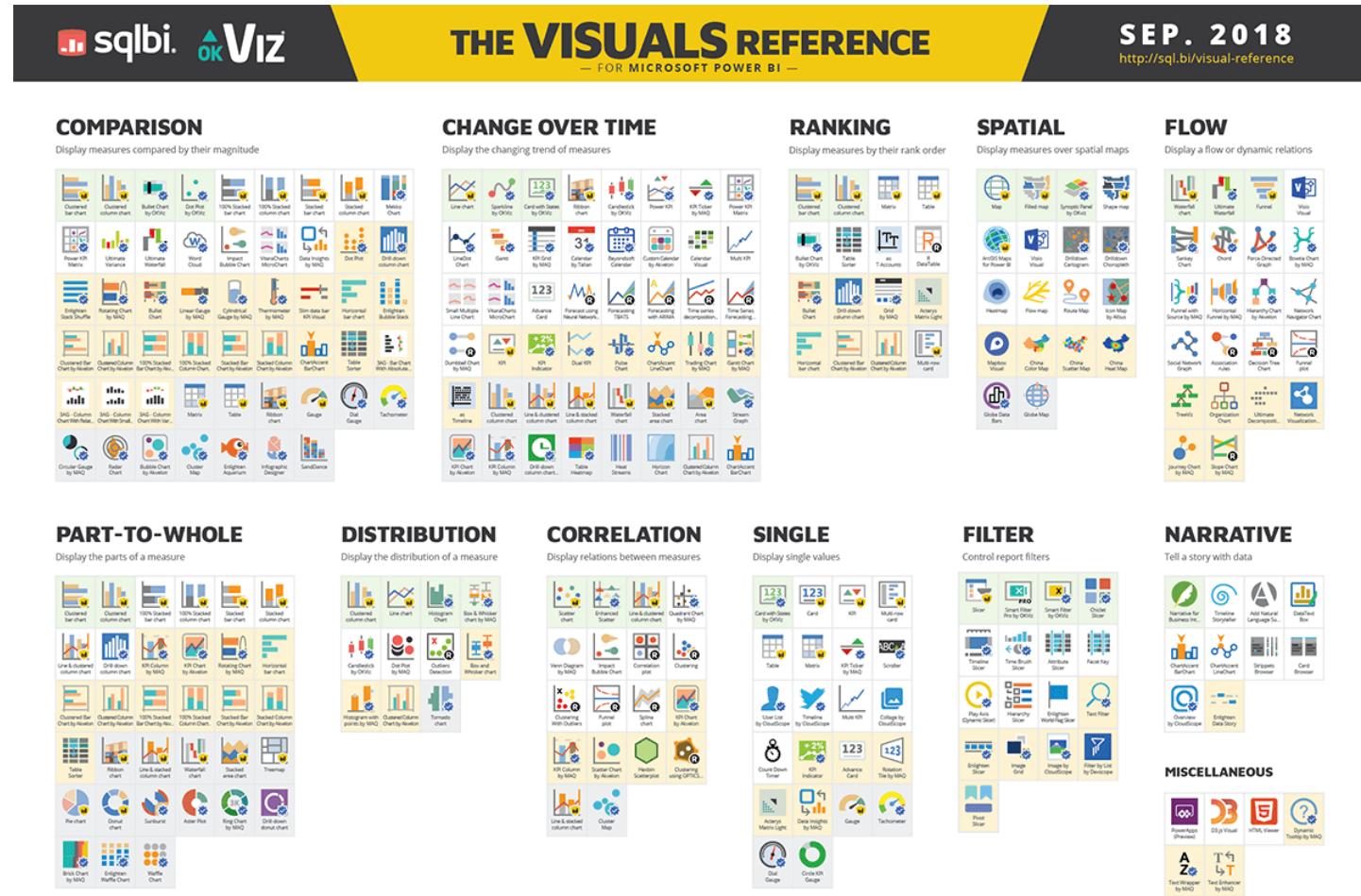
Tips for better data visualization

Choose the chart that tells the story - readability comes first.



Tips for better data visualization

<https://www.sqlbi.com/ref/power-bi-visuals-reference/>



The image shows a comprehensive reference guide for Microsoft Power BI visualizations, titled "THE VISUALS REFERENCE FOR MICROSOFT POWER BI". It is dated SEP. 2018 and includes a URL: <http://sql.bi/visual-reference>. The guide is organized into several categories:

- COMPARISON**: Displays measures compared by their magnitude. Includes icons for various chart types like Bar, Line, and Stacked charts.
- CHANGE OVER TIME**: Displays the changing trend of measures. Includes icons for Line charts, Gantt charts, and Timeline visual.
- RANKING**: Displays measures by their rank order. Includes icons for KPIs, Scorecards, and RANK visual.
- SPATIAL**: Displays measures over spatial maps. Includes icons for Maps, Heatmaps, and Choropleth visual.
- FLOW**: Displays a flow or dynamic relations. Includes icons for Sankey, Force Directed Graph, and Flow visual.
- PART-TO-WHOLE**: Displays the parts of a measure. Includes icons for Treemap, Pyramid, and Ring chart.
- DISTRIBUTION**: Displays the distribution of a measure. Includes icons for Histograms, Box & Whisker chart, and Density plot.
- CORRELATION**: Displays relations between measures. Includes icons for Scatter chart, Correlation matrix, and Correlation using DOTS.
- SINGLE**: Displays single values. Includes icons for KPI, Gauge, and Tachometer.
- FILTER**: Control report filters. Includes icons for Drill-down, Filter, and Date Filter.
- NARRATIVE**: Tell a story with data. Includes icons for Story, Timeline, and Data Story.
- MISCELLANEOUS**: Various other visual types. Includes icons for PowerApp, D3.js Visual, and Dynamic Textbox.

Legend at the bottom:

- Recommended (green square)
- There is a better alternative (yellow square)
- Don't use in the category (grey square)
- Built-in visual (blue square)
- Certified visual (purple square)
- Required (red square with R)

Tips for better data visualization

<https://datavizcatalogue.com/>

What do you want to show?

Here you can find a list of charts categorised by their data visualization functions or by what you want a chart to communicate to an audience. While the allocation of each chart into specific functions isn't a perfect system, it still works as a useful guide for selecting chart based on your analysis or communication needs.



Comparisons



Proportions



Relationships



Hierarchy



Concepts



Location



Part-to-a-whole



Distribution



How things work



Processes & methods



Movement or flow



Patterns



Arc Diagram



Area Graph



Bar Chart



Box & Whisker Plot



Brainstorm



Bubble Chart



Bubble Map



Bullet Graph



Calendar



Candlestick Chart



Chord Diagram



Choropleth Map



Circle Packing



Connection Map



Density Plot



Donut Chart



Dot Map



Dot Matrix Chart



Error Bars



Flow Chart



Flow Map



Gantt Chart



Heatmap



Histogram



Illustration Diagram



Kagi Chart



Line Graph



Marimekko Chart



Multi-set Bar Chart



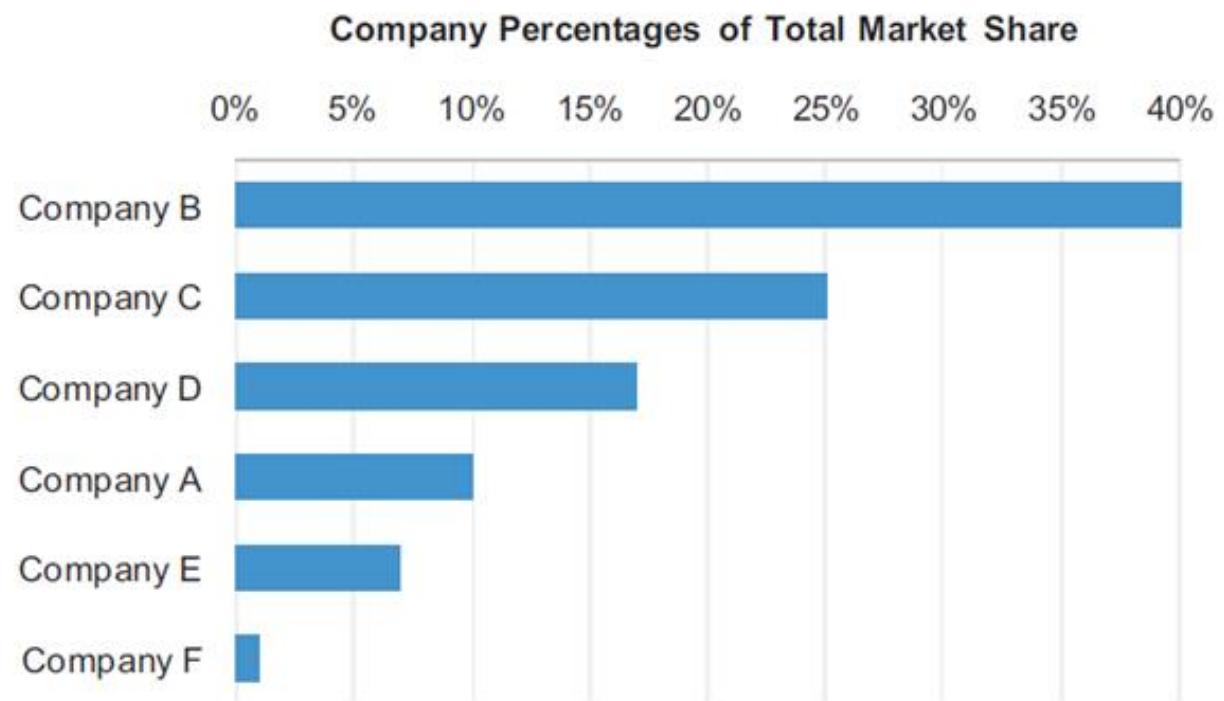
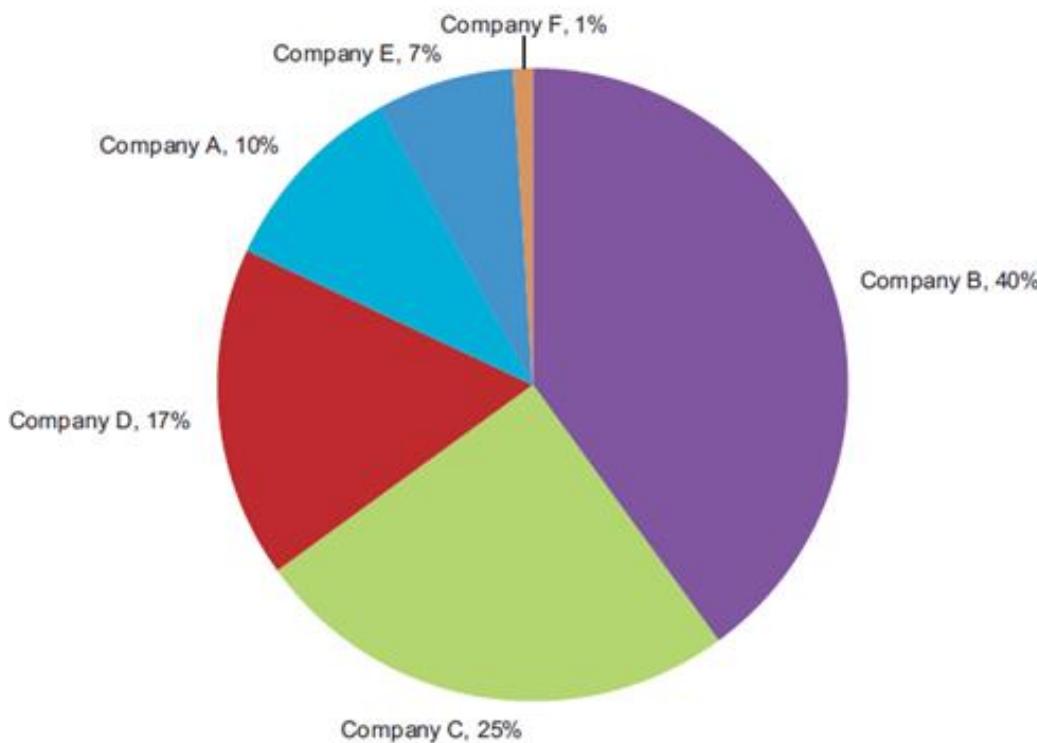
Network Diagram

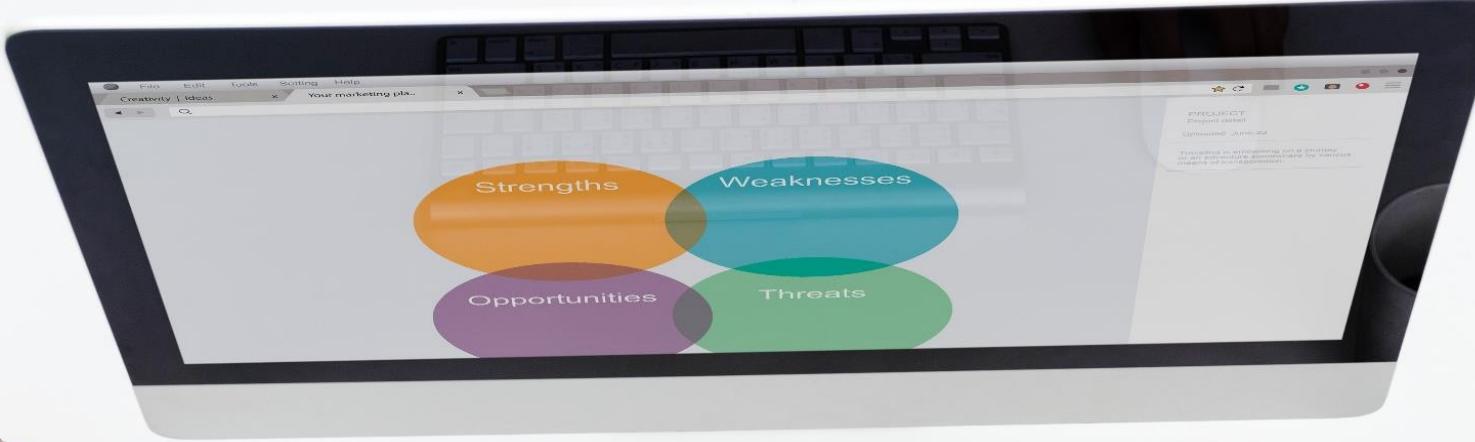
2. Comparison

Is probably the most easy-to-understand method for data analysis

Tips for better data visualization

Compare – This is probably the most easy-to-understand method for data analysis.





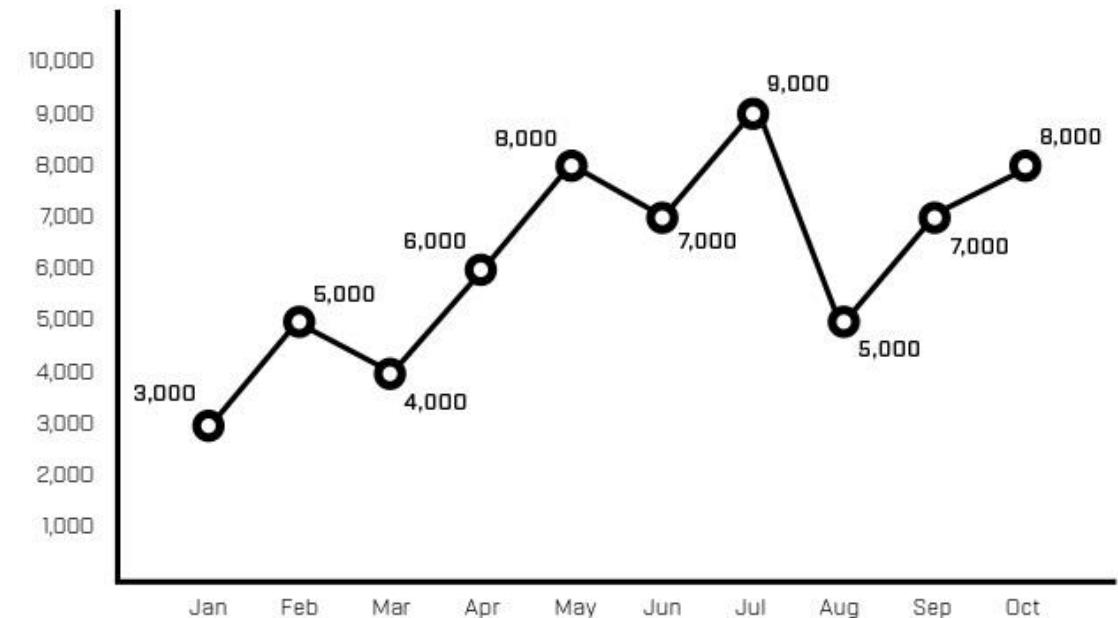
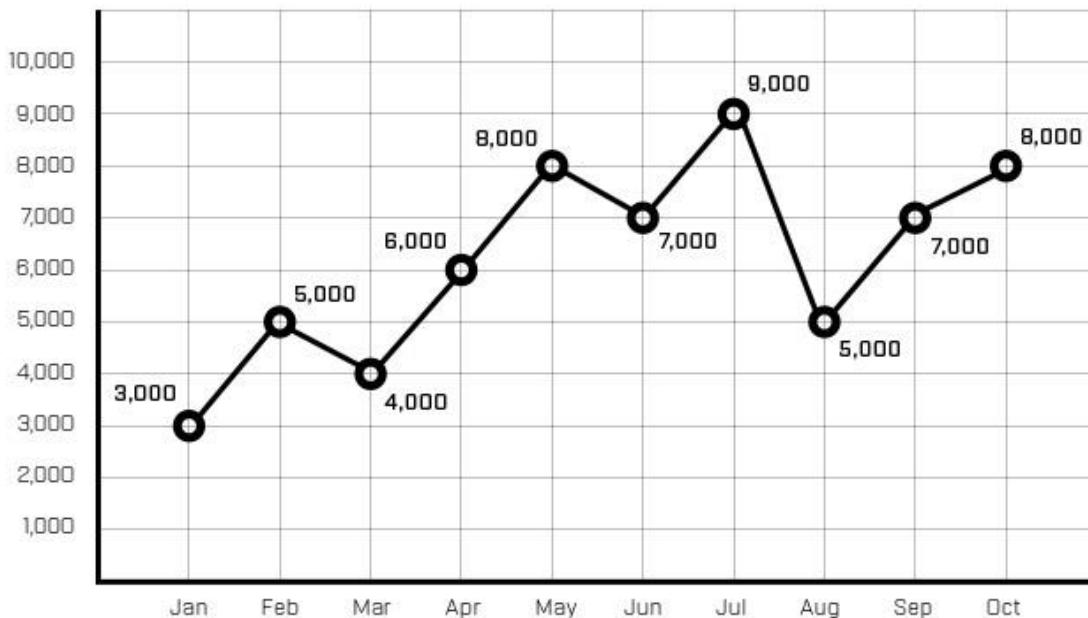
3. Keep it minimal

Less is more – remove what is not necessary



Tips for better data visualization

Keep it minimal - Less is more. Remove what is not necessary.

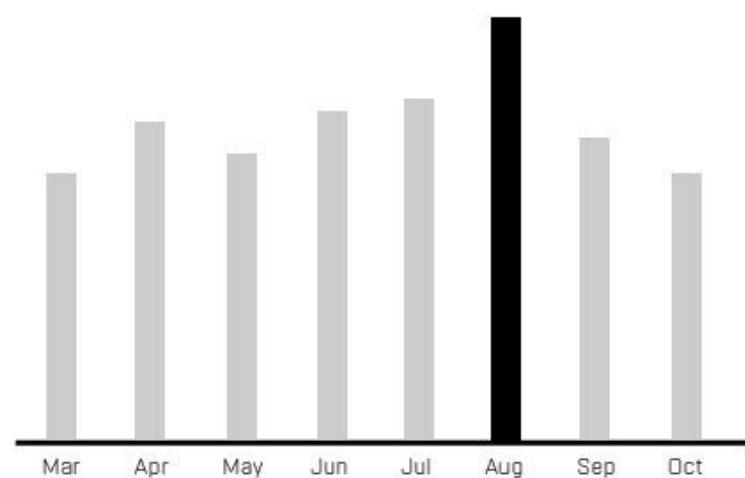
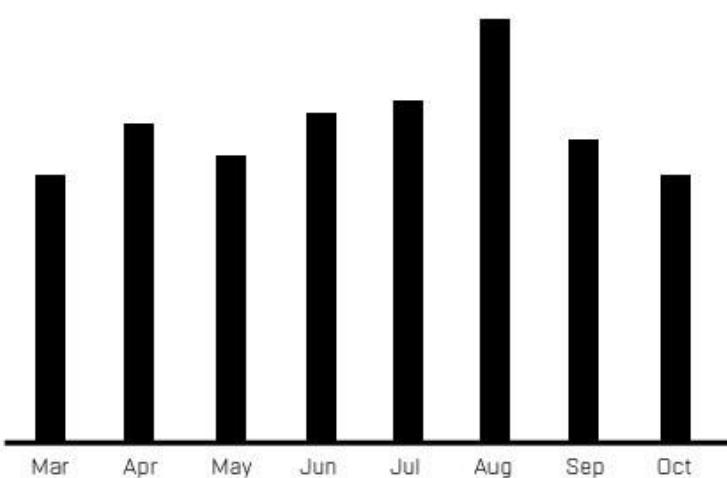


4. Squint at your design

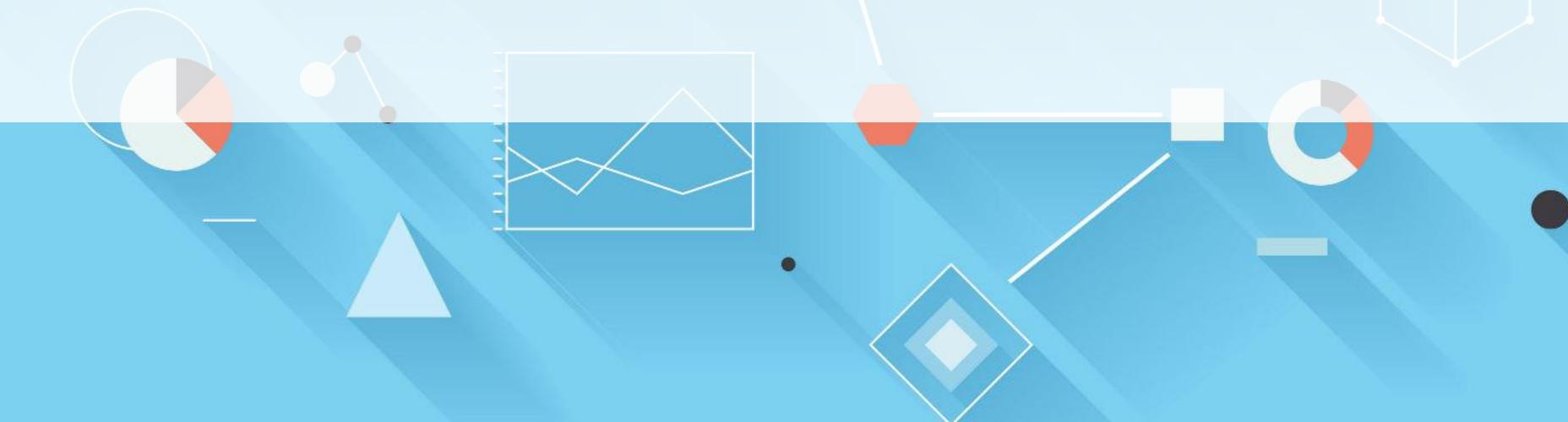
The most important elements should still be visible. The others blurred out

Tips for better data visualization

The most important elements should still be visible. The others blurred out



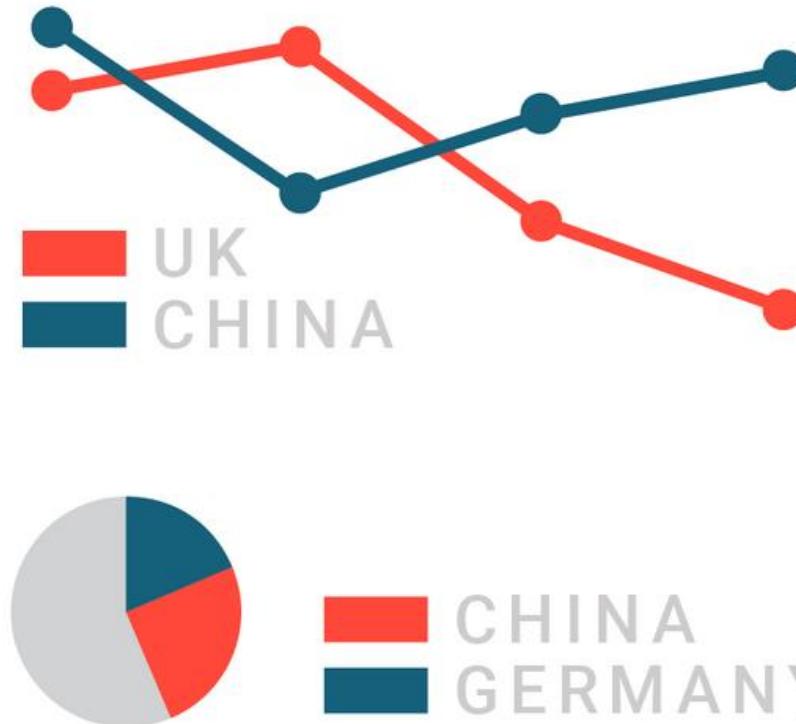
5. Be smart with your colors



Tips for better data visualization

Single color to the same data

NOT IDEAL



BETTER



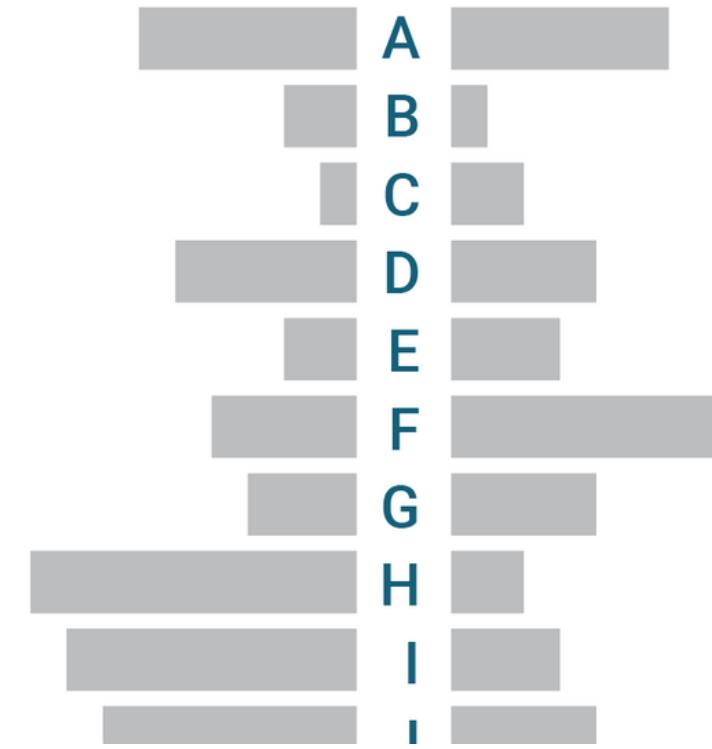
Tips for better data visualization

If you need more than seven colors in a chart, use another chart to group categories together

NOT IDEAL



BETTER





How to Build a Custom Visual

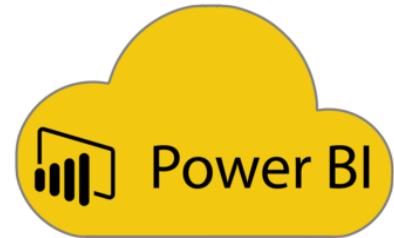


How to Build a Custom Visual | Pre-requisites

Tutorial: <https://microsoft.github.io/PowerBI-visuals/docs/step-by-step-lab/developing-a-power-bi-custom-visual/>

Pre-requisites:

Power BI subscription

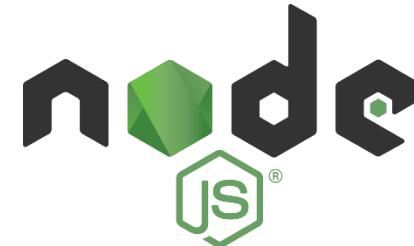


Code Editor



Visual Studio Code

Node JS



Powershell / Terminal



How to Build a Custom Visual | Setup

Tutorial: <https://microsoft.github.io/PowerBI-visuals/docs/step-by-step-lab/developing-a-power-bi-custom-visual/>

Setup:

Install package (via NPM; installs all dependencies)

```
npm i -g powerbi-visuals-tools
```

Create and install certificate

```
pbviz --create-cert  
pbviz --install-cert
```

How to Build a Custom Visual | Creating a new visual

CREATING A CUSTOM VISUAL

Navigate to your workspace folder.

```
cd C:\Projects\PBI Custom Visuals
```

Create a custom visual project with the following command. *PBIPT* is the name of the project.

```
pbiviz new PBIPT
```

Navigate to the project folder.

```
cd PBIPT
```

Start the custom visual. The visual is now running, hosted on your computer, and is ready for testing.

```
pbiviz start
```

How to Build a Custom Visual | Testing a new visual

TESTING A CUSTOM VISUAL

Sign In the Power BI Service.



In the settings menu, enable the Developer Visual for Testing option.

Developer Settings



Enable developer visual for testing
[Learn more](#)

Open a report on edition mode and select the Developer Visual.



How to Build a Custom Visual | Anatomy

ANATOMY

package.json – Node.js packages

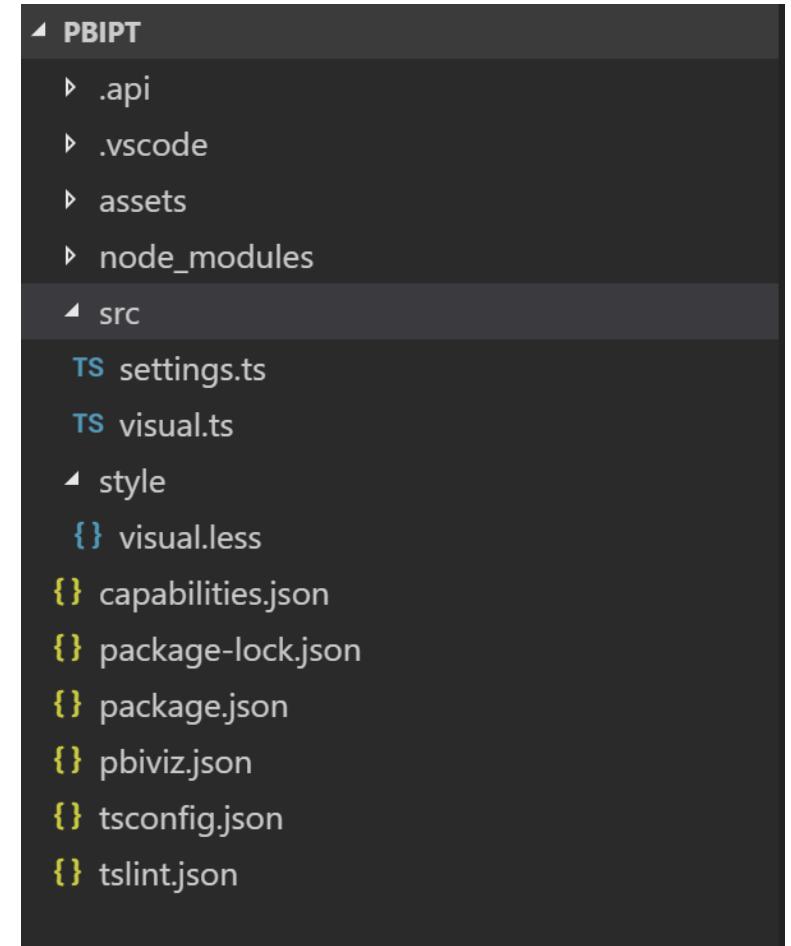
pbviz.json – project metadata (i.e. author, version, guid, etc.)

[capabilities.json](#) – define data roles, data view mappings and objects

[src/visual.ts](#) – main module. Constructor and Update methods

[src/settings.ts](#) – classes to manage properties

[style/visual.less](#) – less + CSS style sheet



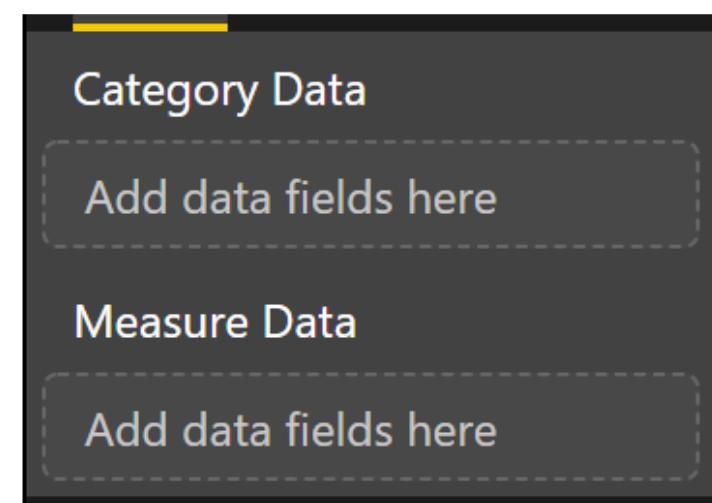
How to Build a Custom Visual | Project Anatomy



PROJECT ANATOMY

`capabilities.json` – define data roles, data view mappings and objects.

```
"dataRoles": [  
    {  
        "displayName": "Category Data",  
        "name": "category",  
        "kind": "Grouping"  
    },  
    {  
        "displayName": "Measure Data",  
        "name": "measure",  
        "kind": "Measure"  
    }  
,
```



How to Build a Custom Visual | Project Anatomy



PROJECT ANATOMY

src/visual.ts – main module. Constructor and Update methods.

CONSTRUCTOR

Initial setup of the visual

Invoked when the visual is added to the canvas

UPDATE

Manage supplied data, settings and display of the visual

Invoked when an event occurs (data changes; property
changes; resize, etc.)

How to Build a Custom Visual



BUILD A CUSTOM VISUAL

TAG v01

<https://github.com/mprozil/PBIPT-2-Custom-Visuals/releases>

The important milestones are tagged and referred in the slides

You can checkout the tags to view the code or access them on the github link

git checkout v01

How to Build a Custom Visual | D3 & Types



ADD D3 TO THE PROJECT

TAG v02

D3 JS Library & TypeScript definitions

```
npm i d3@3.5.5 --save  
npm i @types/d3@3.5
```

Edit the `pbviz.json`. Add the line "`node_modules/d3/d3.min.js`" into the `externalJS` array.

```
17  "assets": {  
18    "icon": "assets/icon.png"  
19  },  
20  "externalJS": [  
21    "node_modules/powerbi-visuals-utils-dataviewutils/lib/index.js",  
22    "node_modules/d3/d3.min.js"  
23  ],  
24  "style": "style/visual.less",
```

How to Build a Custom Visual | Clean Up



CLEAN UP CODE TEMPLATE

TAG v03

```
27 module powerbi.extensibility.visual {
28     "use strict";
29     export class Visual implements IVisual {
30
31         constructor(options: VisualConstructorOptions) {
32
33         }
34
35         public update(options: VisualUpdateOptions) {
36
37         }
38     }
39 }
```

How to Build a Custom Visual | Visual Elements

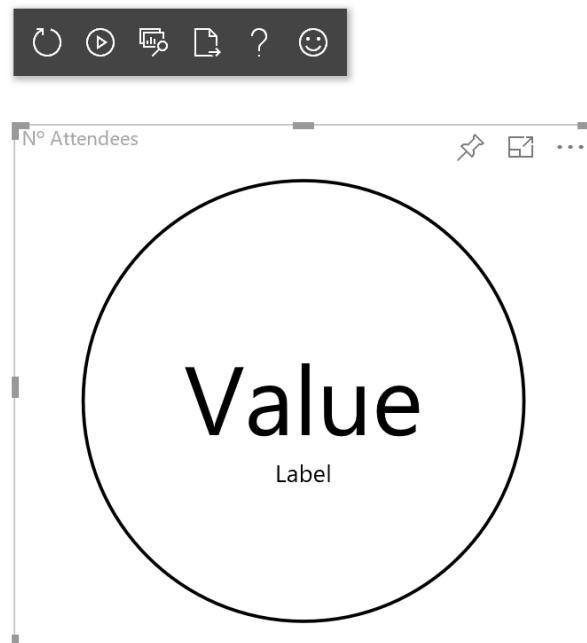


ADD VISUAL ELEMENTS

Add elements to class

Initialize the elements in the constructor

Add update logic to the update method



```
27 27 module powerbi.extensibility.visual {
28 28   "use strict";
29 29   export class Visual implements IVisual {
30 30     + private host: IVisualHost;
31 31     + private svg: d3.Selection<SVGElement>;
32 32     + private container: d3.Selection<SVGElement>;
33 33     + private circle: d3.Selection<SVGElement>;
34 34     + private textValue: d3.Selection<SVGElement>;
35 35     + private textLabel: d3.Selection<SVGElement>;
36
37     constructor(options: VisualConstructorOptions) {
38     -       this.svg = d3.select(options.element)
39     +         .append('svg')
40     +           .classed('circleCard', true);
41     +         this.container = this.svg.append("g")
42     +           .classed('container', true);
43     +         this.circle = this.container.append("circle")
44     +           .classed('circle', true);
45     +         this.textValue = this.container.append("text")
46     +           .classed("textValue", true);
47     +         this.textLabel = this.container.append("text")
48     +           .classed("textLabel", true);
49   }
50
51   public update(options: VisualUpdateOptions) {
52   -     let width: number = options.viewport.width;
53   +     let height: number = options.viewport.height;
54   +     this.svg.attr({
55   +       width: width,
56   +       height: height
57   +     });
58   +     let radius: number = Math.min(width, height) / 2.2;
59   +     this.circle
60   +       .style("fill", "white")
61   +       .style("fill-opacity", 0.5)
62   +       .style("stroke", "black")
63   +       .style("stroke-width", 2)
64   +       .attr({
65   +         r: radius,
66   +         cx: width / 2,
67   +         cy: height / 2
68   +       });
69   +     let fontSizeValue: number = Math.min(width, height) / 5;
70   +     this.textValue
71   +       .text("Value")
72   +       .attr({
```

TAG v04

How to Build a Custom Visual | Data Binding



BIND DATA

TAG v05

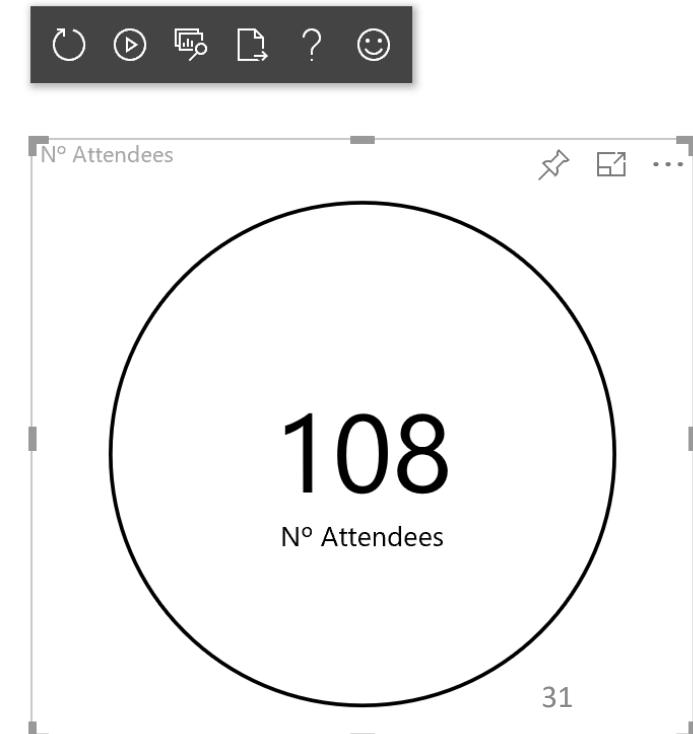
Add a data role of type measure to the capabilities.json file

On the update method from the visual.ts

Replace measure value with value from dataView

Replace measure label with column metadata from dataView

```
{} capabilities.json x
1  {
2    "dataRoles": [
3      {
4        "displayName": "Measure",
5        "name": "measure",
6        "kind": "Measure"
7      }
8    ],
9  }
```



How to Build a Custom Visual | Properties

SET PROPERTIES

TAG v06

Add objects to capabilities.json.

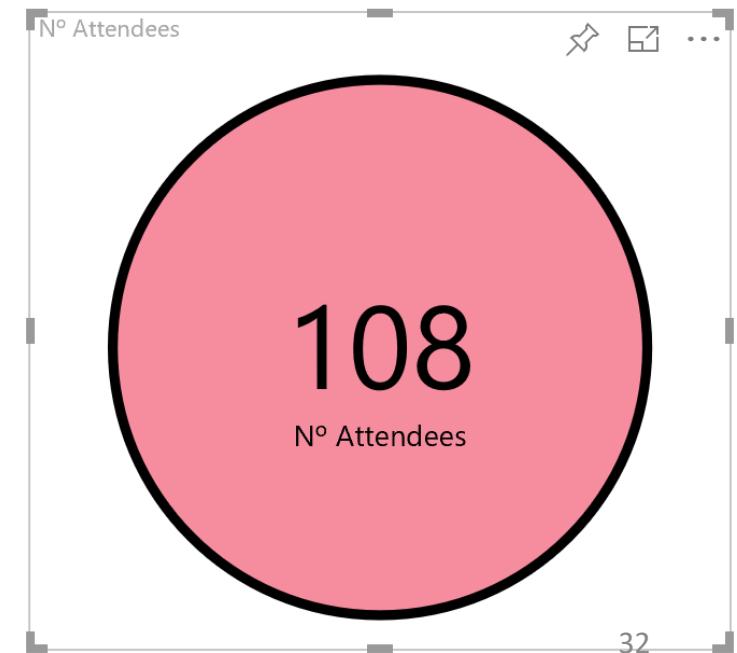
Replace the classes in the settings.ts file.

Add the enumerateObjectInstances in the visual.ts.

Modify the style and attribute values in the update method.

```
81     this.circle  
82         .style("fill", "white") X  
83         .style("fill-opacity", 0.5)  
84         .style("stroke", "black")  
85         .style("stroke-width", 2)  
86         .attr({
```

```
81     this.circle  
82         .style("fill", this.visualSettings.circle.circleColor) ✓  
83         .style("fill-opacity", 0.5)  
84         .style("stroke", "black")  
85         .style("stroke-width", 2)  
86         .attr({
```

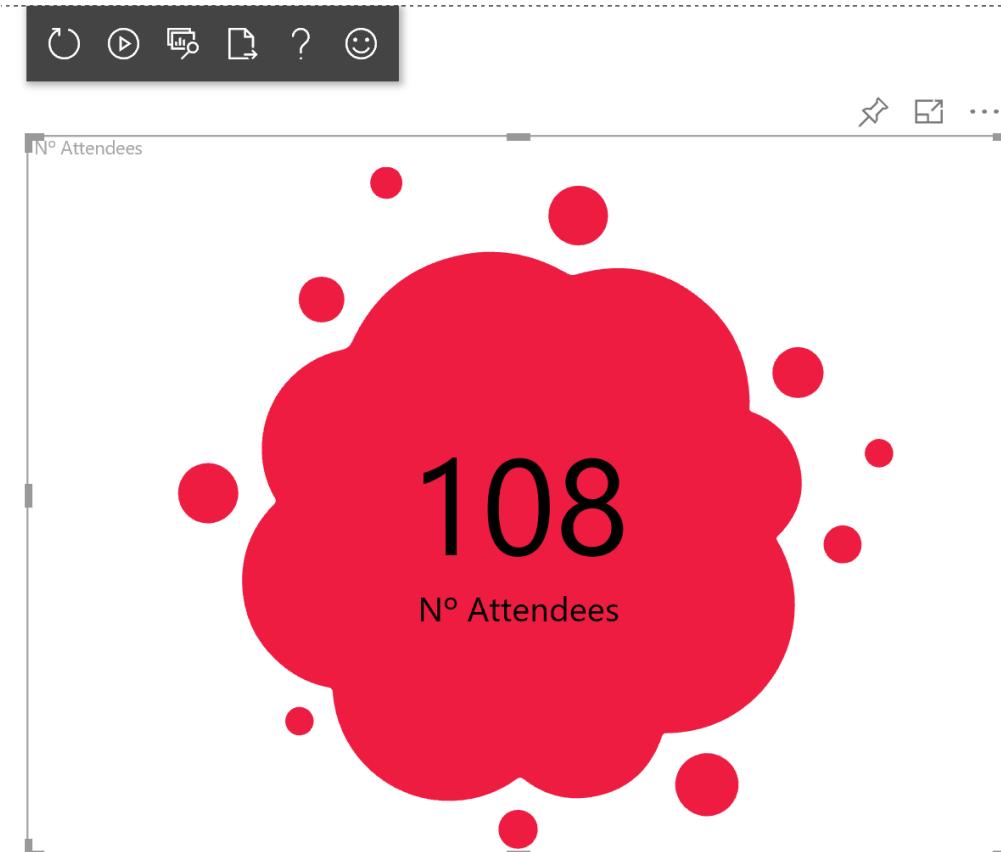


How to Build a Custom Visual | Customization

CUSTOMIZE IMAGE BACKGROUND

TAG v07

Add an svg image to constructor and resize it on the update with the *viewbox* attribute.



How to Build a Custom Visual | Packing Visual

Packing the Custom Visual

Edit the pbviz.json

```
{  
  "visual": {  
    "name": "PBIPT",  
    "displayName": "PBIPT",  
    "guid": "pBIPTEBC79D0D0C0B439380F061284BF8150F",  
    "visualClassName": "PBIPT Visual",  
    "version": "1.0.0",  
    "description": "PowerBI Portugal - Porto Meetup",  
  }  
}
```

pbviz package

How to Build a Custom Visual



How to Build a Custom Visual | Monetization

MONETIZATION

JANUARY 22 2019

The visual is marked with a price tag of 'Additional purchase may be required.' IAP custom visuals downloads are free – no payment is required to download them from the AppSource, but they offer **optional in-app purchases for advanced features**. The advanced visuals enable Power BI users to enjoy data and achieve more.



Explore Custom Visuals at the Office Store



Explore Custom Visuals at the Office Store

<https://appsource.microsoft.com/en-us/product/power-bi-visuals/WA104380981?tab=Overview>

The screenshot shows the Microsoft AppSource page for the "Play Axis (Dynamic Slicer)" custom visual. The page includes a navigation bar with the Microsoft logo, AppSource, Apps, a search bar, and user icons. Below the navigation is a breadcrumb trail: Apps > Play Axis (Dynamic Slicer). The main content area features a thumbnail image of the visual, a title "Play Axis (Dynamic Slicer)", the publisher "mprozil", and tabs for "Overview" (selected) and "Reviews". A yellow callout box indicates it is "Power BI Certified". The "Overview" section contains a description: "Working like a dynamic slicer, it animates your other power bi visuals without any user interaction." It also describes the visual's purpose: "Play Axis it's perfect to show your reports without having to click every time you want to change the values of a filter, being ideal to use on wall displays. It is also great for when you want to see trends or look for patterns in your data since you can click on "play" and just focus on how data is evolving." The "Add-in capabilities" section lists: "Can read and make changes to your document" and "Can send data over the Internet". On the right side, there is a screenshot of the Power BI interface showing the visual in action, and below it, three smaller screenshots of the visual in different contexts.

Explore Custom Visuals at the Office Store

PBIPT #2 - Why Power BI? News, Roadmap, Custom Visuals, Transformation with PBI

26/02/2019 18:00:00



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13-02-2019 12:02:42

Nuno Silva



Nº Attendees by Date

150

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10-2

17-2

24-2

Explore Custom Visuals at the Office Store

<https://appsource.microsoft.com/en-us/product/power-bi-visuals/WA104380873>

Microsoft | AppSource Apps ▾

Search Microsoft AppSource

More ▾

Heart icon

Smile icon

User icon

Apps > Synoptic Panel by OKViz

 GET IT NOW

Save for later

★★★★★ (2)

Pricing
Free

Products
Power BI visuals

Publisher
OKViz

Acquire Using
Work or school account

Version
1.5.0.0

Updated
3/23/2017

Categories
Analytics

Products supported
Power BI

Synoptic Panel by OKViz

OKViz

Overview Reviews

 Power BI Certified

Certified custom visuals are visuals in the marketplace that met certain specified code requirements and testing by the Power BI team

Learn more >

Create custom maps with areas connected to the data.

Synoptic Panel by OKViz allows you to present one or more images (called maps, not necessarily geographical maps), assigning a meaning to arbitrary parts of them (called areas). You can highlight and color these areas dynamically and display several information over them. To design maps you can use a vector graphic editor or our companion tool Synoptic Designer (<https://synoptic.design>).

Add-in capabilities

When this add-in is used, it

- Can read and make changes to your document
- Can send data over the Internet

Local maps

Gallery



Explore Custom Visuals at the Office Store

Fields

Visualizations

Filters

2015 2016 2017

January February March April May June July August September October November December

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	-	-	-	-	-	-	
00:59	01:59	02:59	03:59	04:59	05:59	06:59	07:59	08:59	09:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59	17:59	18:59	19:59	20:59	21:59	22:59	23:59	-	-	-	-	-	-	

Average patients / hour by Area

Area	Average patients / hour
Area 1	90
Area 12	60
Area 10	35
Area 5	32
Area 2	21
Area 11	16
Area 6	15
Area 7	12
Area 8	12
Area 13	8
Area 3	6
Area 4	3
Area 9	2

Hourly Analysis Geographic Analysis +

Explore Custom Visuals at the Office Store

<https://appsource.microsoft.com/en-us/product/power-bi-visuals/WA104380768?tab=Overview>

Microsoft | AppSource Apps ▾ Search Microsoft AppSource More ▾

Apps > Tornado chart

 GET IT NOW 

★★★★★ (2)

Pricing Free

Products Power BI visuals

Publisher Microsoft Corporation

Acquire Using Work or school account

Version 2.0.1.0

Updated 3/21/2017

Categories Analytics

Products supported Power BI

Support Support

Tornado chart
Microsoft Corporation

Overview Reviews

Power BI Certified
Certified custom visuals are visuals in the marketplace that met certain specified code requirements and testing by the Power BI team [Learn more >](#)

Comparing the relative importance of variables between two groups

Tornado charts, are a special type of Bar chart, where the data categories are listed vertically instead of the standard horizontal presentation, and the categories are ordered so that the largest bar appears at the top of the chart, the second largest appears second from the top, and so on. They are so named because the final chart visually resembles either one half of or a complete tornado.

A tornado chart is a common tool used to depict the sensitivity of a result to changes in selected variables. It shows the effect on the output of varying each input variable at a time, keeping all the other input variables at their initial (nominal) values. Typically, you choose a "low" and a "high" value for each input.

This is an open source visual. Get the code from GitHub: <https://github.com/Microsoft/PowerBI-visuals-tornado>

Add-in capabilities

When this add-in is used,

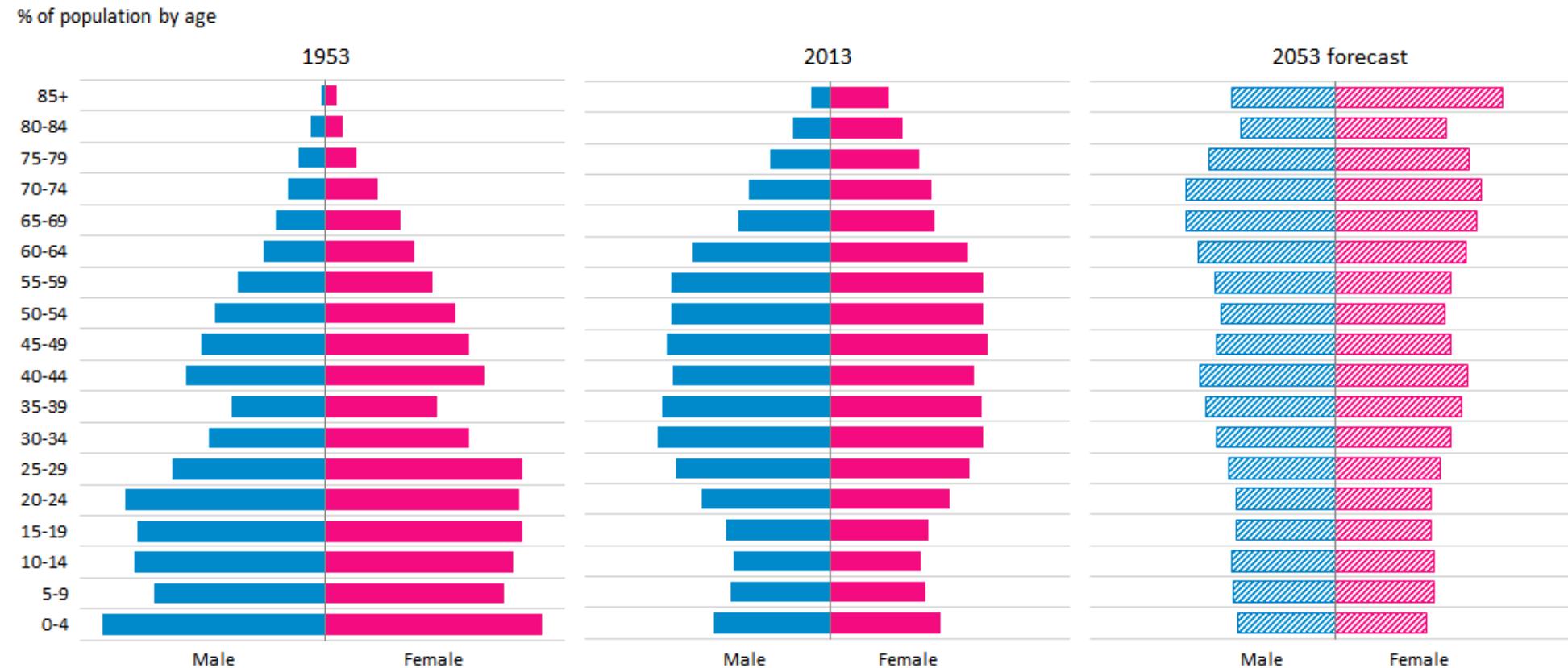
- Can read and make changes to your document
- Can send data over the Internet

● Flat ● House

Category	Value	Value
Bangkok	0.12M	0.41M
Barcelona	0.16M	0.57M
Beijing	0.25M	1.04M
Berlin	0.22M	0.71M
Cairo	0.02M	0.06M
Cape Town	0.06M	0.22M
Casablanca	0.02M	0.07M
Delhi	0.05M	0.19M
Dubrovnik	0.13M	0.41M
Hong Kong	0.13M	0.41M
Istanbul	0.05M	0.16M
Jakarta	0.02M	0.09M

Explore Custom Visuals at the Office Store

<https://appsource.microsoft.com/en-us/product/power-bi-visuals/WA104380768?tab=Overview>



Explore Custom Visuals at the Office Store

<https://appsource.microsoft.com/en-us/product/power-bi-visuals/WA104380756?tab=Overview>

Microsoft | AppSource Apps ▾

Search Microsoft AppSource

More ▾

Heart

Smile

User icon

Apps > Chiclet Slicer



GET IT NOW

SAVE FOR LATER

★★★★★ (12)

Pricing Free

Products Power BI visuals

Publisher Microsoft Corporation

Acquire Using Work or school account

Version 1.6.1.0

Updated 3/21/2017

Categories Analytics Filters

Products supported Power BI

Support Support

Chiclet Slicer
Microsoft Corporation

Overview **Reviews**

Power BI Certified
Certified custom visuals are visuals in the marketplace that met certain specified code requirements and testing by the Power BI team

Learn more >

Display image and/or text buttons that act as an in-canvas filter on other visuals

The Chiclet Slicer was inspired by the great slicer control found in Excel since 2010, but with much greater customization options.

Chiclet are a slicers made of buttons, that can also be arranged horizontally for a very efficient real estate use, or arranged as a matrix for a super compact form.

Chiclet slicer also supports cross highlighting.

That's not all - they can even contain images!

This is an open source visual. Get the code from GitHub: <https://github.com/Microsoft/PowerBI-visuals-chicletslicer>

Add-in capabilities

When this add-in is used, it

- Can read and make changes to your document
- Can send data over the Internet



Industry

Auto

Banking

Capital Markets

Communication

Distribution

Energy

Financial Services

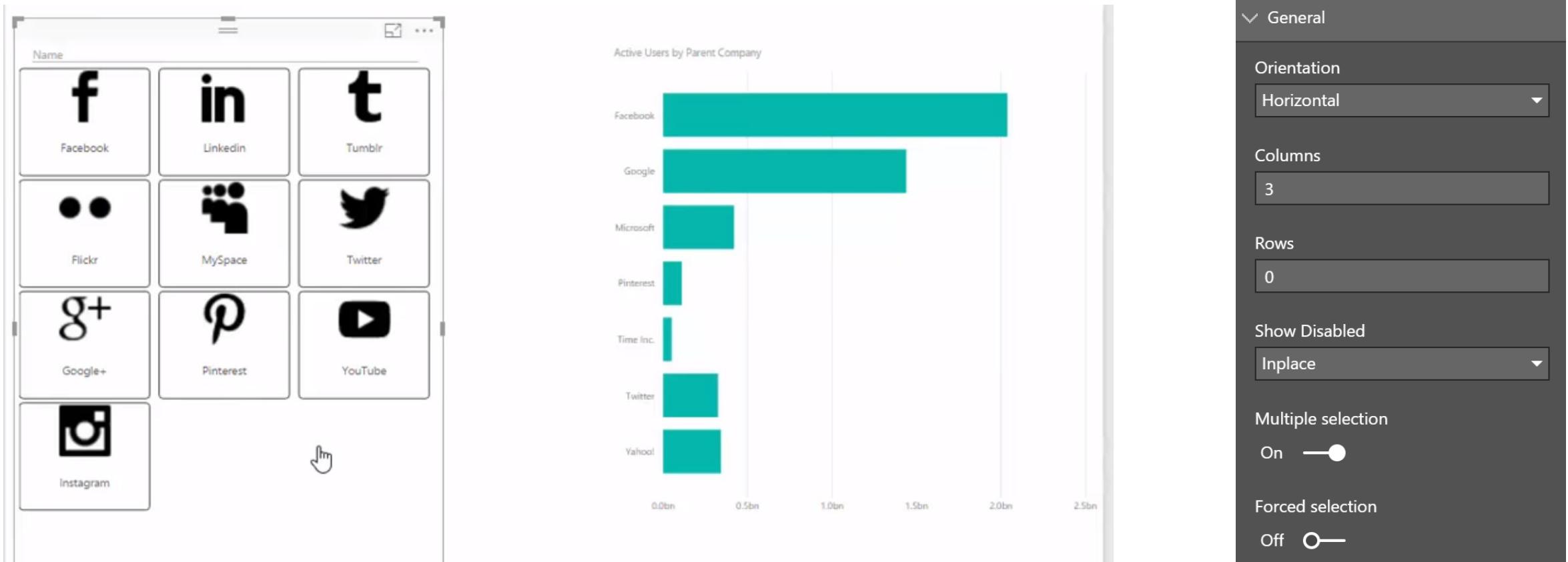
Manufacturing

Oil & Gas

OneDrive

Explore Custom Visuals at the Office Store

<https://appsource.microsoft.com/en-us/product/power-bi-visuals/WA104380756?tab=Overview>



Explore Custom Visuals at the Office Store

<https://appsource.microsoft.com/en-us/product/power-bi-visuals/WA104381413?tab=Overview>

The screenshot shows the Microsoft AppSource product page for 'Filter by List by Devscope'. The page has a blue header with the Microsoft logo, 'AppSource', a search bar, and user icons. Below the header, the breadcrumb navigation shows 'Apps > Filter by List by Devscope'. The main content area features a large thumbnail of the visual, its name, and the publisher's logo. It includes sections for 'Overview' (selected), 'Reviews', and 'Power BI Certified'. A yellow callout box highlights the 'Power BI Certified' status. Below this, there's a section titled 'Apply filter values for a report in bulk' with a detailed description. To the right, there's a 'Sample Report for Filter by List' section showing a Power BI report with a slicer and a list of items. The left sidebar contains links for 'Pricing', 'Products', 'Publisher', 'Acquire Using', 'Version', 'Updated', 'Categories', 'Products supported', 'Support', and 'Legal'.

Microsoft | AppSource Apps ▾ Search Microsoft AppSource More ▾ Heart 8 Smile User

Apps > Filter by List by Devscope

Filter by List by Devscope

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Pricing
Free

Products
Power BI visuals

Publisher
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Acquire Using
Work or school account

Version
1.1.1.0

Updated
1/10/2018

Categories
Analytics
Filters

Products supported
Power BI

Support
Support

Legal
License Agreement
Privacy Policy

Filter by List is a Power BI visual that allows users to apply filter values for a report in bulk. By default, in order to filter a report with a large number of categories, such as 100 products, users need to check each box in the filter pane individually. With Filter by List, you can just paste the entire list of products into the slicer visual and do it immediately.

Add-in capabilities

When this add-in is used, it

- Can read and make changes to your document
- Can send data over the Internet

Sample Report for Filter by List

Filter the report with a list of values coming from, for example, an Excel file. Currently if a user wants to filter a report with a list of values like 100 items he will have to "check one by one". With this visual you can do it immediately by putting the list of values in it.

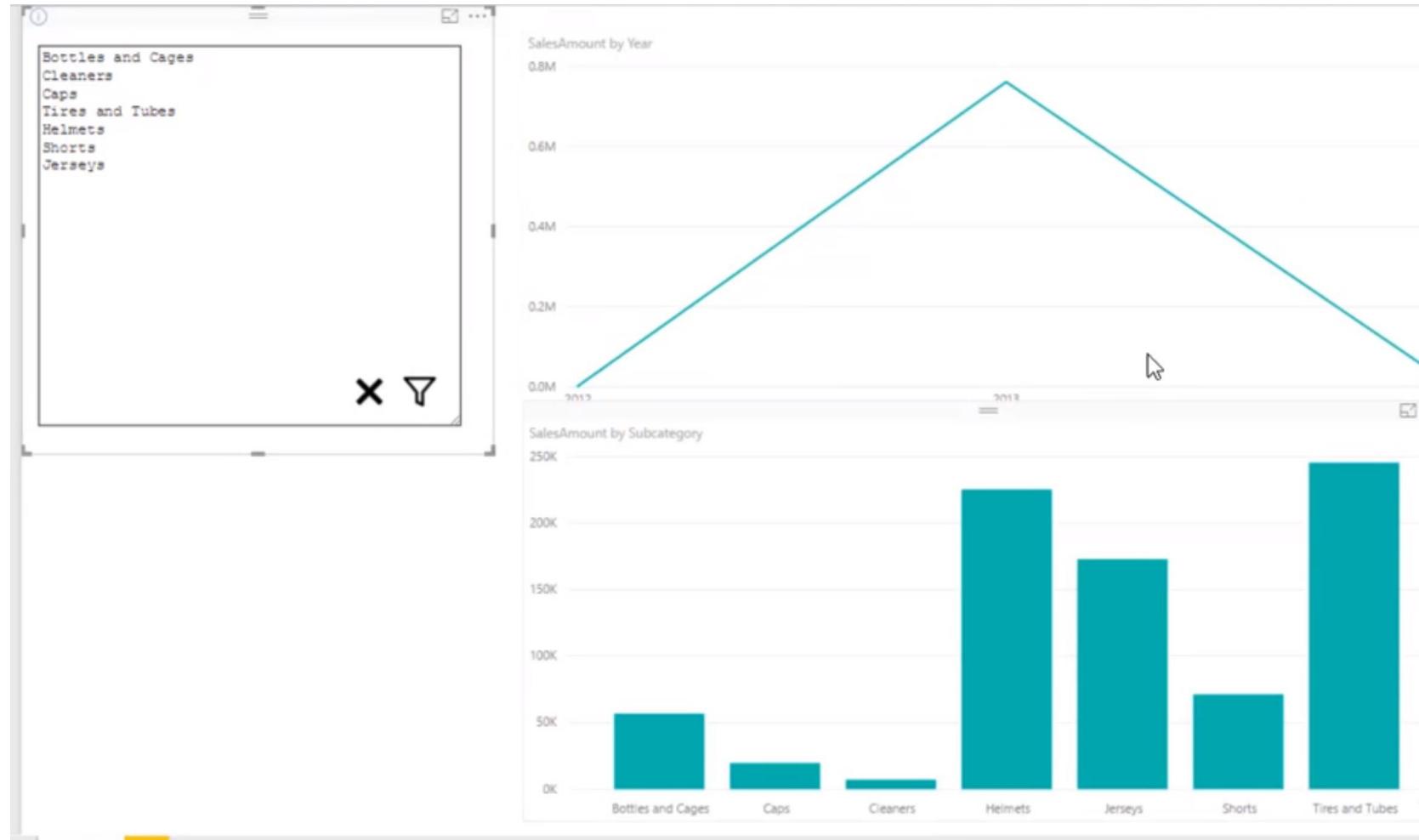
This is the look of the visual custom ready to insert a list of values and press the button of filter. To clear the selection press the X.

Custom Placeholder

Custom when your size is shrunk, changes its look for a filter icon

Explore Custom Visuals at the Office Store

<https://appsource.microsoft.com/en-us/product/power-bi-visuals/WA104381413?tab=Overview>



Explore Custom Visuals at the Office Store

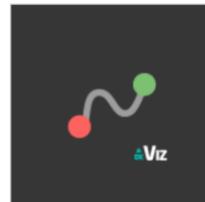
<https://appsource.microsoft.com/en-us/product/power-bi-visuals/WA104380756?tab=Overview>

Microsoft | AppSource Apps ▾

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Apps > Sparkline by OKViz



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 **SAVED**

★★★★★ (2)

Pricing
Free

Products
[Power BI visuals](#)

Publisher
OKViz

Acquire Using
Work or school account

Version
1.1.3.0

Updated
3/9/2017

Categories
[Analytics](#)
[Time](#)

Products supported
Power BI

Support

Sparkline by OKViz

OKViz

Overview [Reviews](#)

 **Power BI Certified**
Certified custom visuals are visuals in the marketplace that met certain specified code requirements and testing by the Power BI team [Learn more >](#)

Shows trend of multiple measures or category items over a line, minimizing the visual real estate

Sparkline by OKViz allows you to represent the trend of multiple measures or category items over a line. It takes great care to the use of real estate and includes several useful options: for example, you can display the highest/lowest data points, the last value (or the sum of the values in the series or the average value), a target line/area, and you can change the chart color, the line appearance, and more.

Add-in capabilities
When this add-in is used, it

- Can read and make changes to your document
- Can send data over the Internet





How to Adapt an Existing Visual



How to Adapt an Existing Visual

<https://okviz.com/sparkline/>

The screenshot shows the OKViz website at <https://okviz.com/sparkline/>. The page has a dark grey header with the OKViz logo and navigation links for HOME, VISUALS, BLOG, IDEAS, SUPPORT, ABOUT, GET UPDATED, and LOGIN. Below the header, there's a sidebar on the left listing various visual components: SMART FILTER PRO, SMART FILTER, SPARKLINE (which is highlighted with a red border), SYNOPTIC PANEL, BULLET CHART, CARD WITH STATES, CANDLESTICK, DOT PLOT, COLOR HELPER, and CHART PLACEHOLDER. The main content area features a graphic of a wavy line with red and green dots, followed by the text "Sparkline for Microsoft Power BI®". A descriptive paragraph explains the functionality of the Sparkline visual. To the right, a teal button labeled "DOWNLOAD FREE VERSION" is visible, along with the text "v1.1.3 Released on Mar 24, 2018".

How to Adapt an Existing Visual

<https://github.com/okviz>

Screenshot of the GitHub profile page for okviz, showing pinned repositories for Power BI visual components.

The GitHub profile for okviz displays the following information:

- Overview**: Shows Repositories (13), Projects (0), Stars (0), Followers (38), and Following (0).
- Pinned repositories** (displayed in cards):
 - CardWithStates**: Card with States for Power BI. TypeScript, ★ 8, 5 forks.
 - SmartFilter**: Smart Filter for Power BI. TypeScript, ★ 5, 6 forks.
 - BulletChart**: Bullet Chart for Power BI. TypeScript, ★ 4, 3 forks.
 - Sparkline**: Sparkline for Power BI. TypeScript, ★ 3, 1 fork.
 - SynopticPanel**: Synoptic Panel for Power BI. TypeScript, ★ 12, 6 forks.
 - Candlestick**: Candlestick for Power BI. TypeScript, ★ 4, 3 forks.
- User Information**:
 - OKViz** (username)
 - okviz** (display name)
 - Follow** button
 - Block or report user** link
 - The good visuals for Power BI** description
 - OKViz Corp.** (company)
 - support@okviz.com** (email)
 - http://okviz.com** (website)

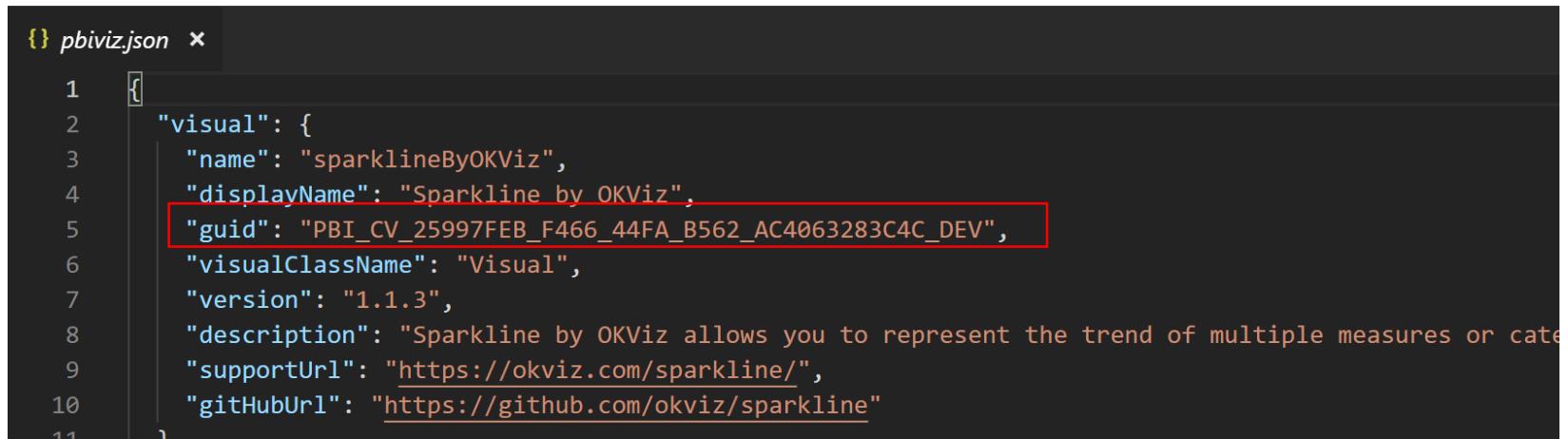
How to Adapt an Existing Visual

Clone or Download the Git Project.

```
cd C:\Projects\Sparkline
```

Change GUID on the pbviz.json file and edit the visual.ts on the src folder.

Package the edited visual with “pbviz package”



```
{} pbviz.json x
1  {
2    "visual": {
3      "name": "sparklineByOKViz",
4      "displayName": "Sparkline by OKViz",
5      "guid": "PBI_CV_25997FEB_F466_44FA_B562_AC4063283C4C_DEV",
6      "visualClassName": "Visual",
7      "version": "1.1.3",
8      "description": "Sparkline by OKViz allows you to represent the trend of multiple measures or cate
9      "supportUrl": "https://okviz.com/sparkline/",
10     "gitHubUrl": "https://github.com/okviz/sparkline"
11   }
```



THANK YOU!

