

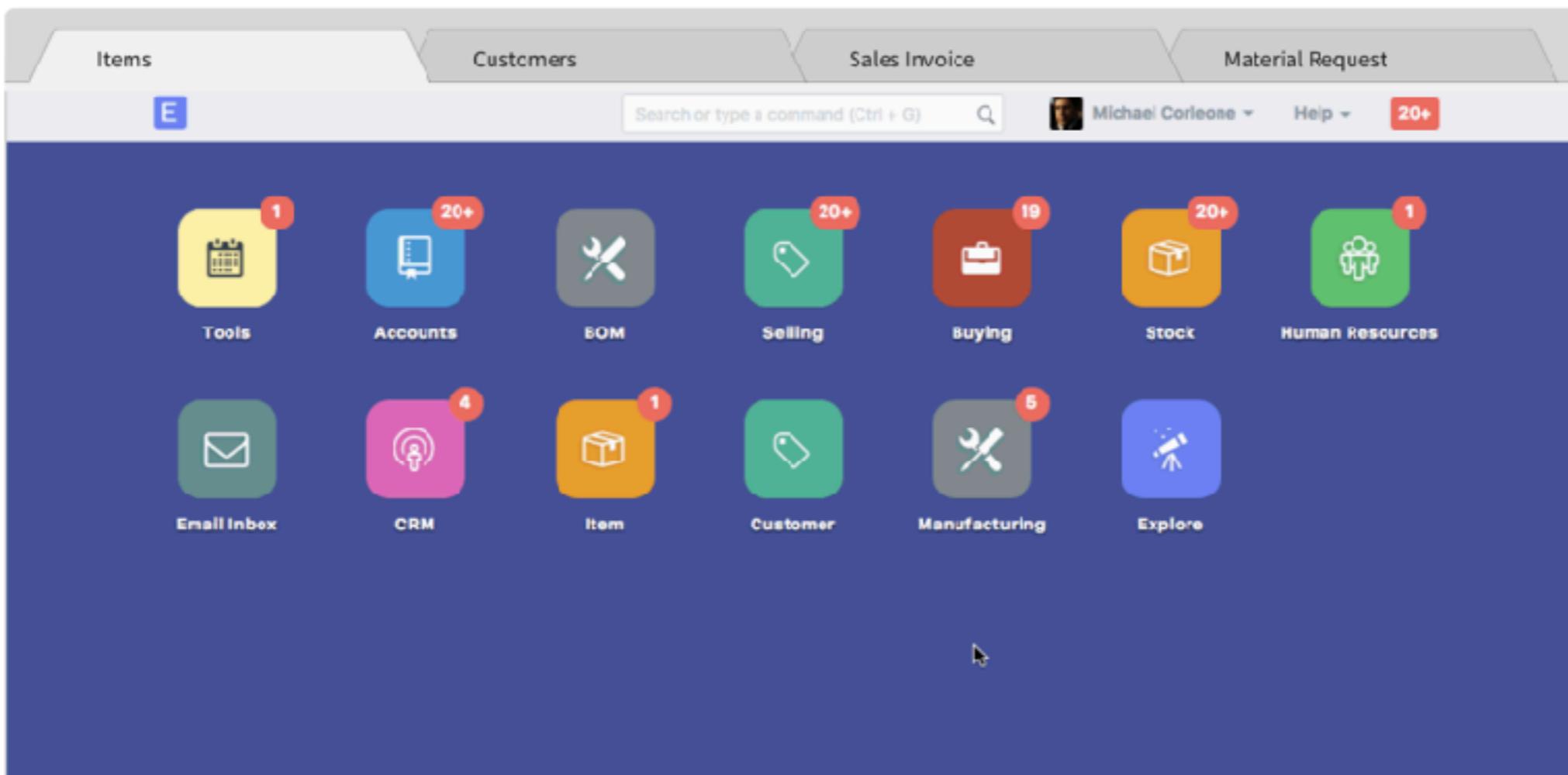
The Journey of Frappe Charts

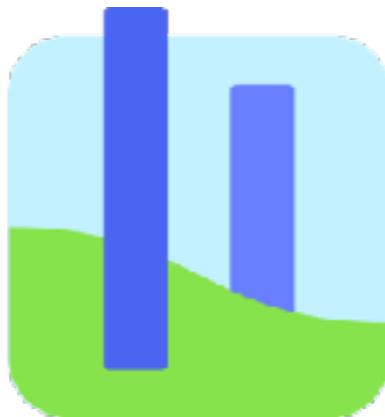
Charting for the Modern Web

Prateeksha Singh

ERP Made Simple

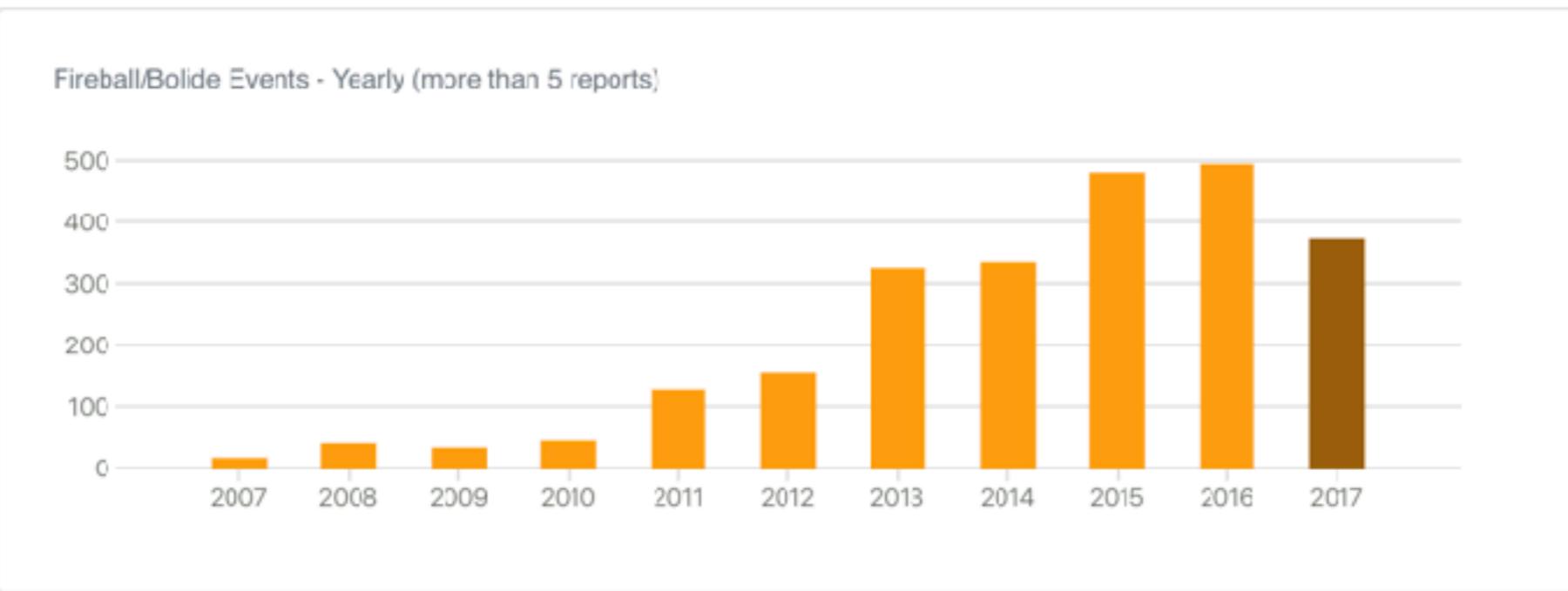
The ERP Software that helps you take full control of your business.
ERPNext is both powerful and easy to use.

[Get Started](#)[Try ERPNext free for 14 days](#)

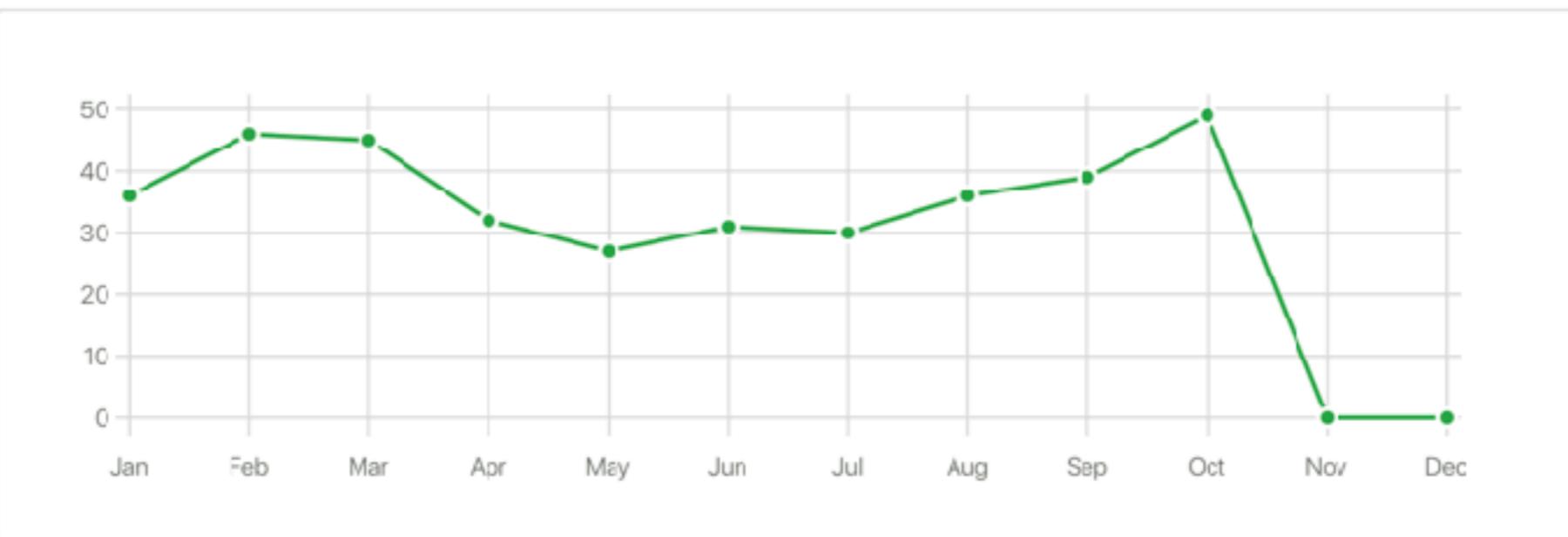


Frappé Charts

GitHub-inspired simple and modern charts for the web
with zero dependencies.



Click or use arrow keys to navigate data points



Author of a
D3 book



Elijah Meeks

@Elijah_Meeks

Follow



I love these Frappe Charts from [@erpnext](#).
Super small and efficient and beautiful
tooltips.
frappe.github.io/charts/

12:30 AM - 25 Nov 2017

16 Retweets 55 Likes



16



55



Design



UAE VAT - AFE • Enabled



Menu

Save

Comments

0

 Default Disabled

Company

Al-Falah Exports

ASSIGNED TO

Assign +

* Will be calculated in the transaction.

ATTACHMENTS

Attach File +

	Type	Account Head	Rate	Amount	Total
<input type="checkbox"/>	1 On Net Total	VAT 5% - AFE	5		
<input type="checkbox"/>	2 On Net Total	VAT Exempted - AFE	0		
<input type="checkbox"/>	3 On Net Total	Excise 50% - AFE	50		

Add Row

0

You edited this
a few seconds ago

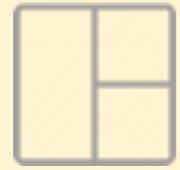
Add a comment

Comment

You created this
a few seconds ago

16.61MB (0%) used

Ctrl+Enter to add comment



Layout



Color



Typography



Icons

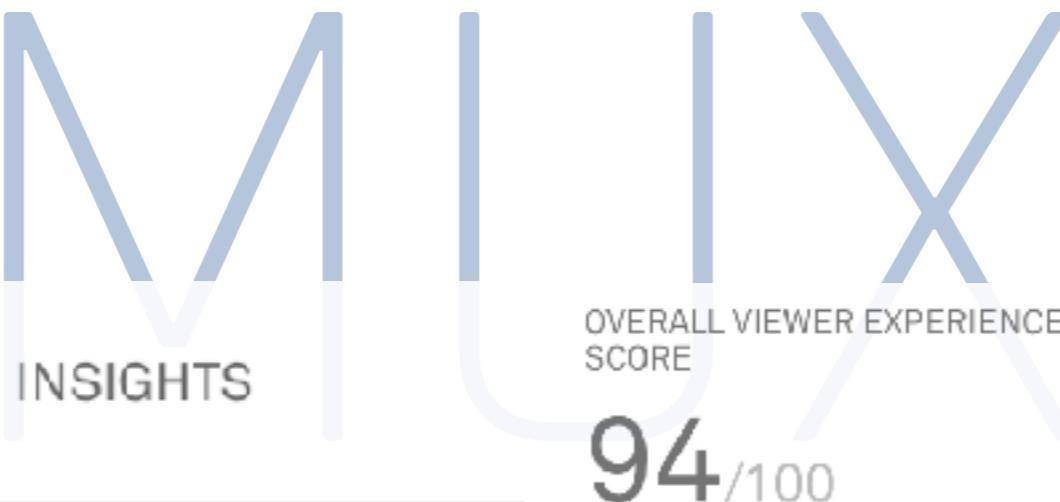


Illustrations



Visualisations

Product UI



OPERATING SYSTEM

iOS

Windows

OSX

Android

tvOS



MacOS

▼ Data

Value: Column and Bar Charts::F

Name: Column and Bar Charts::F

Order: 1

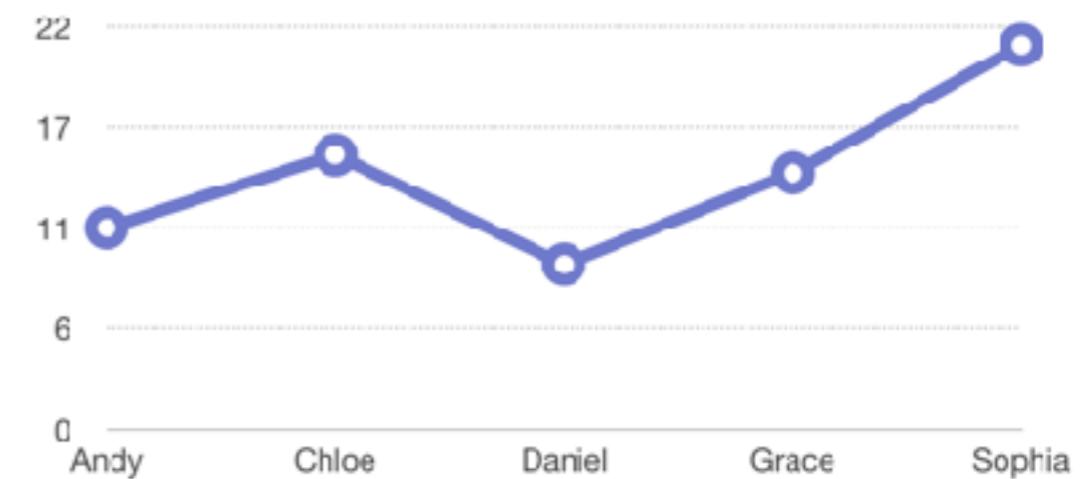
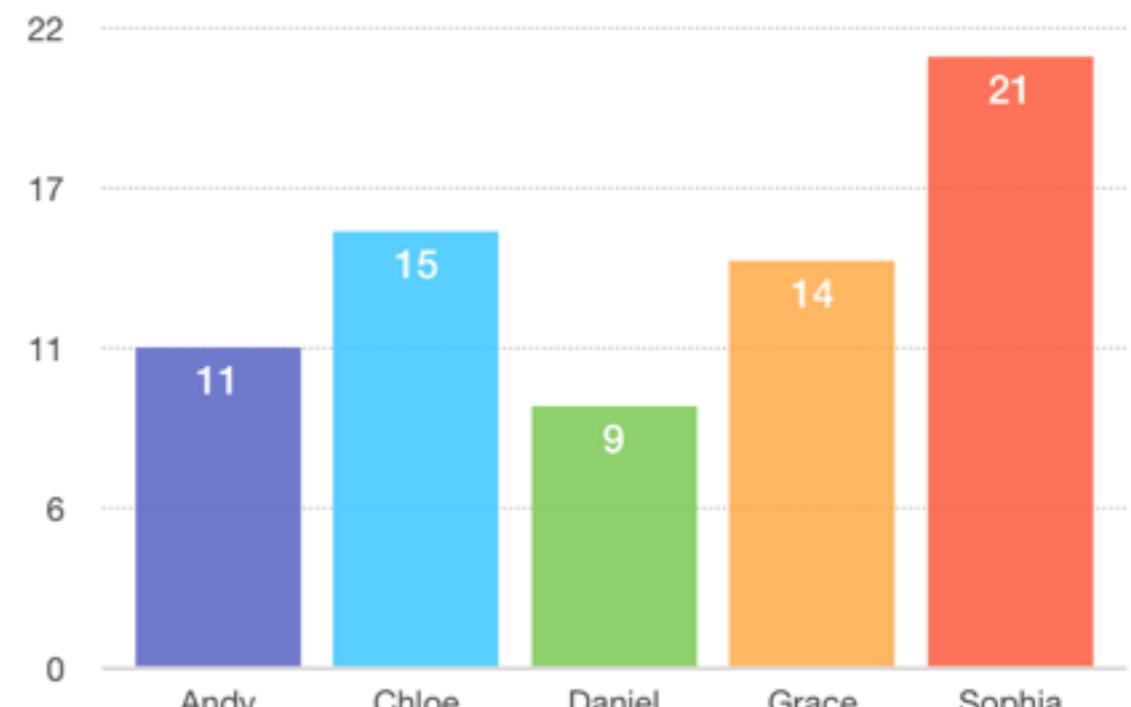
▼ Value Labels

Same as Source Data

Location: Right

▼ Trendlines

None



FRPNext

Menu ▾ Refresh New

Variant Of		Item Group	Has Variants		
Products		Disabled = No	Last Modified On		
Status	Item Group	Last Purchase...	20 of 47		
● Enabled	Products		2 M	<input type="checkbox"/>	0
● Enabled	Products		2 M	<input type="checkbox"/>	0
● Enabled	Products	1,000	2 M	<input type="checkbox"/>	0
● Enabled	Products		2 M	<input type="checkbox"/>	0
● Enabled	Products		2 M	<input type="checkbox"/>	0
● Enabled	Products	1,000	2 M	<input type="checkbox"/>	0
● Enabled	Products		2 M	<input type="checkbox"/>	0
● Variant	Products	500	2 M	<input type="checkbox"/>	0
● Variant	Products	500	2 M	<input type="checkbox"/>	0

Bootstrap-ness

The screenshot shows a web-based application interface with a header and a main content area.

Header:

- Buttons: Menu ▾, Refresh, New
- Labels: Labels, Milestones
- Buttons: New issue

Table:

Variant Of	Item Group	Has Variants	Last Modified On
Products	Disabled = No		2 M
Status	Item Group	Last Purchase...	20 of 47
Enabled	Products	2 M	0
Enabled	Products	2 M	0
Enabled	Products	1,000	2 M 0
Enabled	Products	2 M	0
Enabled	Products	2 M	0
Enabled	Products	1,000	2 M 0
Enabled	Products	2 M	0
Variant	Products	500	2 M 0

Sidebar (Issue Details):

- Labels: unity, CRM, framework
- Author: [Profile Picture]
- Labels: Address only, buying, framework, selling
- Projects: [Project Name]
- Milestones: [Milestone Name]
- Assignee: [Profile Picture]
- Sort: [Sort Options]

Issues:

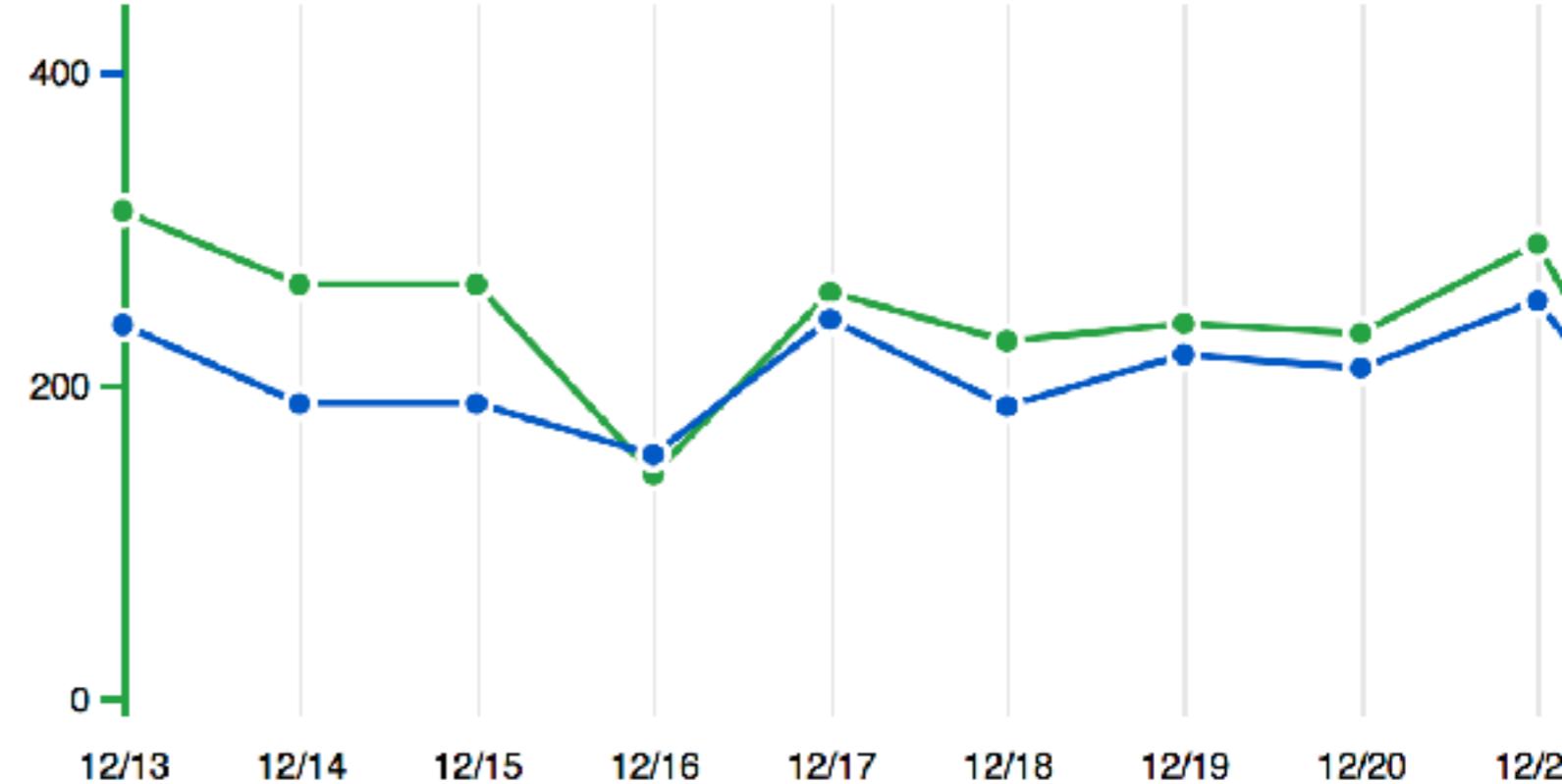
- Creating Contacts and Address only. And Sales Roles [Address only, buying, framework, selling]
- after processing (Submitting) salary [bug] [Profile Picture] 3
- account in Sales / Purchase Invoice [Accounts]
- Options in Template [stock] [Profile Picture]



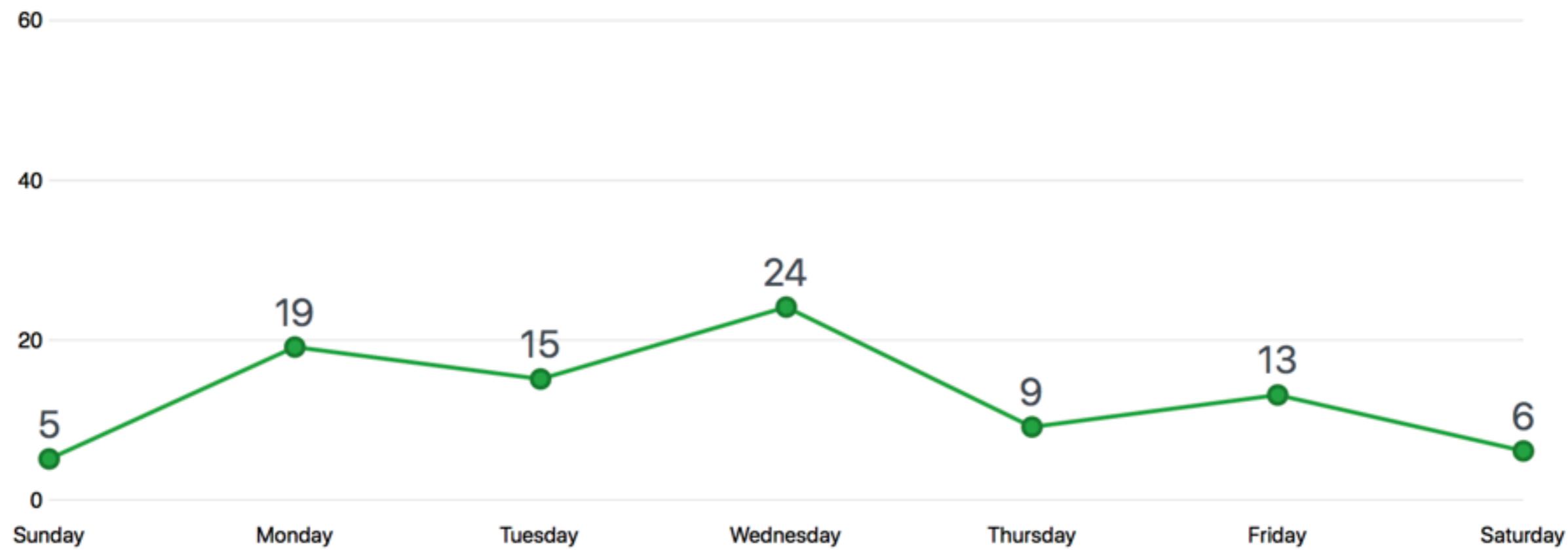
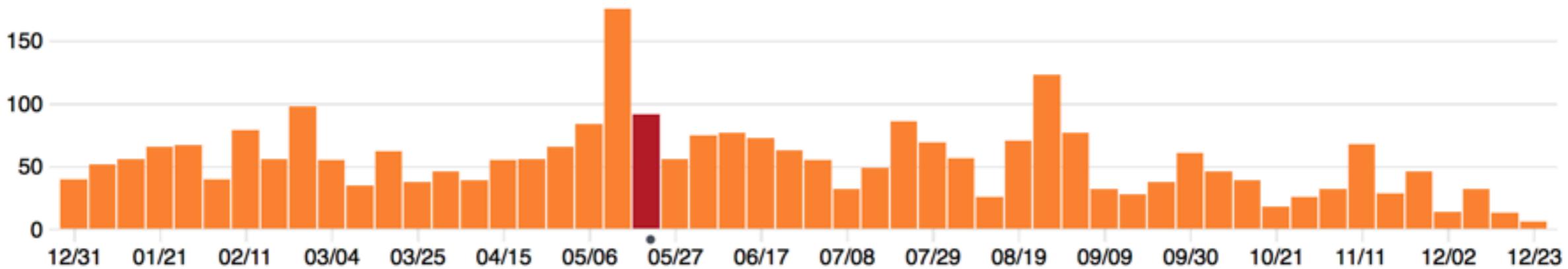
GitHub

[Code](#)[Issues 1,658](#)[Pull requests 46](#)[Projects 0](#)[Wiki](#)[Insights](#)[Pulse](#)[Contributors](#)[Community](#)[Traffic](#)[Commits](#)[Code frequency](#)[Dependency graph](#)[Alerts](#)[Network](#)

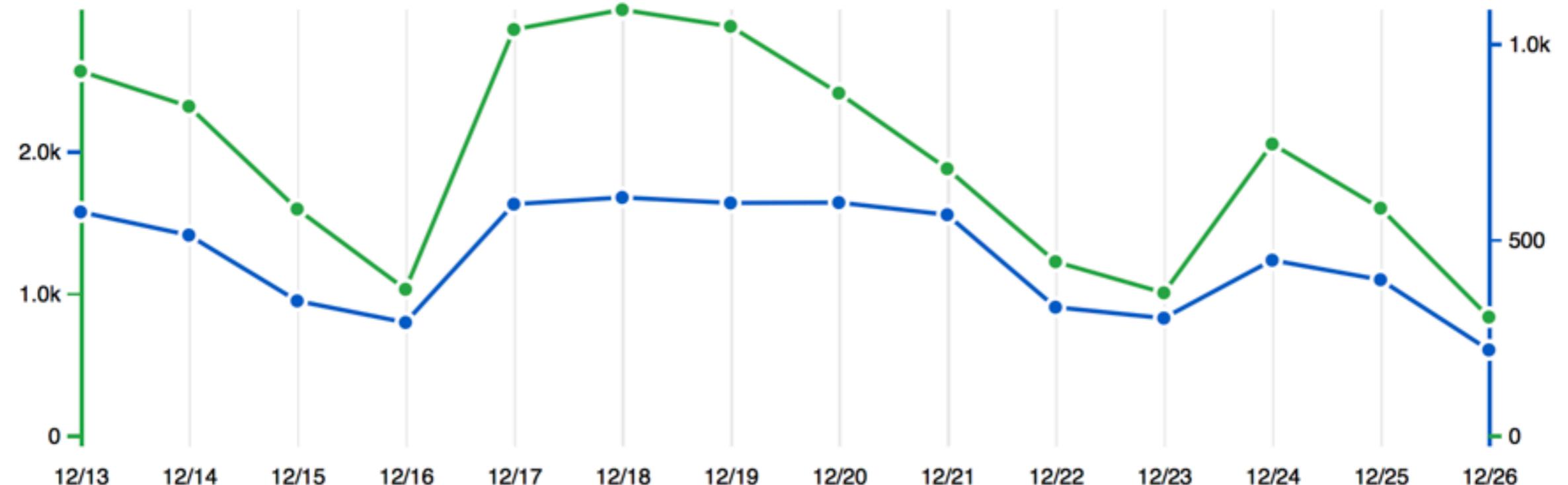
Git clones



3,250
Clones



Visitors

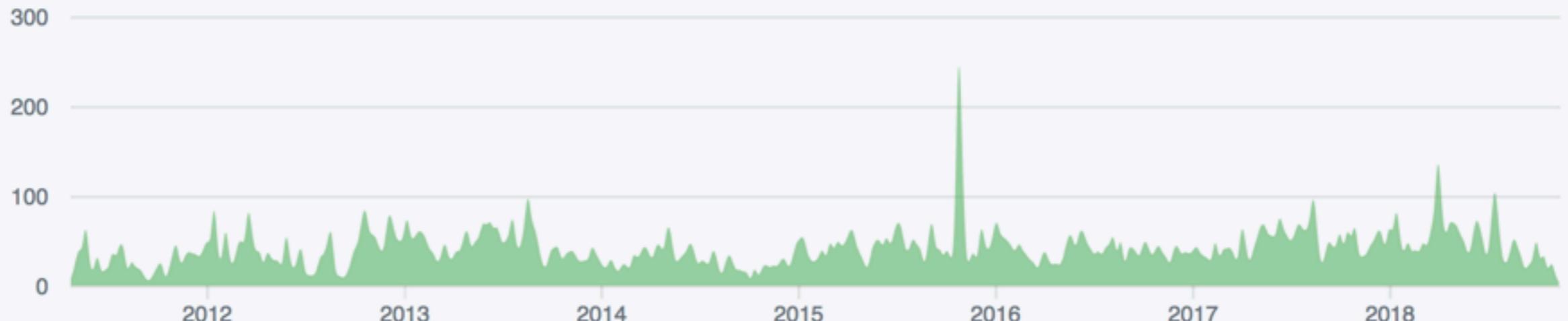


27,171

Views

4,425

Unique visitors



nabinhait

4,679 commits 1,271,542 ++ 1,257,691 --

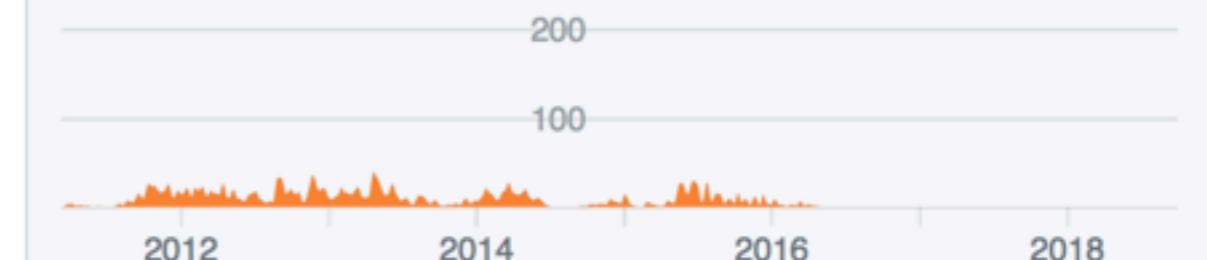
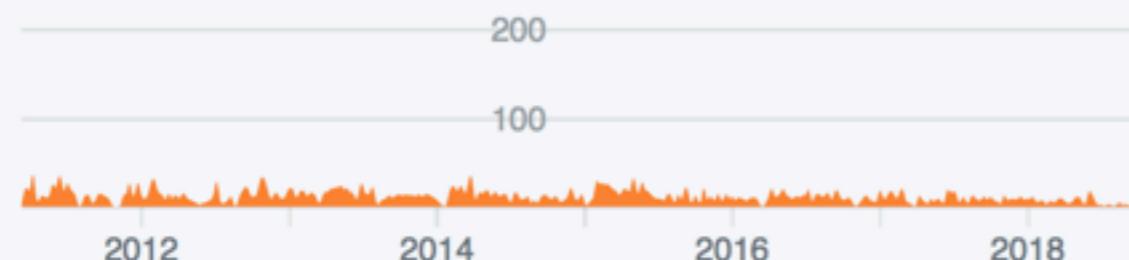
#1



anandpdoshi

2,651 commits 516,876 ++ 429,398 --

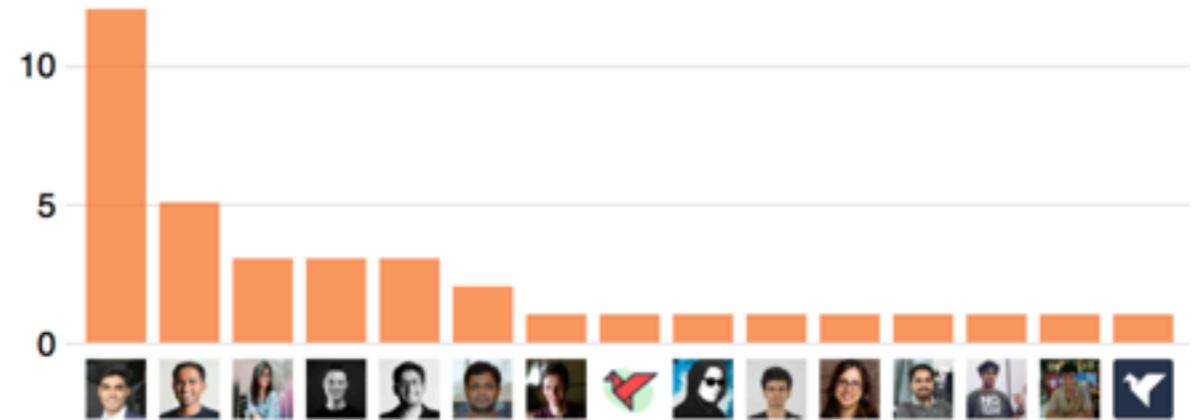
#2



Lacking the right amount of identity

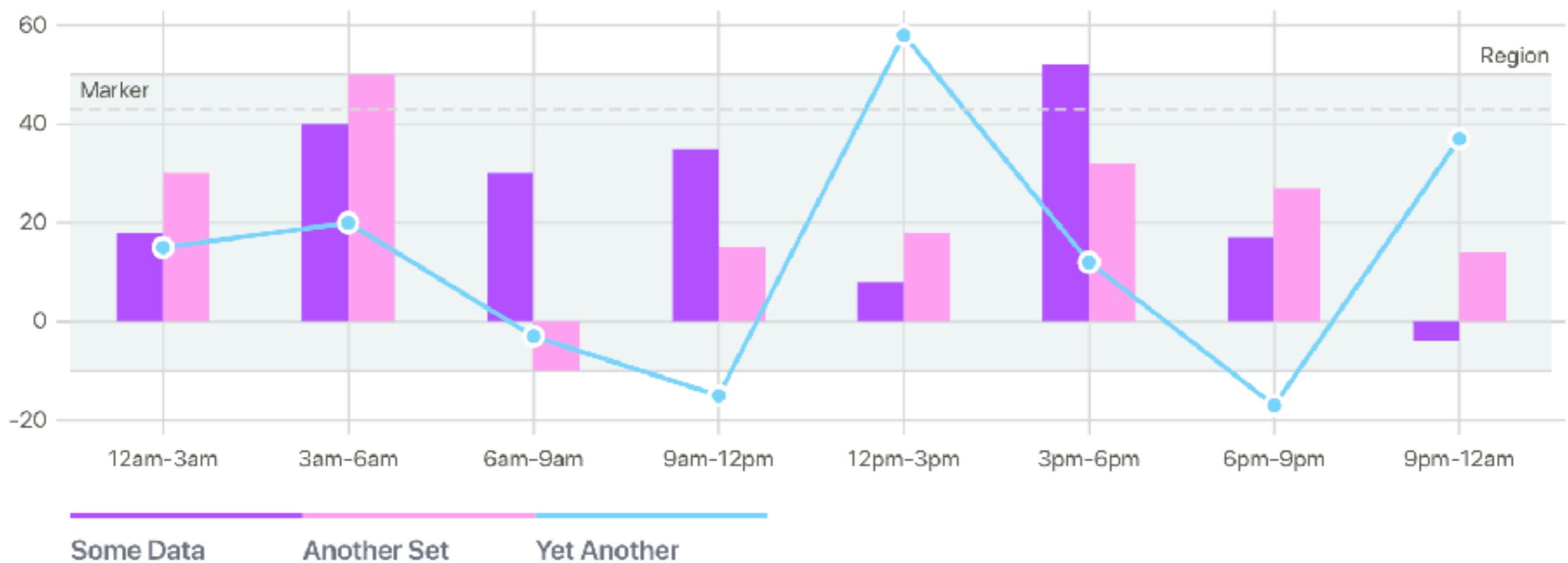
	
38 Active Pull Requests	30 Active Issues
 25 Merged Pull Requests	 13 Proposed Pull Requests
 12 Closed Issues	 18 New Issues

Excluding merges, **16 authors** have pushed **18 commits** to develop and **38 commits** to all branches. On develop, **176 files** have changed and there have been **28,133 additions** and **23,313 deletions**.

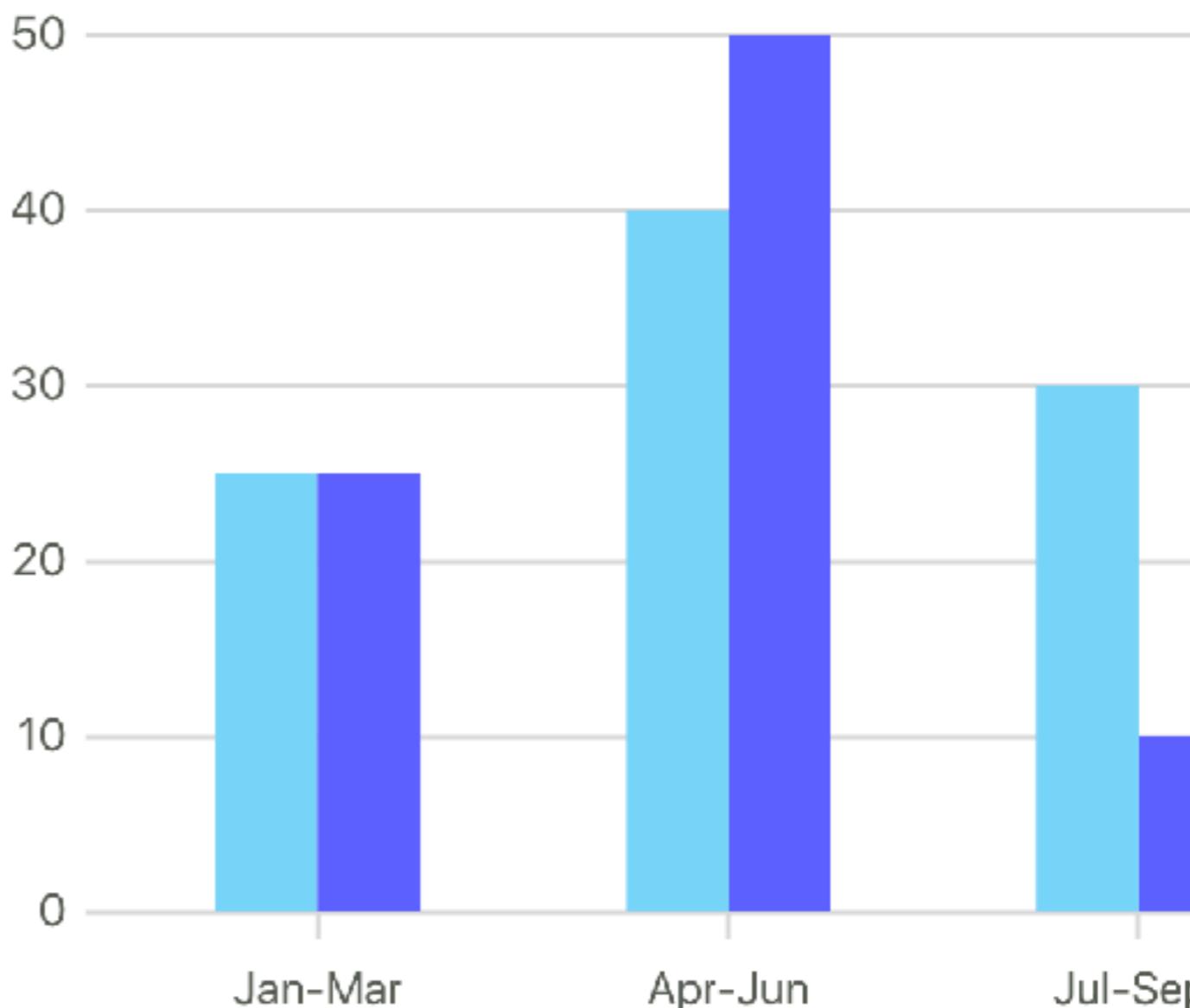
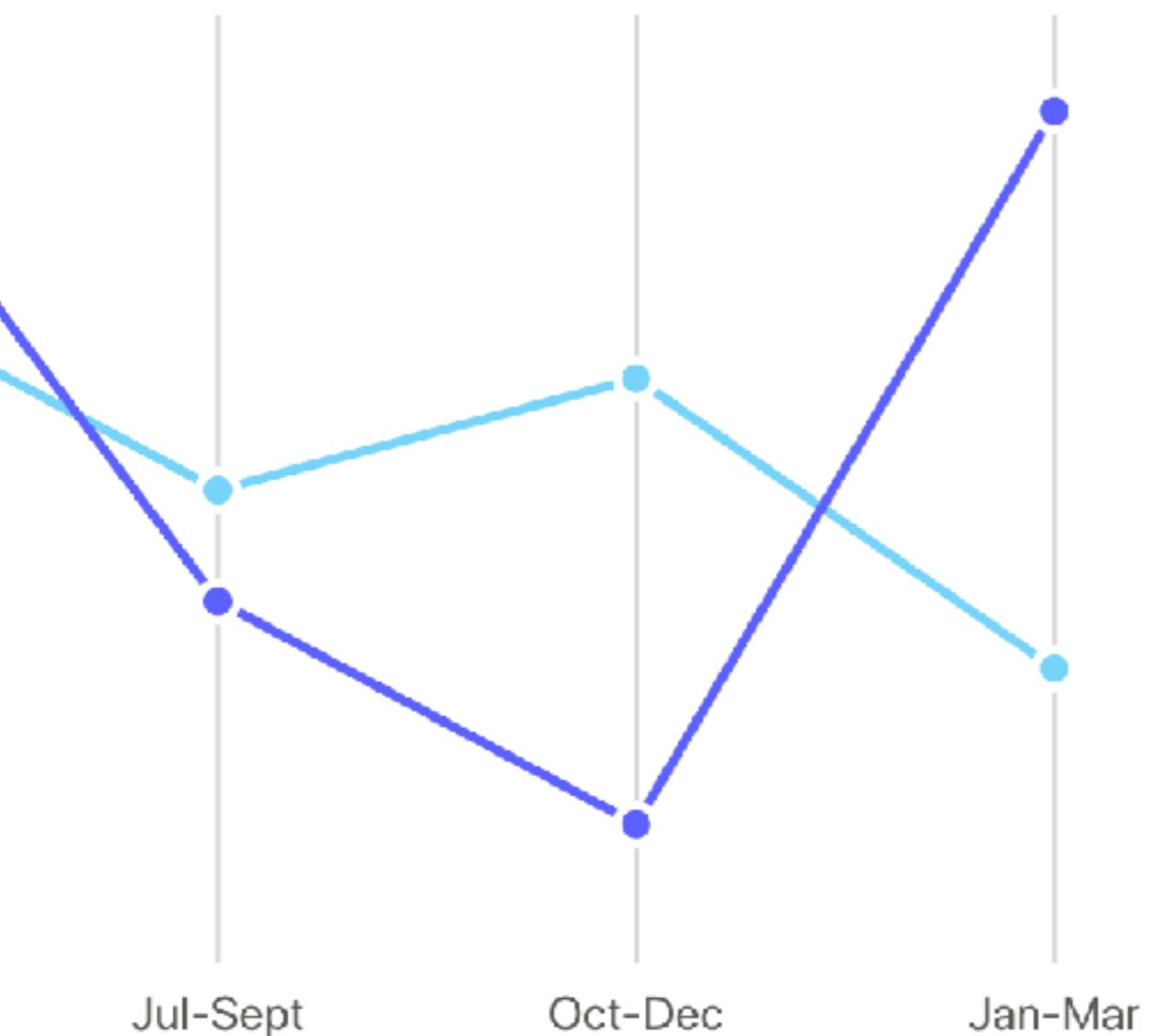


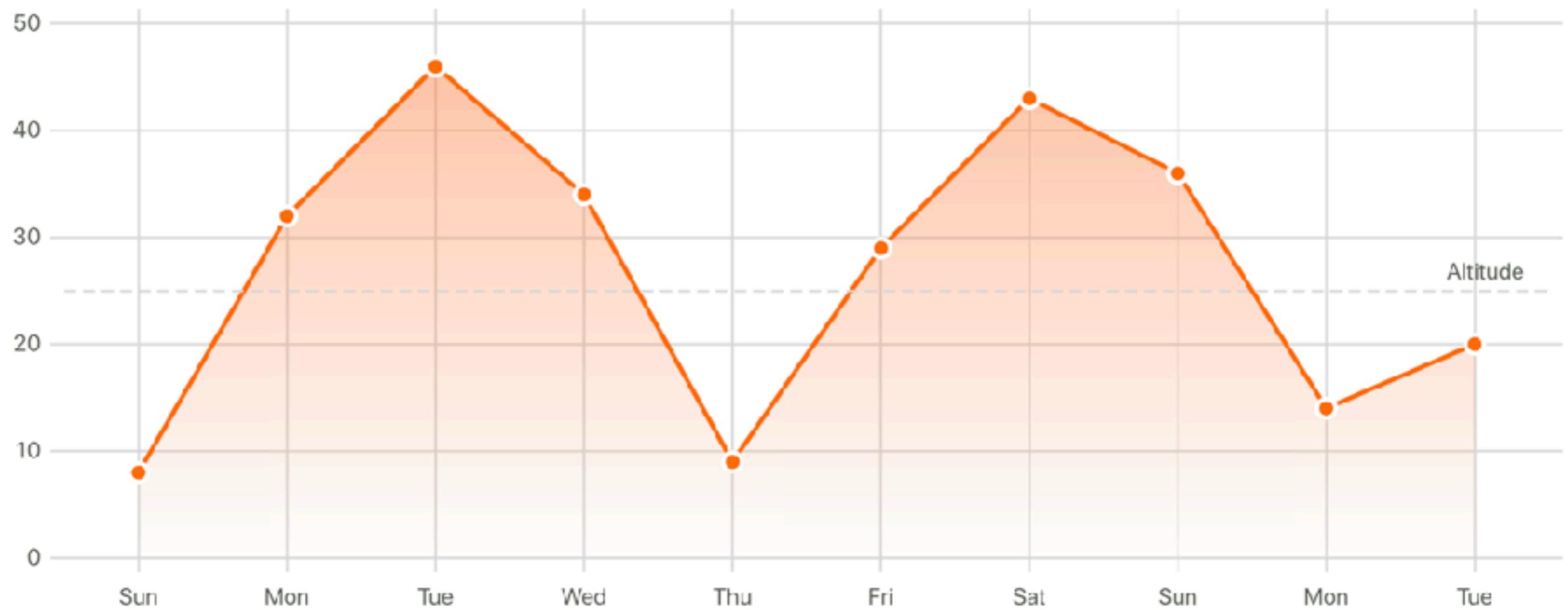
To create well-designed charts
for the most-used data visualisations

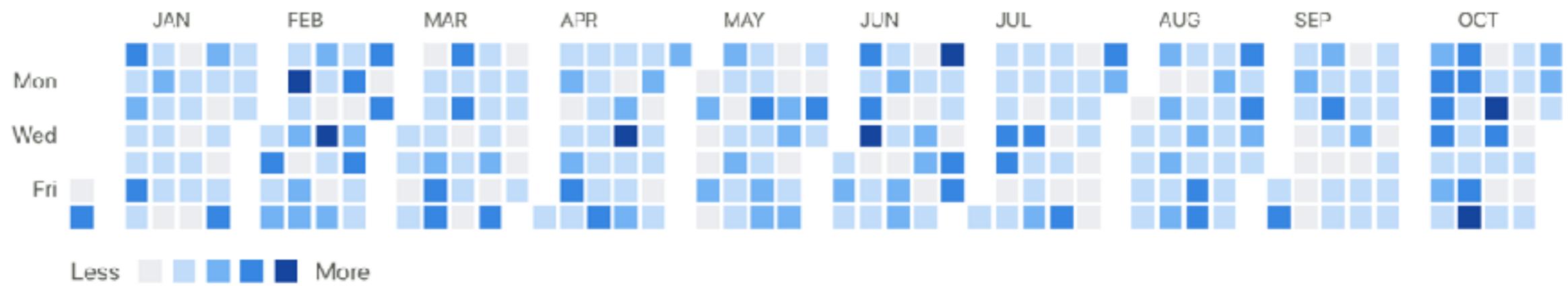
My Awesome Chart



Frappe Charts





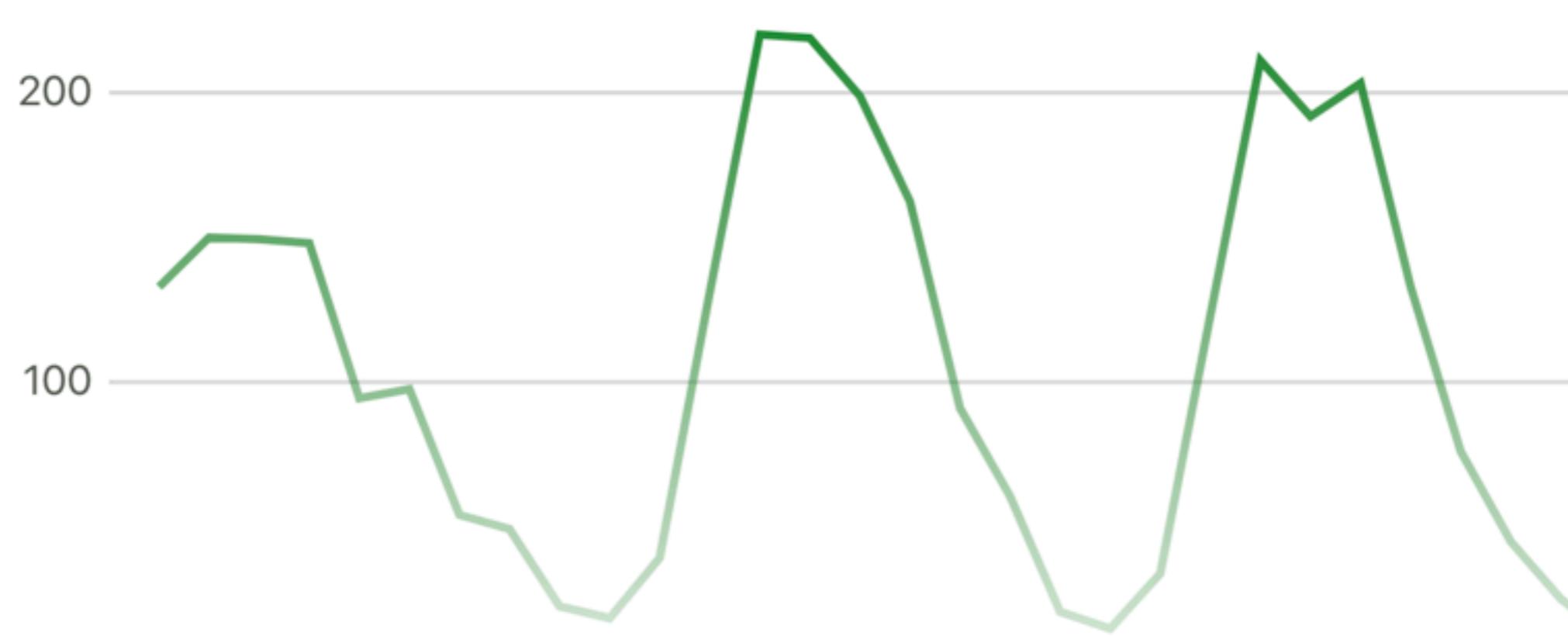


Some Nuances

FOCUS
On the Big Picture

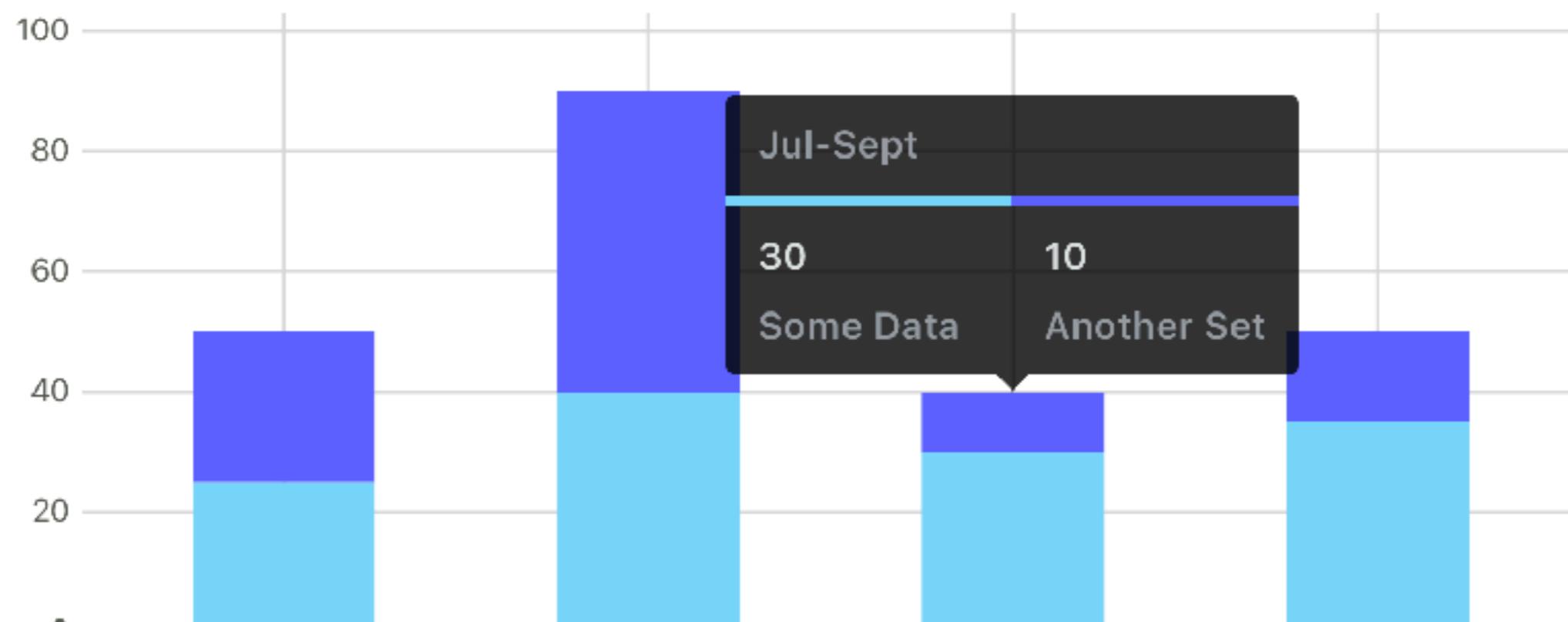
FOCUS
On the Big Picture

Visual marks vs. Data Points



FOCUS
On the Big Picture

Tooltips for all specifics



Space

Use all of it

Space

Use all of it

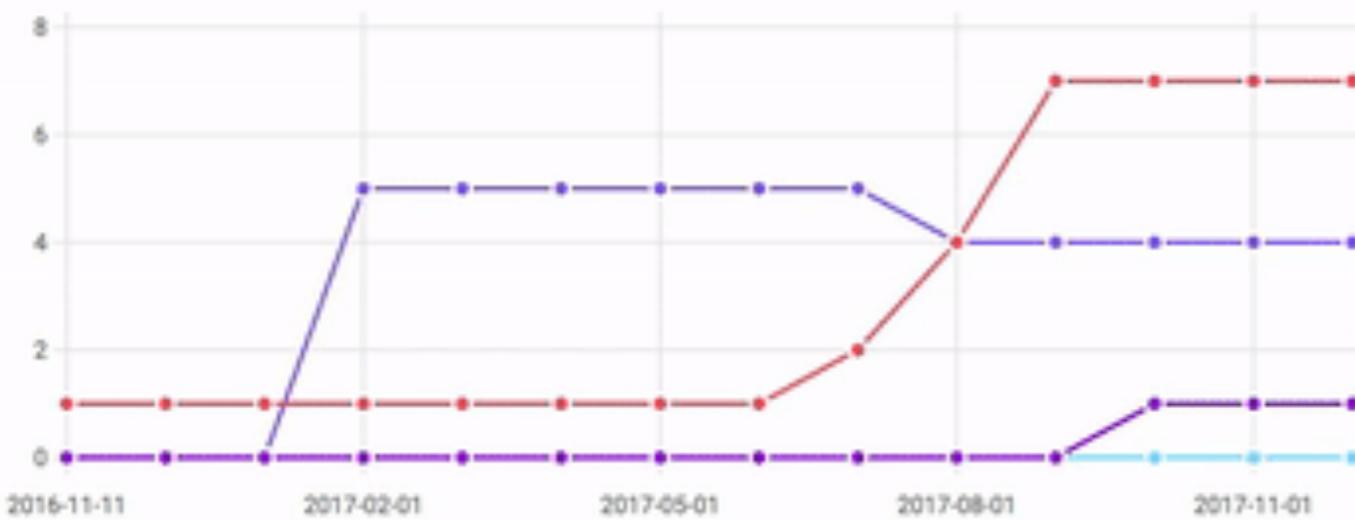
Responsiveness

Repaint when layout changes

11-11-2016

11-12-2017

Monthly

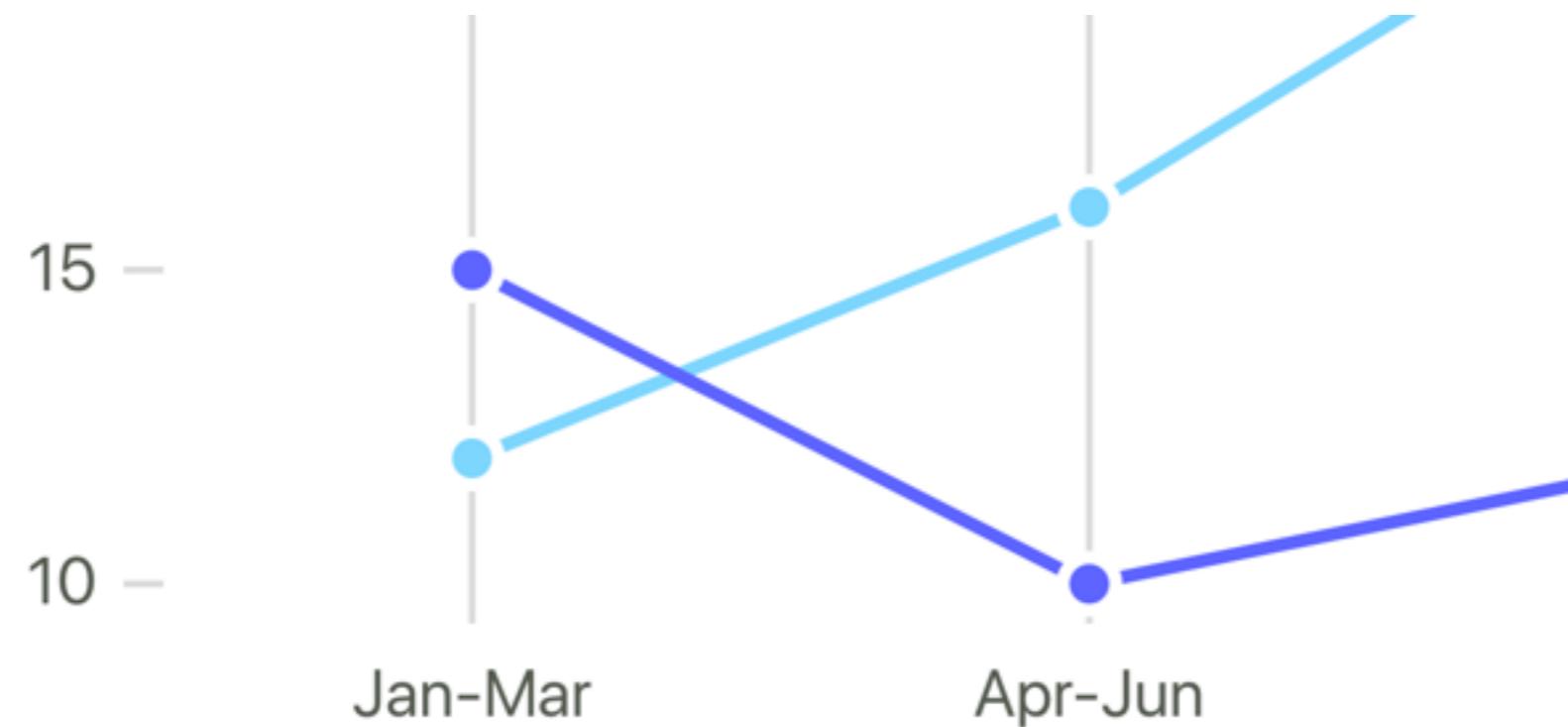


Space

Use all of it

When to Offset

And when to not



Alternates

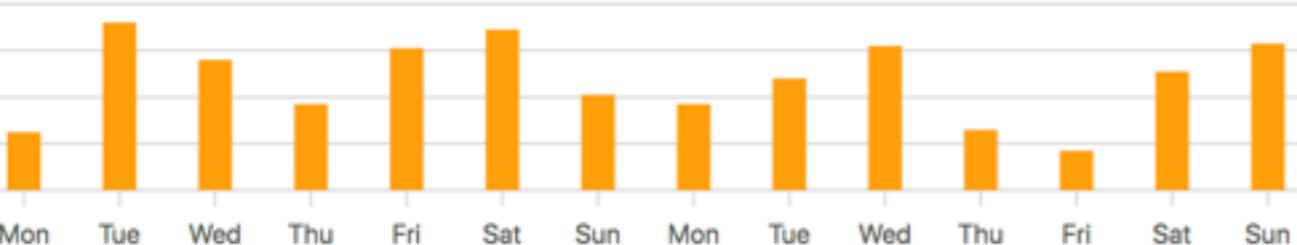
To represent things

Alternates

To represent things

Normalisation

Using bars to show trends



spaceRatio: 1.3



spaceRatio: 0.1

Alternates

To represent things

Bar Percentages

An efficient way to show parts of a whole

12pm-3pm: 17.5%



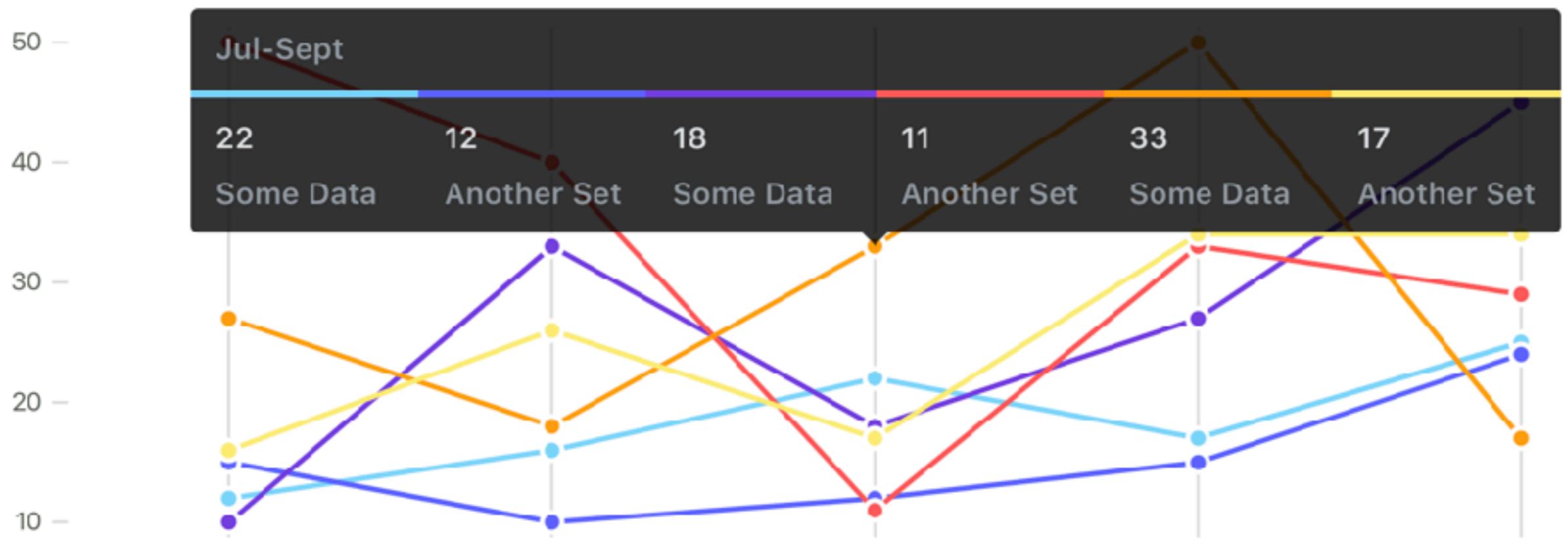
Constraints

Fostered by Design

Constraints

Fostered by Design

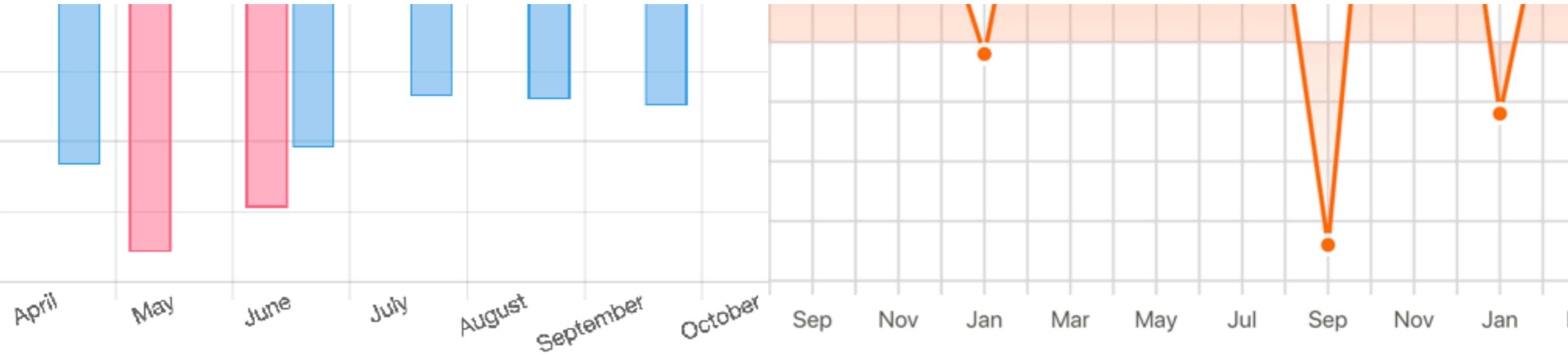
Too many datasets



Constraints

Fostered by Design

Labels



Transitions

Updates in data

Transitioning from an old state to a new one



Bars set 1

X markers

Y markers

Bars set 2

Line (path + dots)



JS / SVG

Web

Portability

```
// jQuery  
  
$( '<div>' )  
  .addClass( 'graph-tip' )  
  .html( title )  
  .appendTo( parent )
```

```
// JS: using createElement()  
  
$.create('div', {  
  inside: parent,  
  className: 'graph-tip',  
  innerHTML: title  
});
```



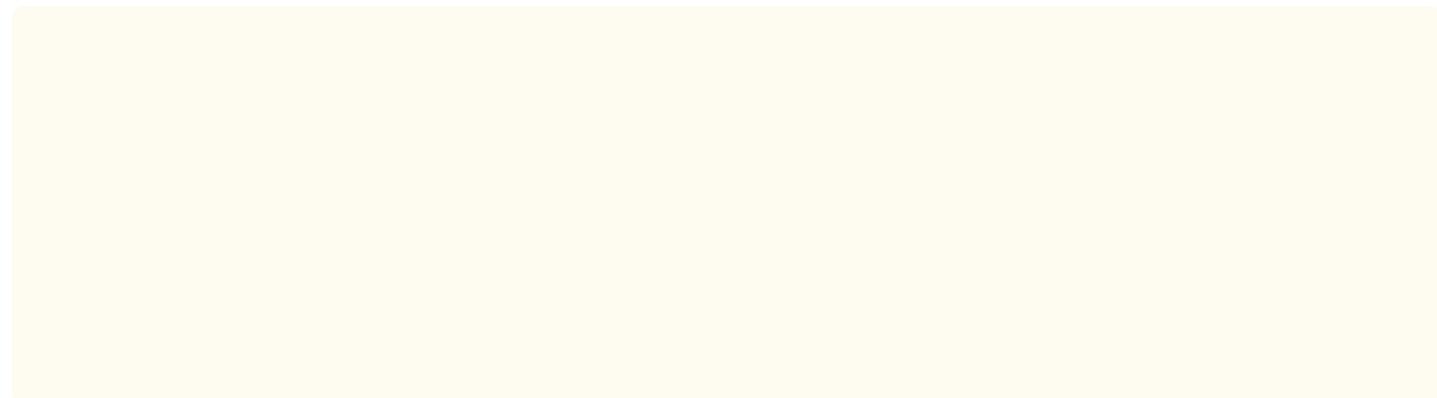
```
// Snap.svg
```

```
  snap.circle(x, y, radius)
```

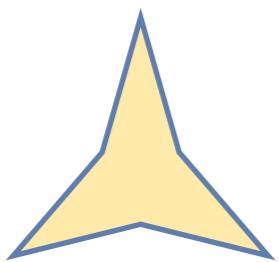
```
// JS: using createElementNS()
```

```
  $().createSVG('circle', {  
    className: `fill ${color}`,  
    cx: x,  
    cy: y,  
    r: radius  
  });
```

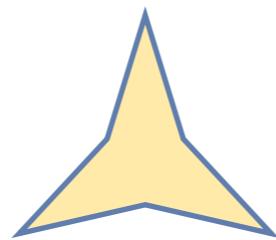
... Animations



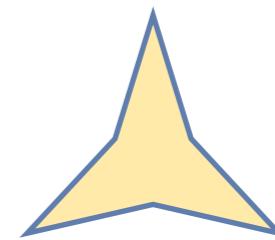
CSS Transitions



Fade (Opacity)



Move (Translate)



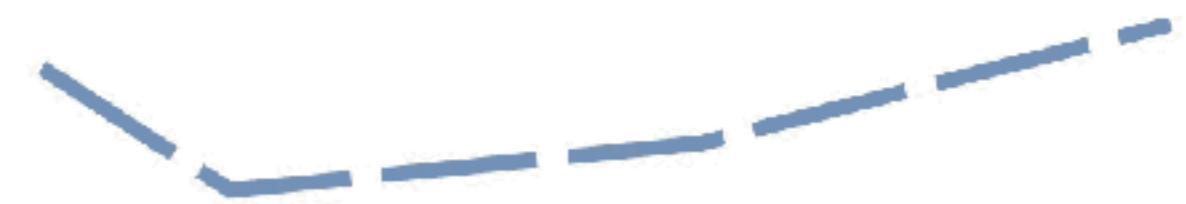
Rotate



40,46 120,10 280,2 360,55



30,16 90,55 200,40 390,2



```
<path d="M40,46 L120,10 L280,2 L360,55"/>
```



```
<path d="M30,16 L90,55 L240,40 L390,2"/>
```



Morphing

Non-conformal changes in shape

Non-conformal

No defined relation between Input and Output

Tweening

Just calculate all the frames

0.0 s

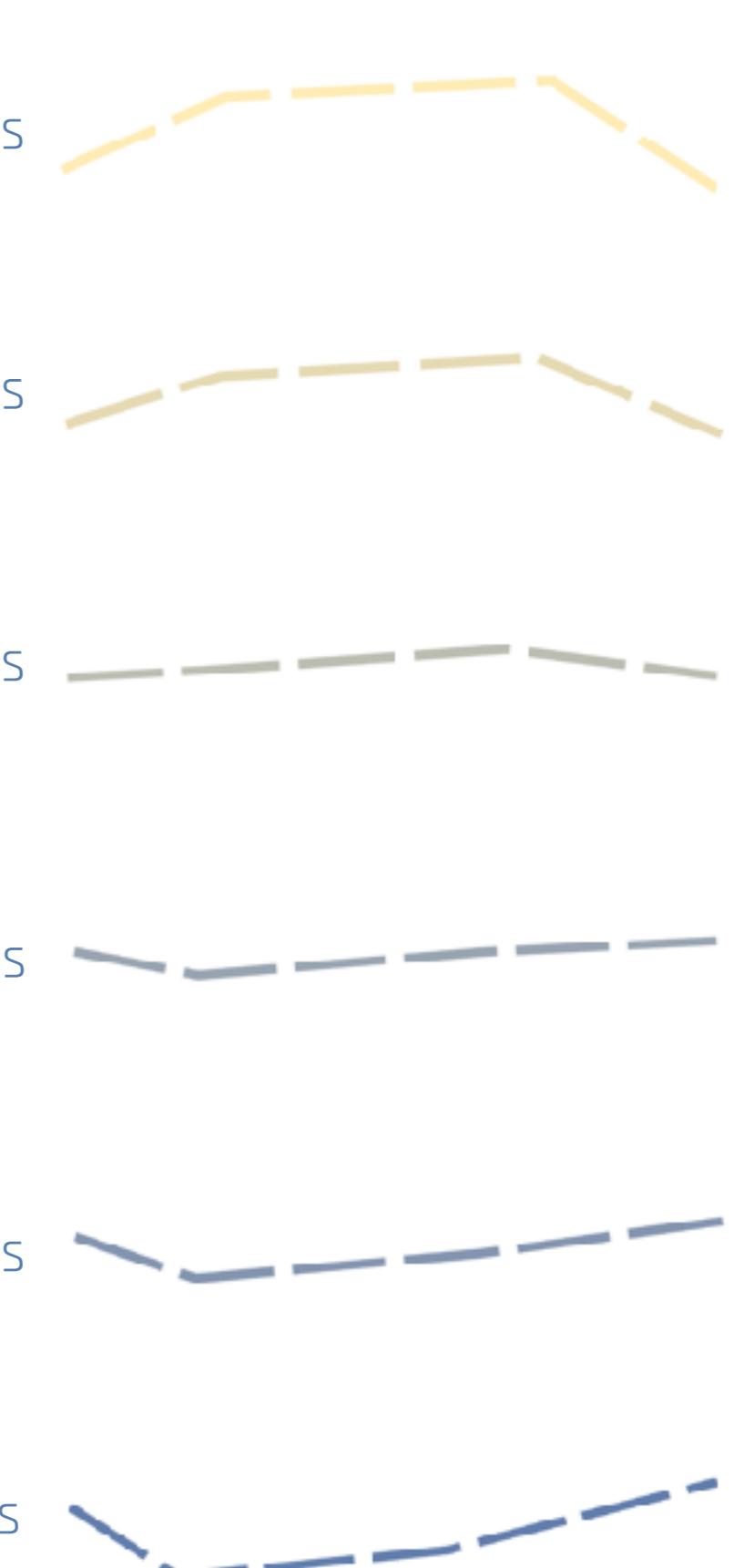
0.2 s

0.4 s

0.6 s

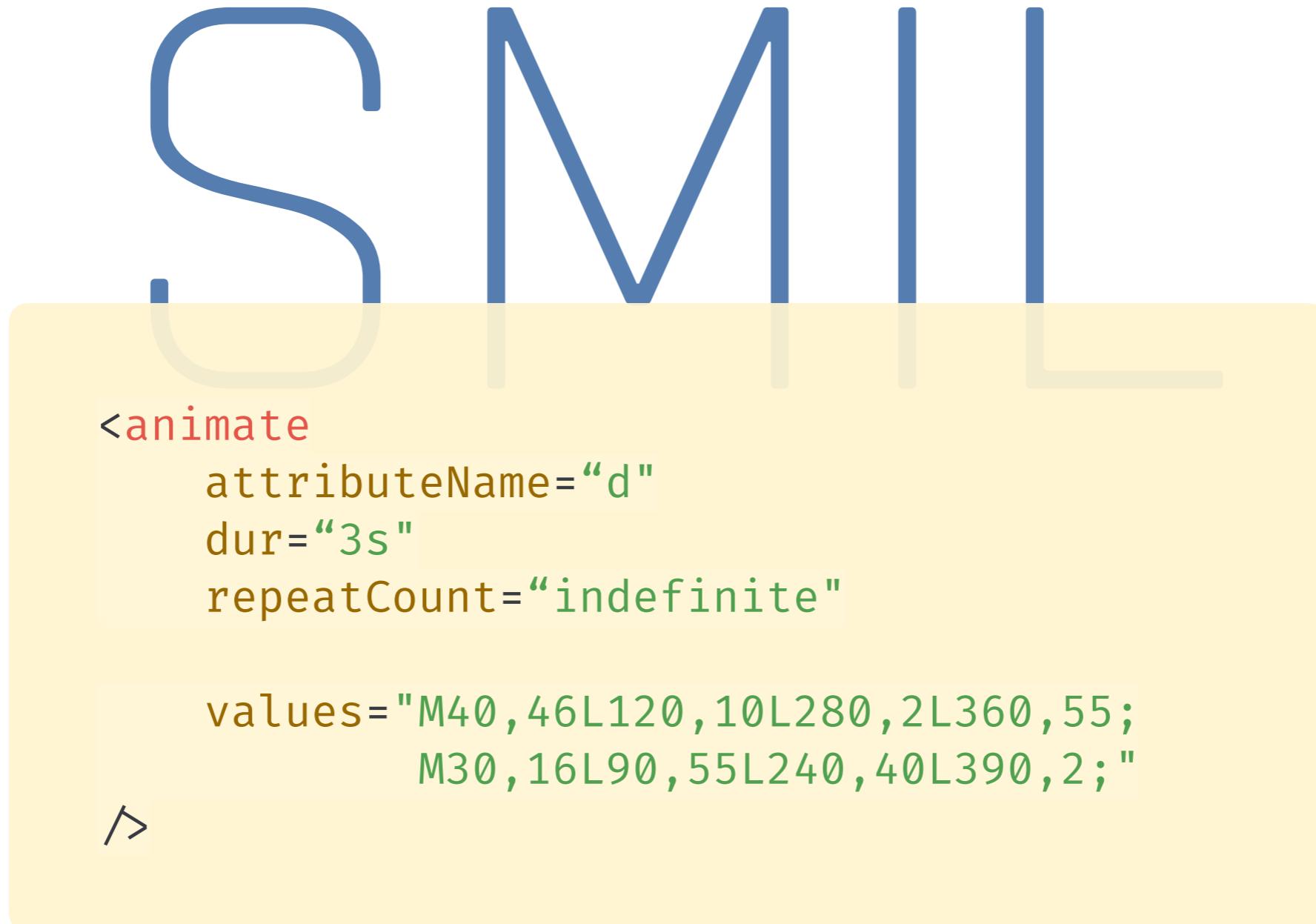
0.8 s

1.0 s

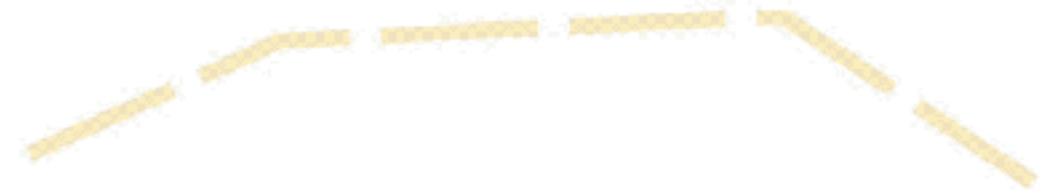


S M I L

Synchronous Multimedia Integration Language



```
<path d="M40,46 L120,10 L280,2 L360,55"/>
```



```
<path d="M30,16 L90,55 L240,40 L390,2"/>
```



```
<path>
  <animate
    attributeName="d"
    dur="3s"
    repeatCount="indefinite"
    values="M40,46L120,10L280,2L360,55;
           M30,16L90,55L240,40L390,2;" />
</path>
```



Animating to different number of points

12am-3am

3am-6am

6am-9am

9am-12pm

12pm-3pm

To More Points

12am-3am

3am-6am

6am-9am

9am-12pm

12pm-3pm

12pm-3pm

12pm-3pm

To Fewer Points

```
<path d="M3,6 L9,5 L24,4 L39,2 L45,15" />
```

Base line
5 points

```
<path d="M3,6 L9,5 L24,4 L39,2 L45,15 L45,15" />
```

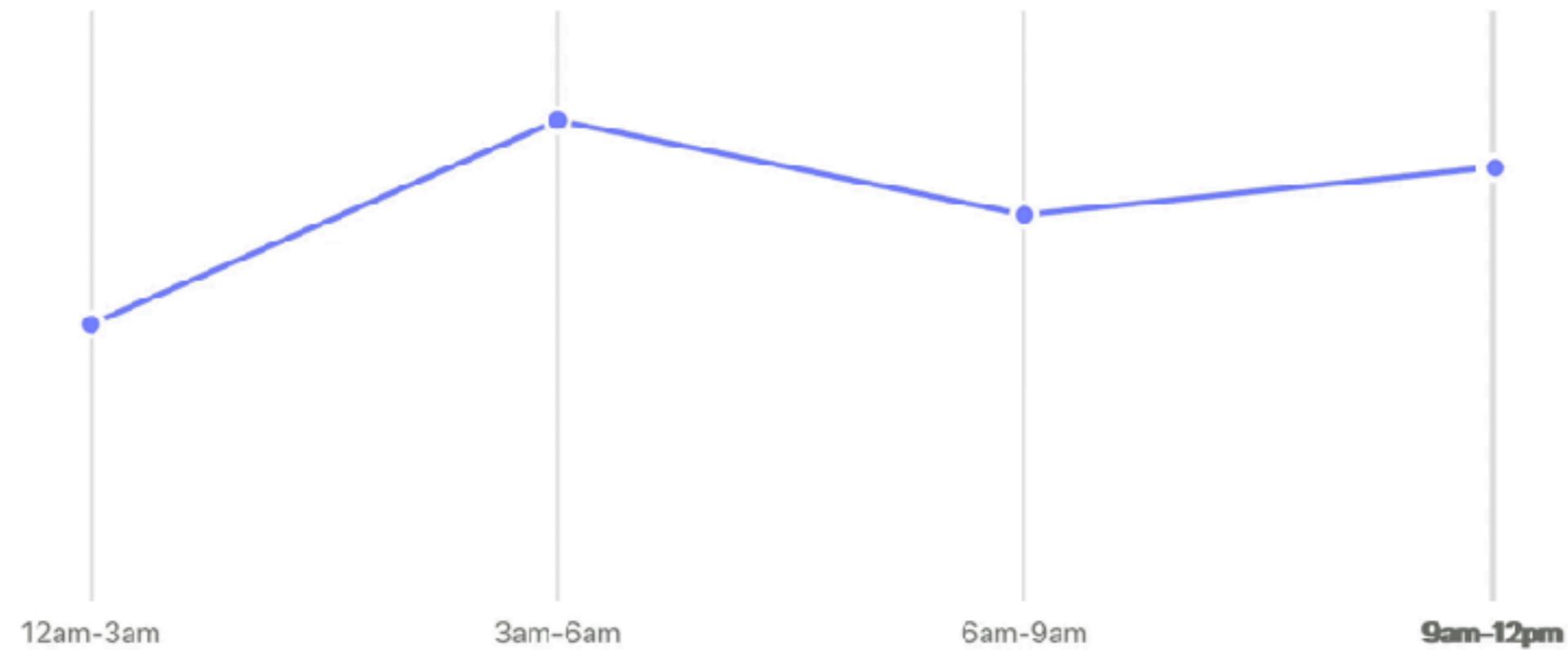
Upgrade
To 6 points

Add these at animation start

```
<path d="M3,6 L9,5 L24,4 L24,4 L24,4" />
```

Downgrade
To 3 points

Remove these at animation end



Automating it for every set of chart components

```
this.xAxis = new ChartComponent({
  layerClass: 'x axis',
  make(renderer, positions, values) => {
    return positions.map(
      (position, i) => renderer.xLine(position, values[i])
    );
  },
  keysToUpdateOn: ['xAxisPositions', 'xAxisLabels'],
  animate(animator, lines, oldX, newX) => {
    lines.map((xLine, i) => {
      elementsToAnimate.push(animator.verticalLine(
        xLine, newX[i], oldX[i]
      ));
    });
  }
});
```

X Axis

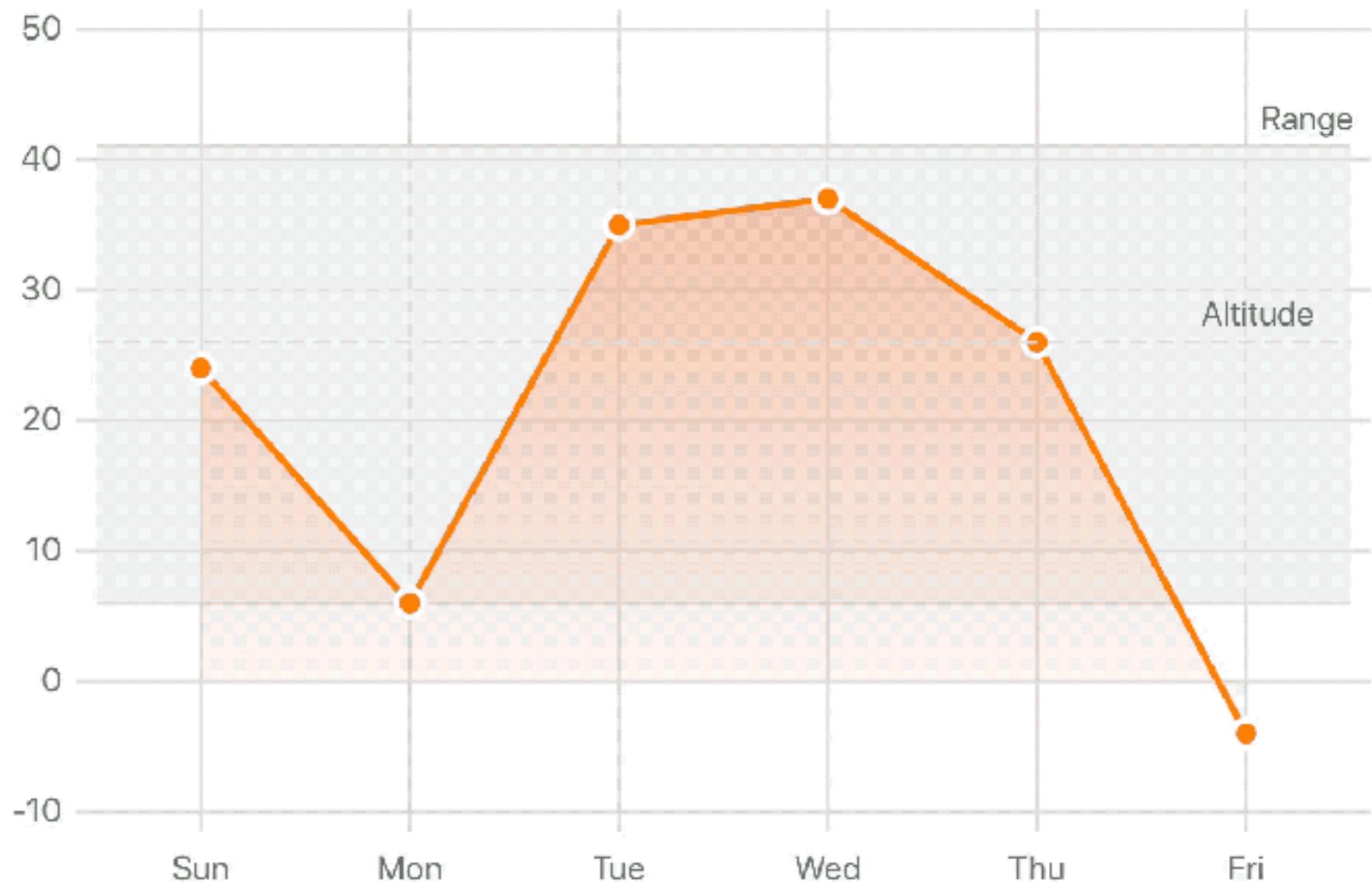
Y Axis

Data Points

Filled Path

Markers

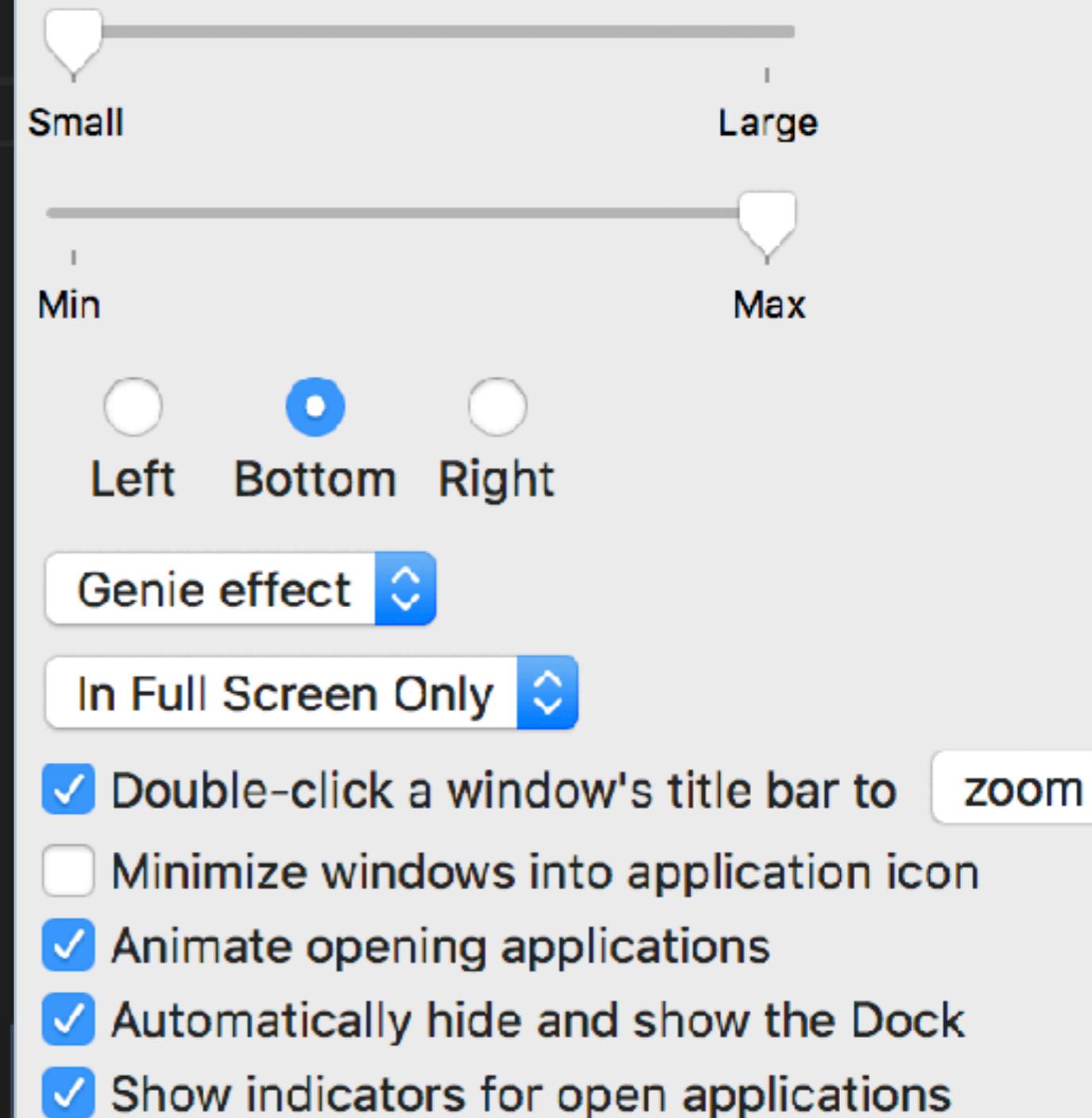
Regions



API

Configuration over code

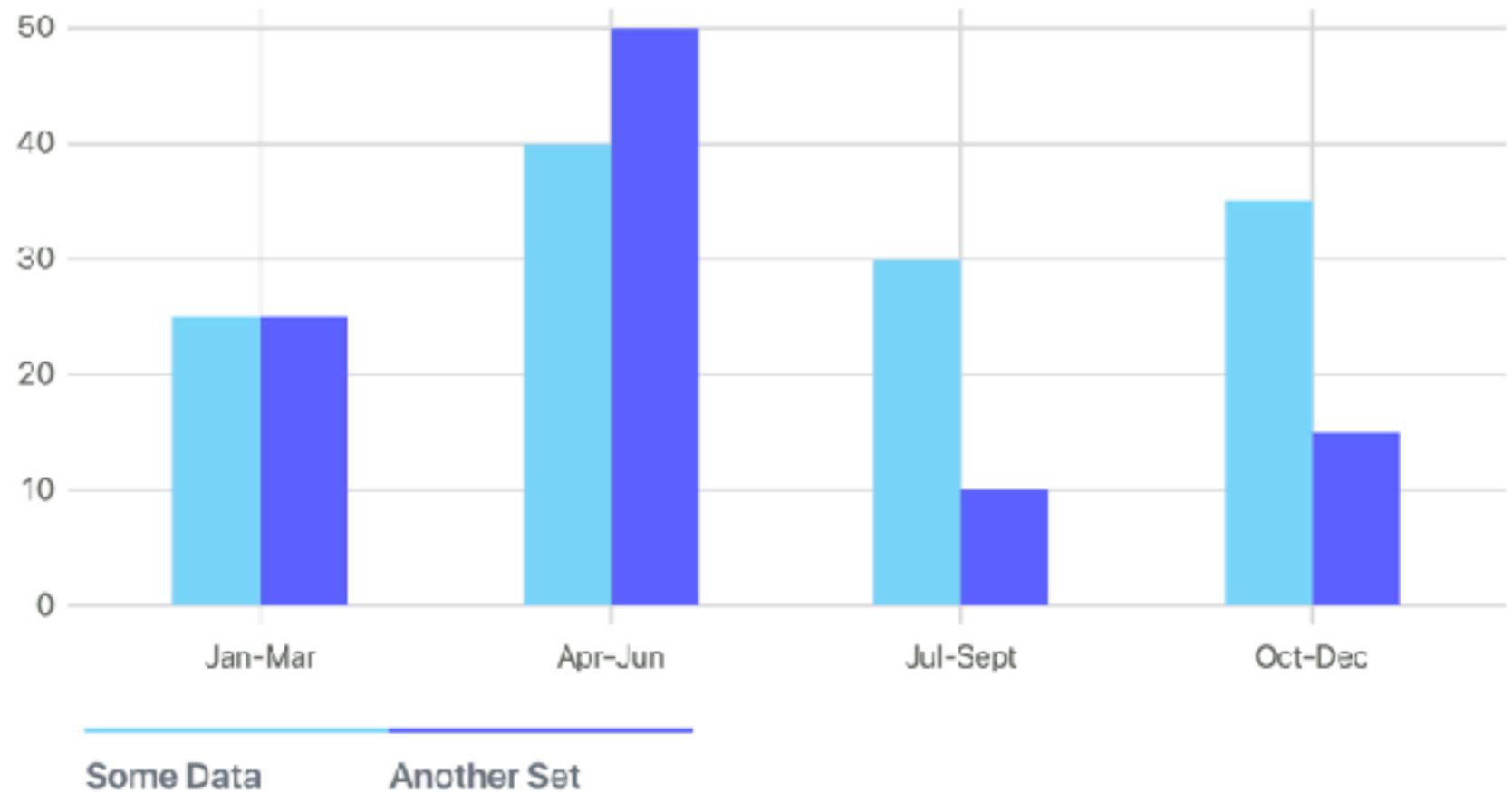
```
"files.trimTrailingWhitespace": true,  
"python.linting.pylintEnabled": true,  
"python.linting.pylintArgs": [  
    "--errors-only"  
,  
    "editor.renderWhitespace": "all",  
    "window.zoomLevel": -1,  
    "workbench.iconTheme": "vs-seti",  
    "editor.fontSize": 15,  
    "editor.fontLigatures": false,  
    "editor.tabSize": 4,  
    "editor.insertSpaces": false,  
    "editor.minimap.enabled": false
```



Reliable Defaults

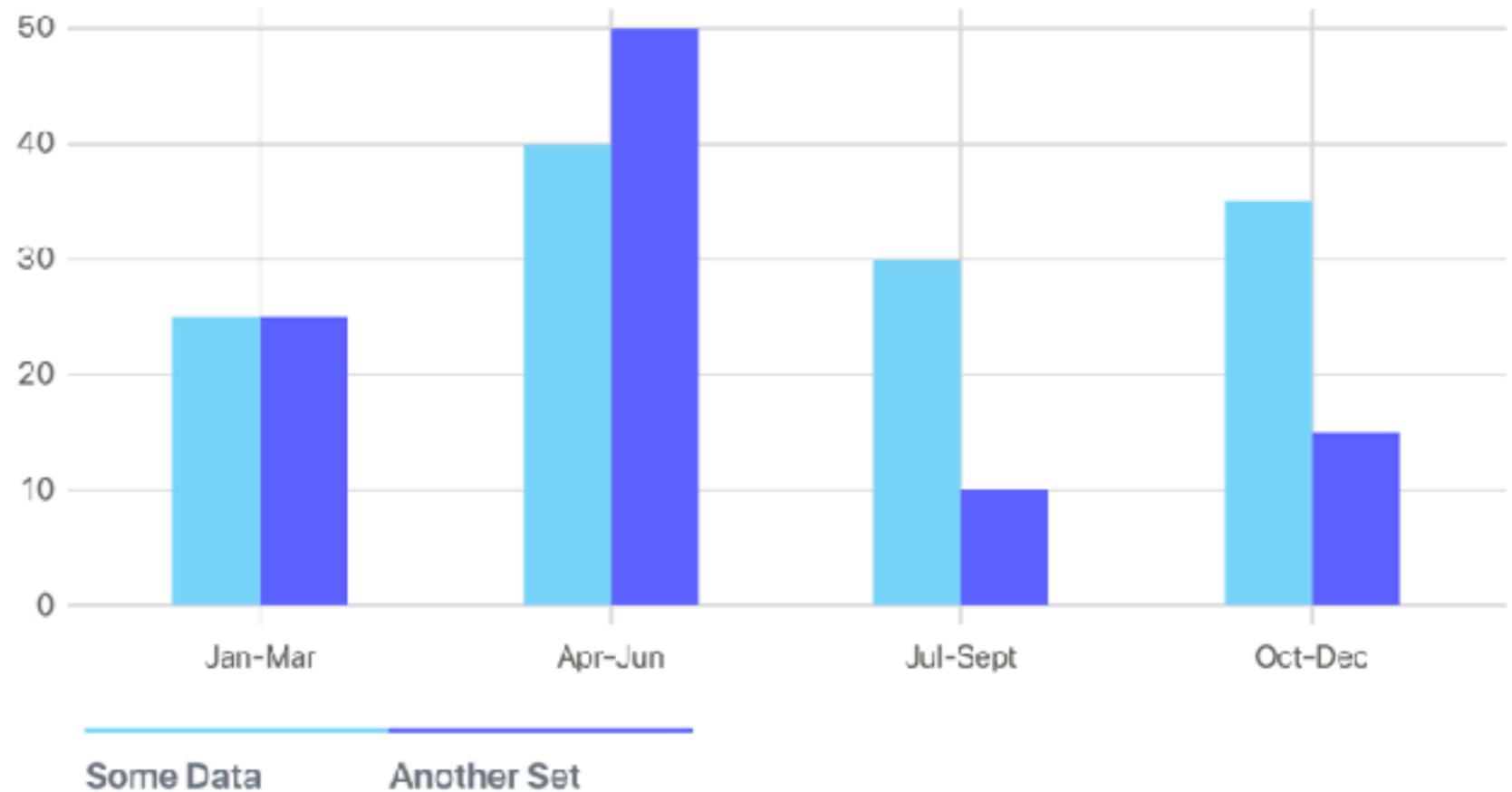
```
let data = {  
    labels: ["Jan-Mar", "Apr-Jun", "Jul-Sept", "Oct-Dec"],  
  
    datasets: [  
        {  
            name: "Some Data",  
            values: [25, 40, 30, 35]  
        },  
        {  
            name: "Another Set",  
            values: [25, 50, 10, 15]  
        }  
    ],  
};
```

```
new Chart("#chart", {  
  data: data,  
  type: 'bar'  
});
```

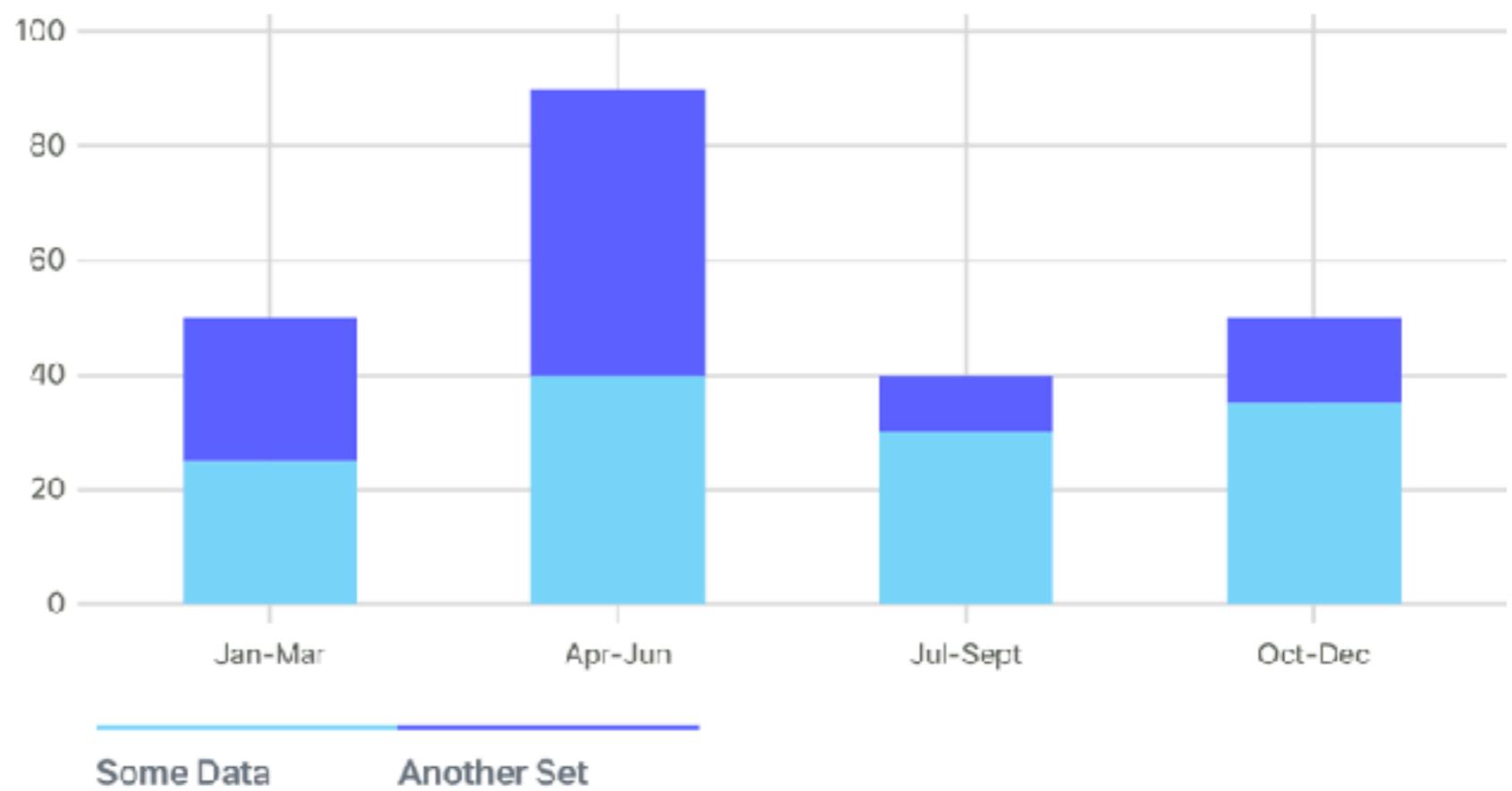


Options

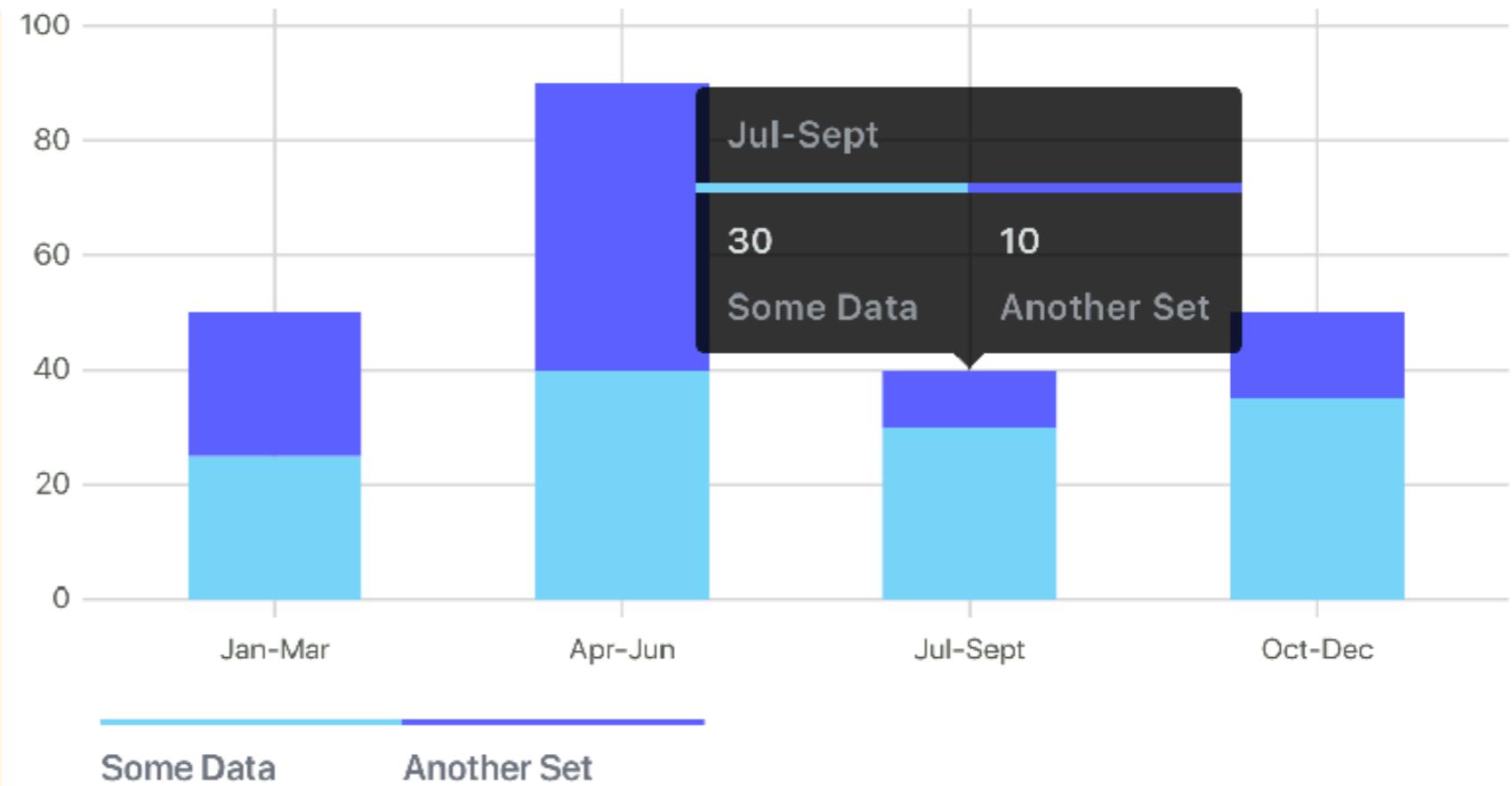
```
new Chart("#chart", {  
  data: data,  
  type: 'bar'  
});
```



```
new Chart("#chart", {  
  data: data,  
  type: 'bar',  
  barOptions: {  
    stacked: 1  
  }  
});
```

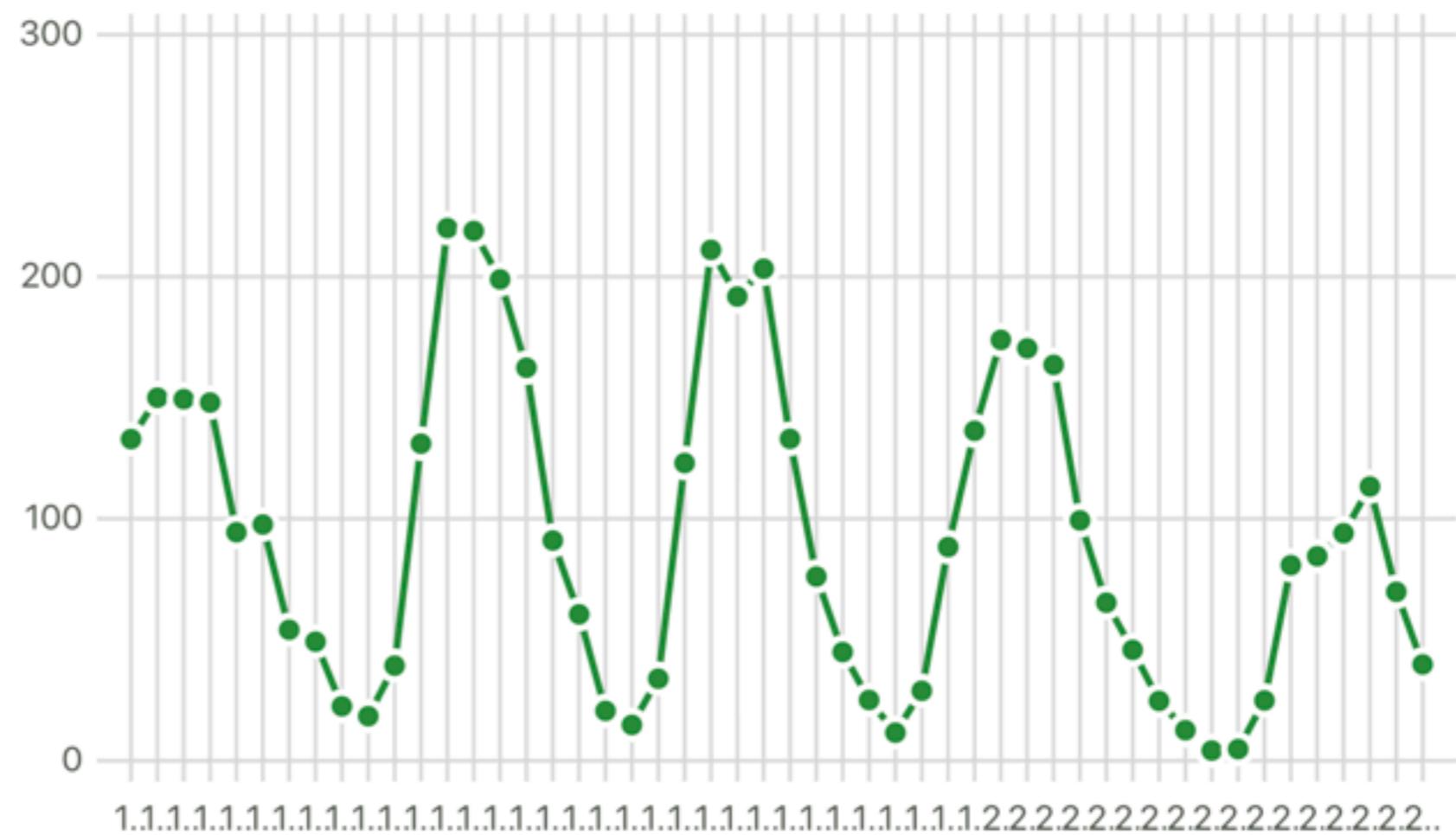


```
new Chart("#chart", {  
  data: data,  
  type: 'bar',  
  barOptions: {  
    stacked: 1  
  },  
  // lineOptions  
  // axisOptions  
  // tooltipOptions  
  // valuesOverPoints  
  // maxLegendPoints  
  // ...  
});
```



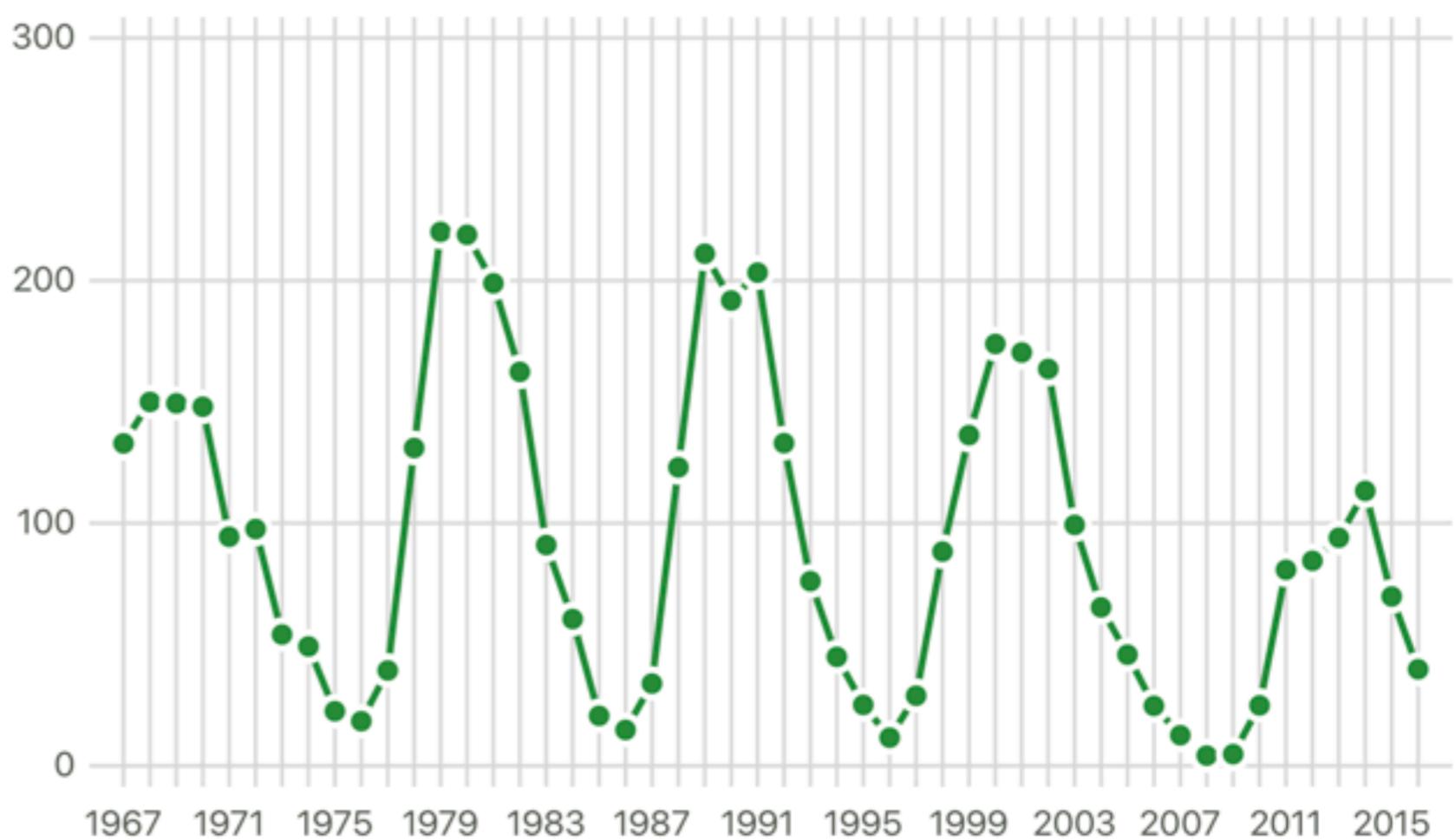
Fitting for Use Cases

Mean Total Sunspot Count - Yearly

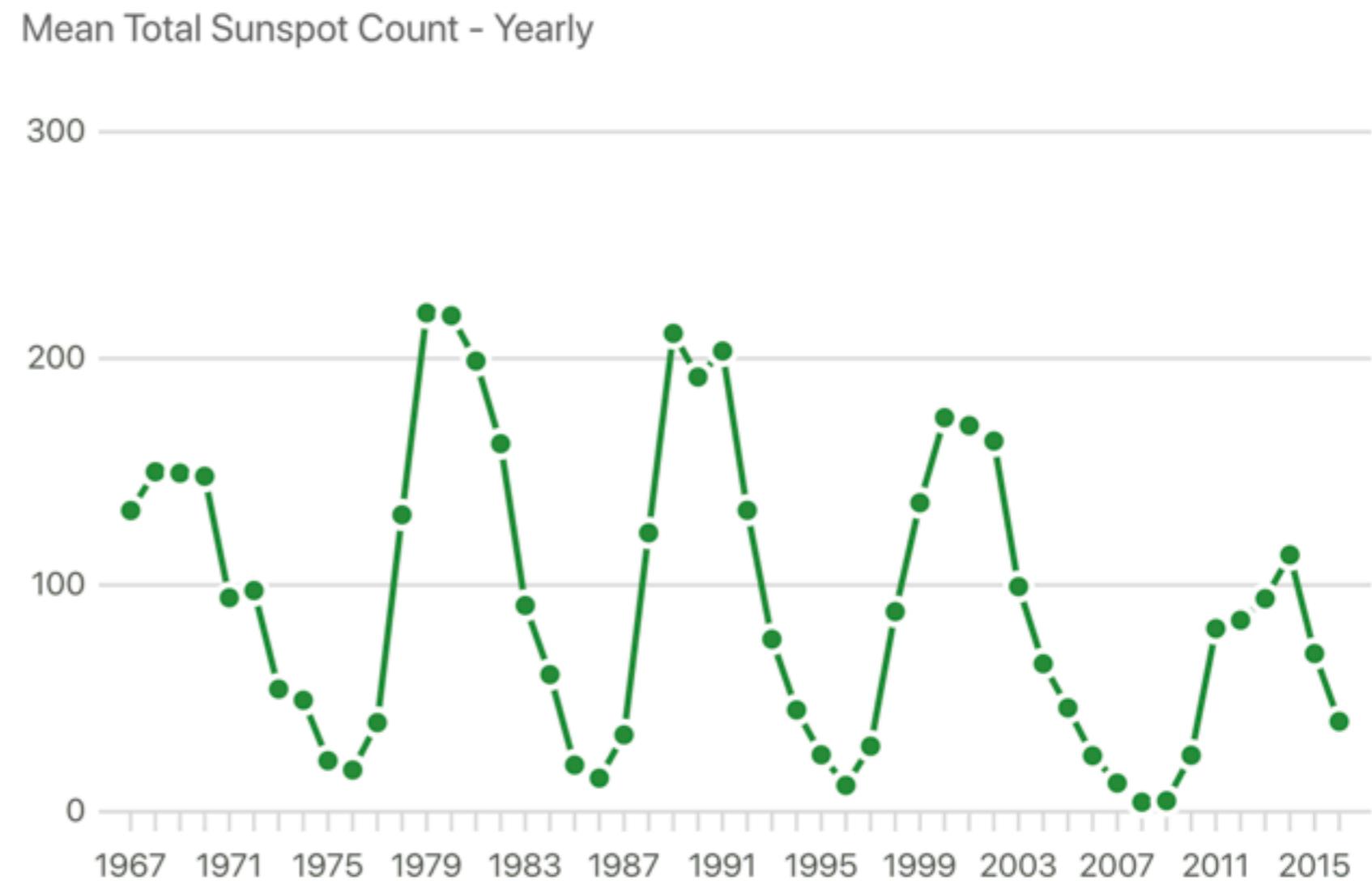


```
axisOptions: {  
    xIsSeries: 1  
}
```

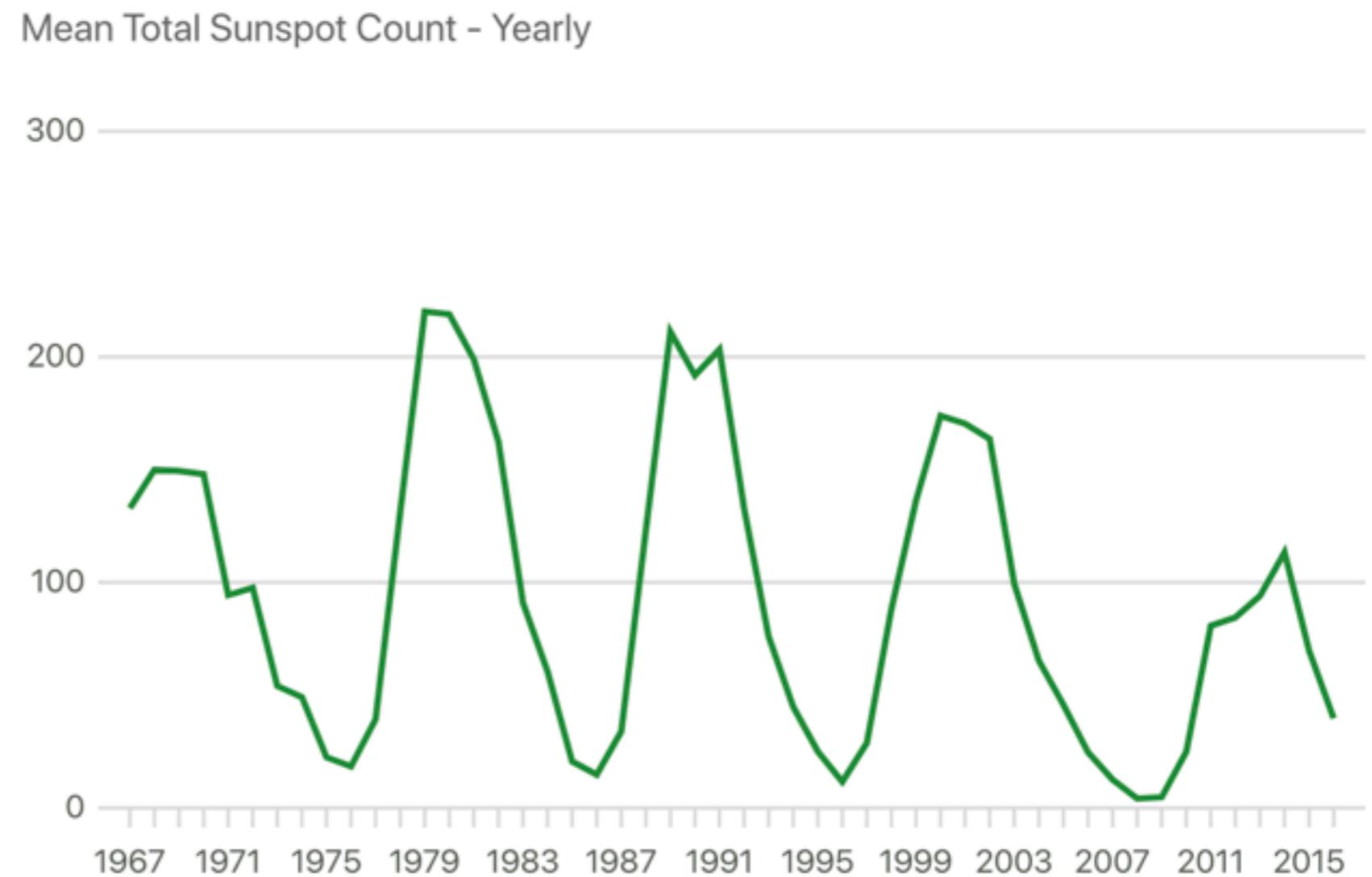
Mean Total Sunspot Count - Yearly



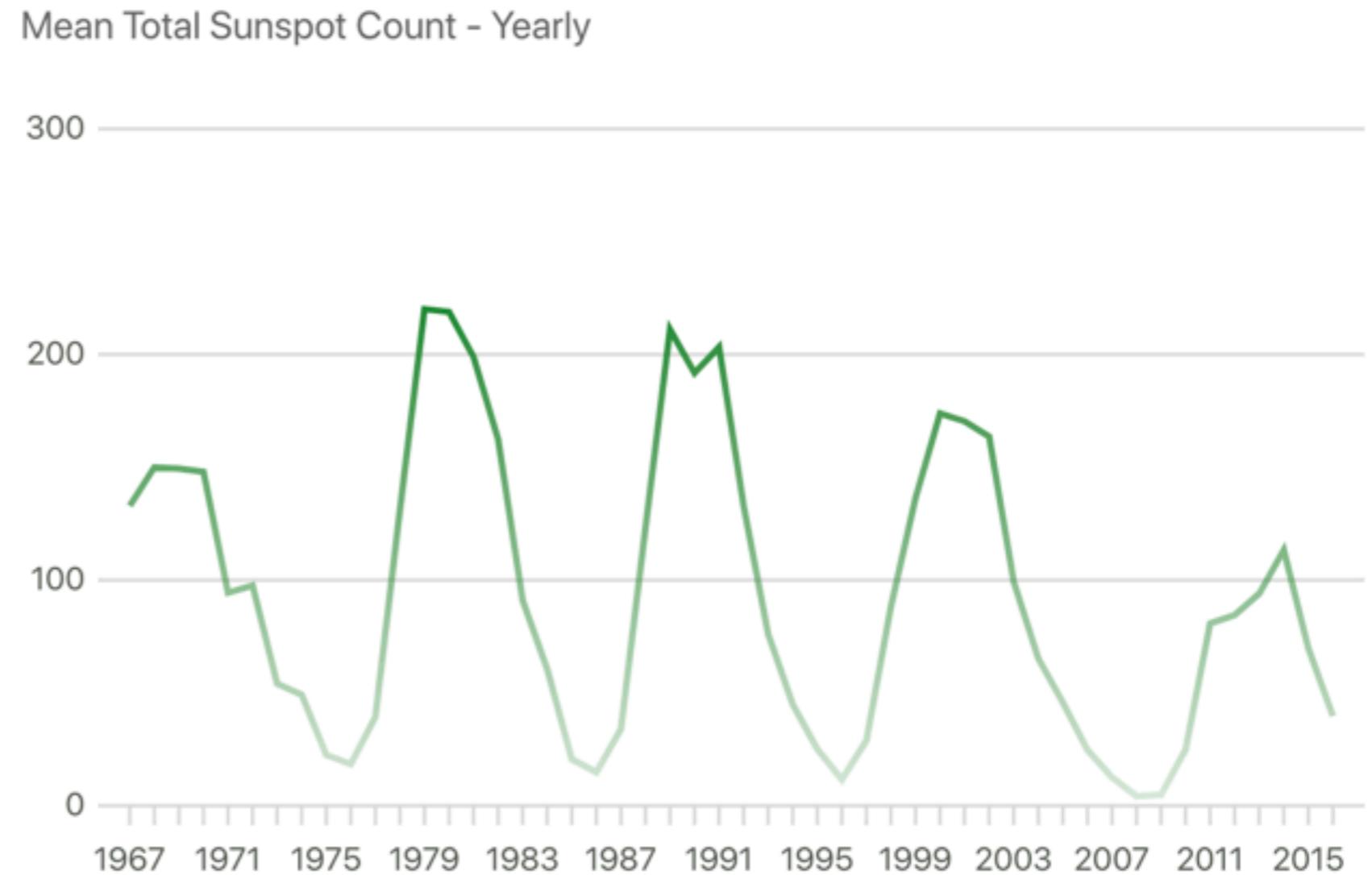
```
axisOptions: {  
    xIsSeries: 1,  
    xAxisMode: 'tick'  
}
```



```
axisOptions: {  
    xIsSeries: 1,  
    xAxisMode: 'tick'  
},  
lineOptions: {  
    hideDots: 1  
}
```



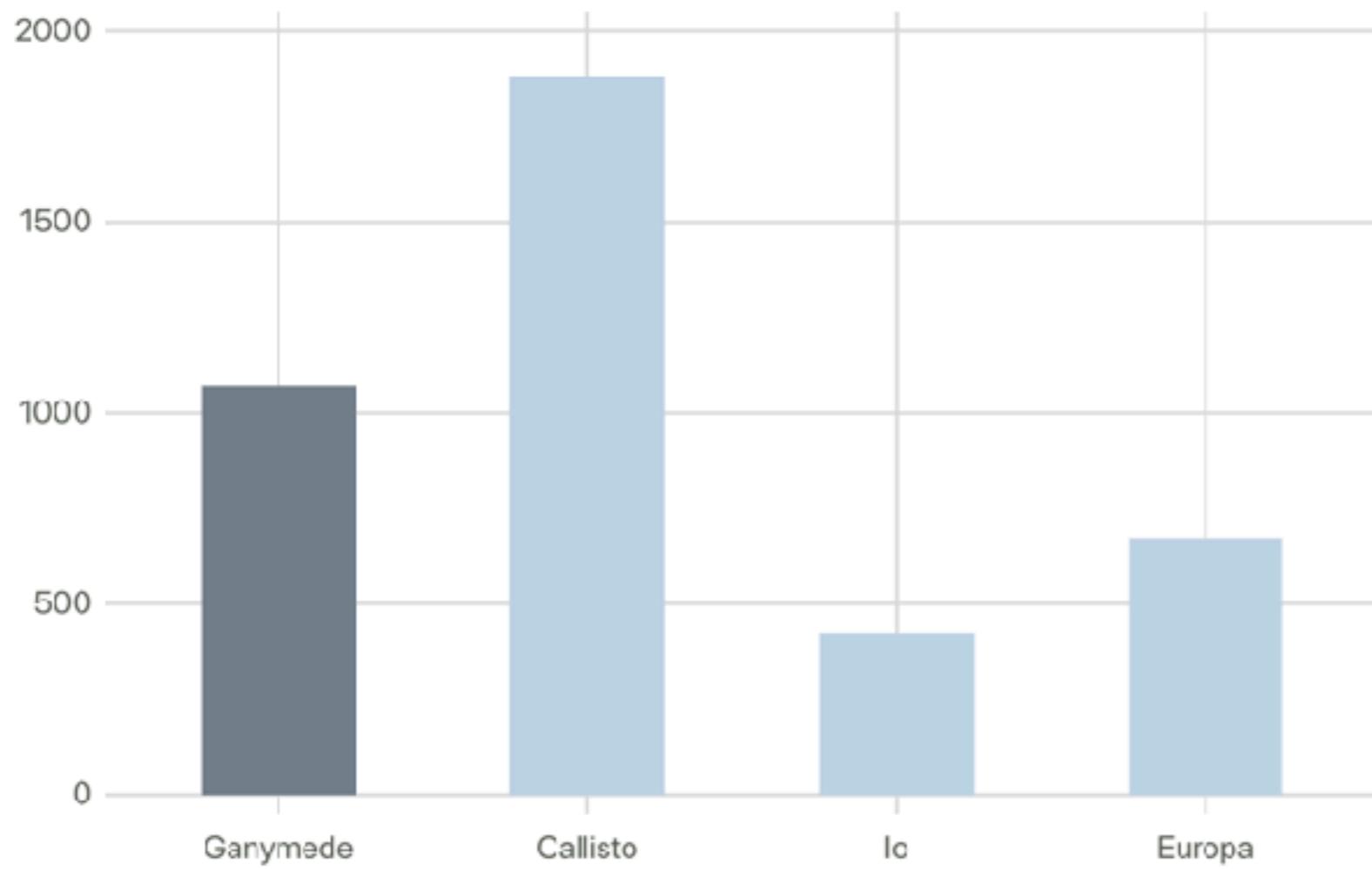
```
axisOptions: {  
    xIsSeries: 1,  
    xAxisMode: 'tick'  
},  
lineOptions: {  
    hideDots: 1,  
    heatline: 1  
}
```



Interactivity

Listen to state change

Jupiter's Moons: Semi-major Axis (1000 km)



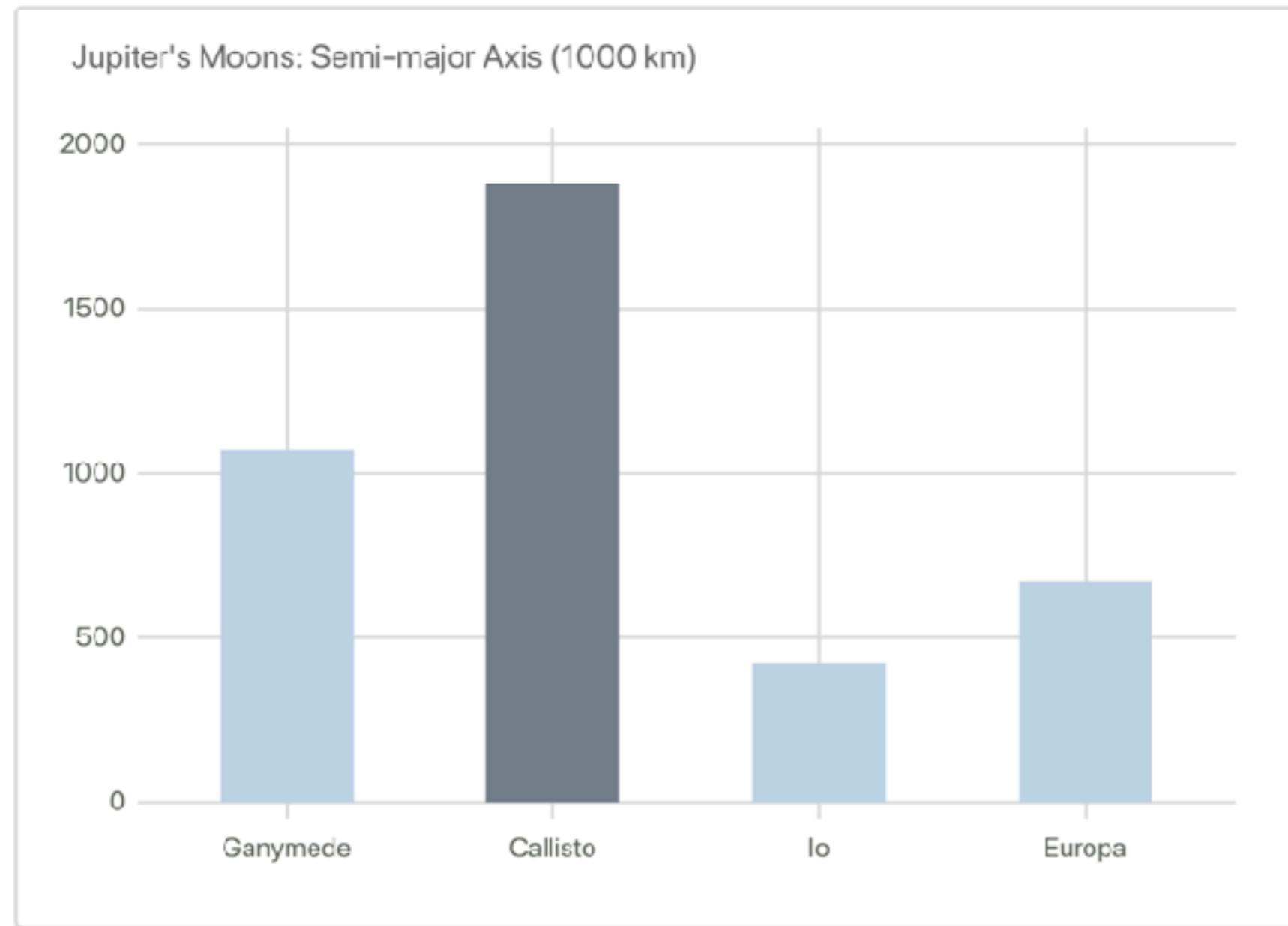
Ganymede

Semi-major-axis: 1070412 km

Mass: 14819000×10^{16} kg

Diameter: 5262.4 km

Listen to state change



Callisto

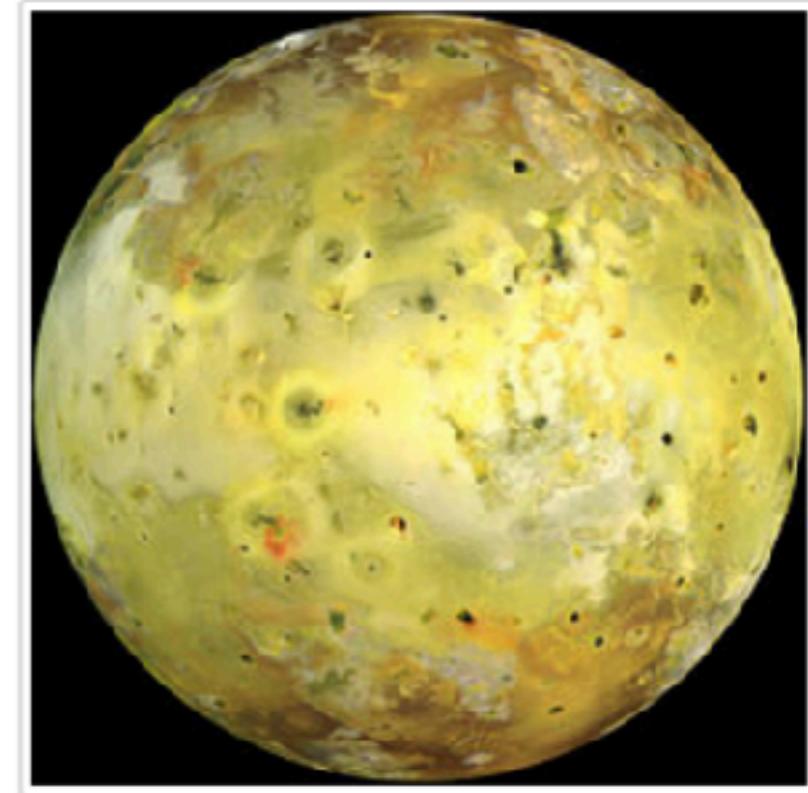
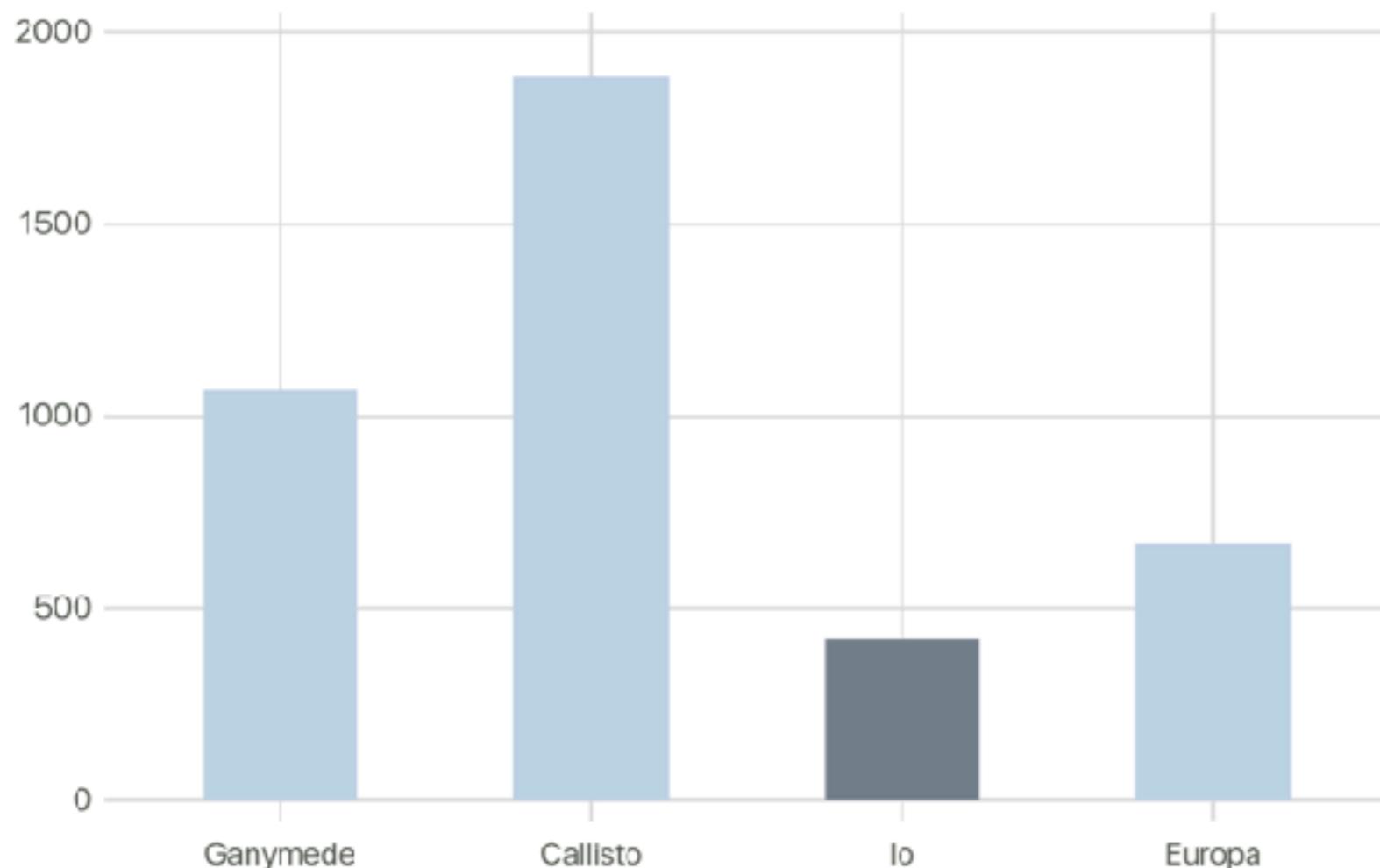
Semi-major-axis: 1882709 km

Mass: 10759000×10^{16} kg

Diameter: 4820.6 km

Listen to state change

Jupiter's Moons: Semi-major Axis (1000 km)



Io

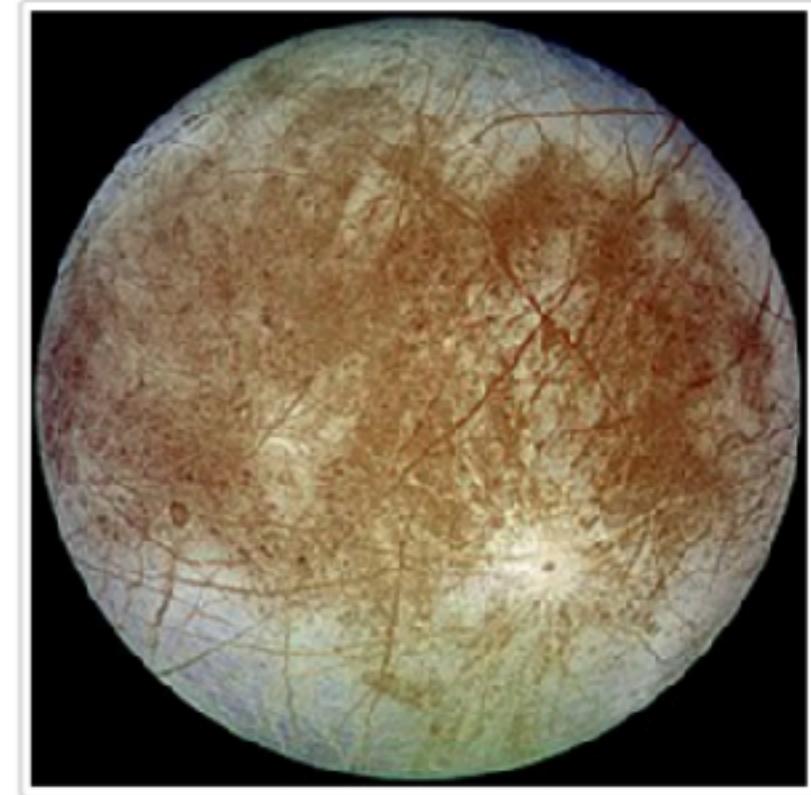
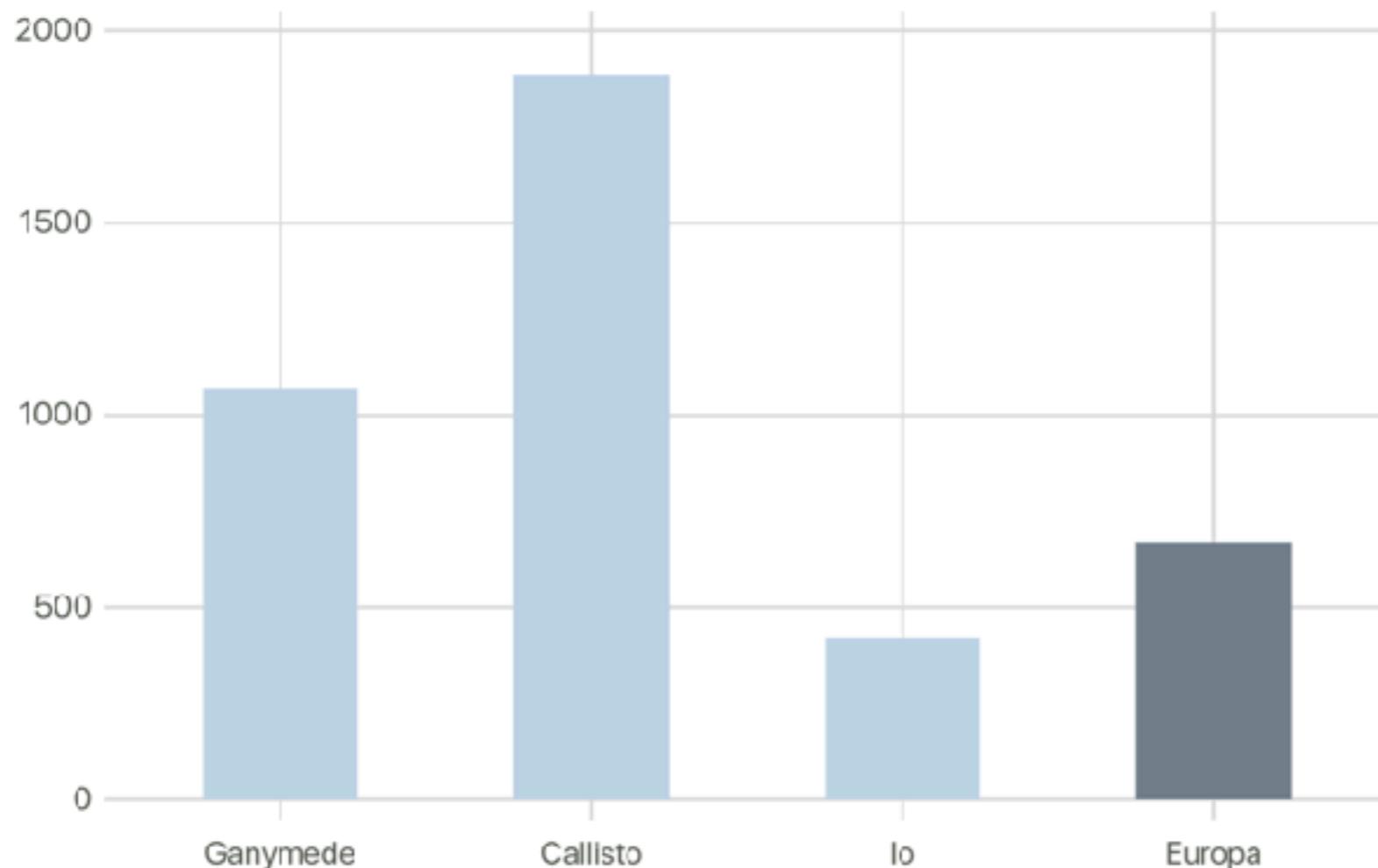
Semi-major-axis: 421700 km

Mass: 8931900×10^{16} kg

Diameter: 3637.4 km

Listen to state change

Jupiter's Moons: Semi-major Axis (1000 km)



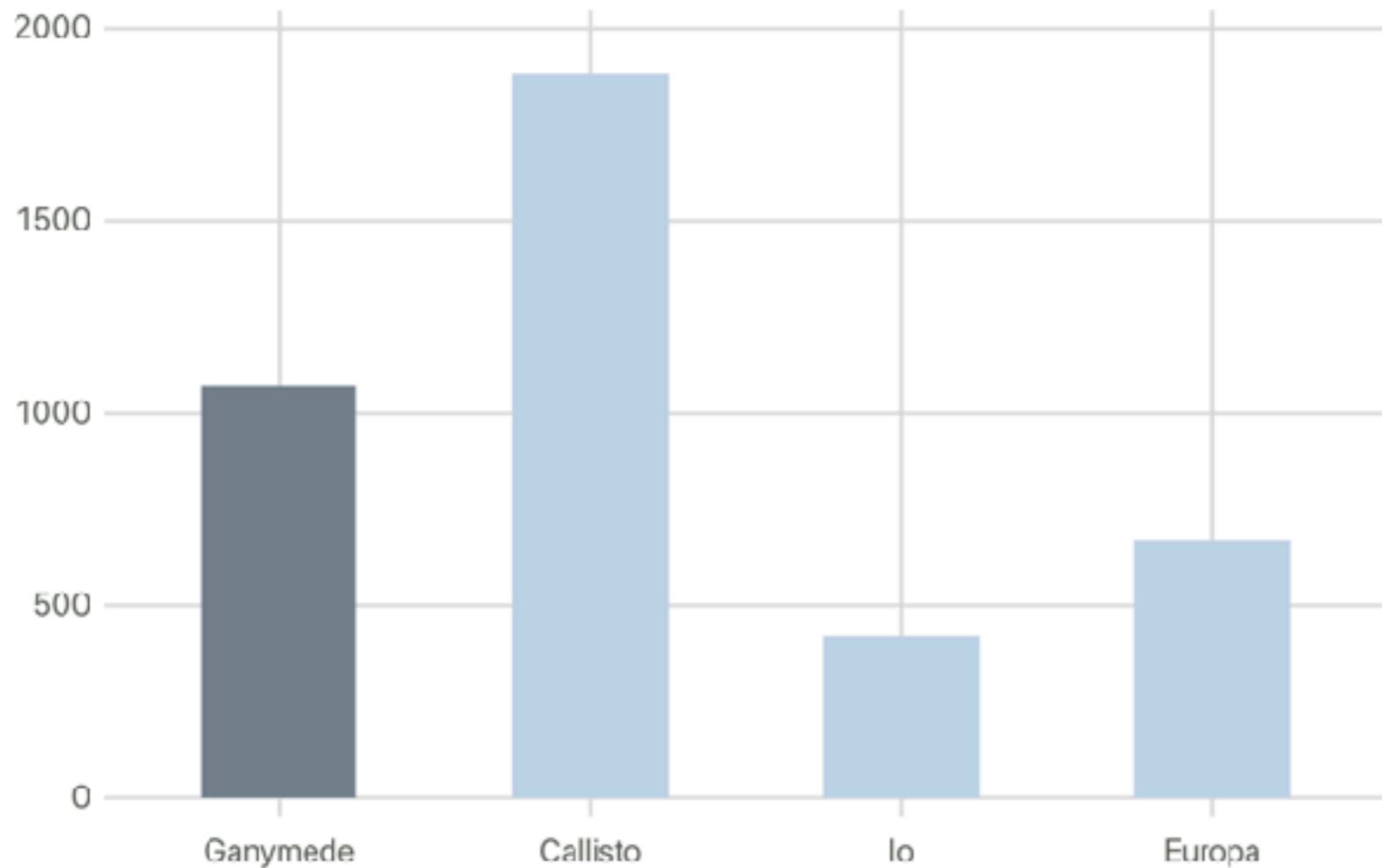
Europa

Semi-major-axis: 671034 km

Mass: 4800000×10^{16} kg

Diameter: 3121.6 km

Jupiter's Moons: Semi-major Axis (1000 km)



Ganymede

Semi-major-axis: 1070412 km

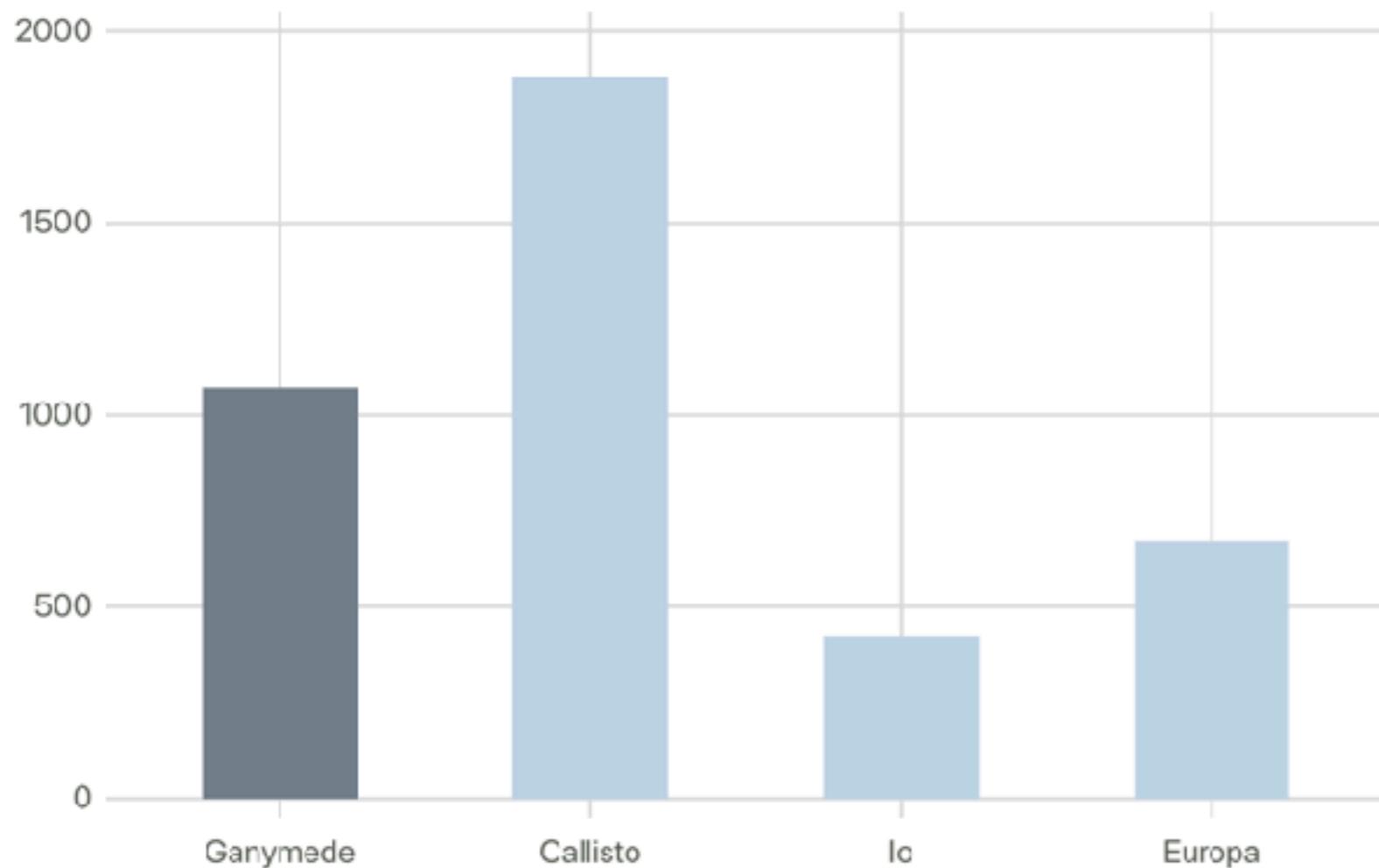
Mass: 14819000×10^{16} kg

Diameter: 5262.4 km

```
...
isNavigable: 1, // Navigate across data points; default 0
...
chart.parent.addEventListener('data-select', (e) => {
  update_moon_data(e.index); // e contains index and value of current datapoint
});
```

Listen to state change

Jupiter's Moons: Semi-major Axis (1000 km)



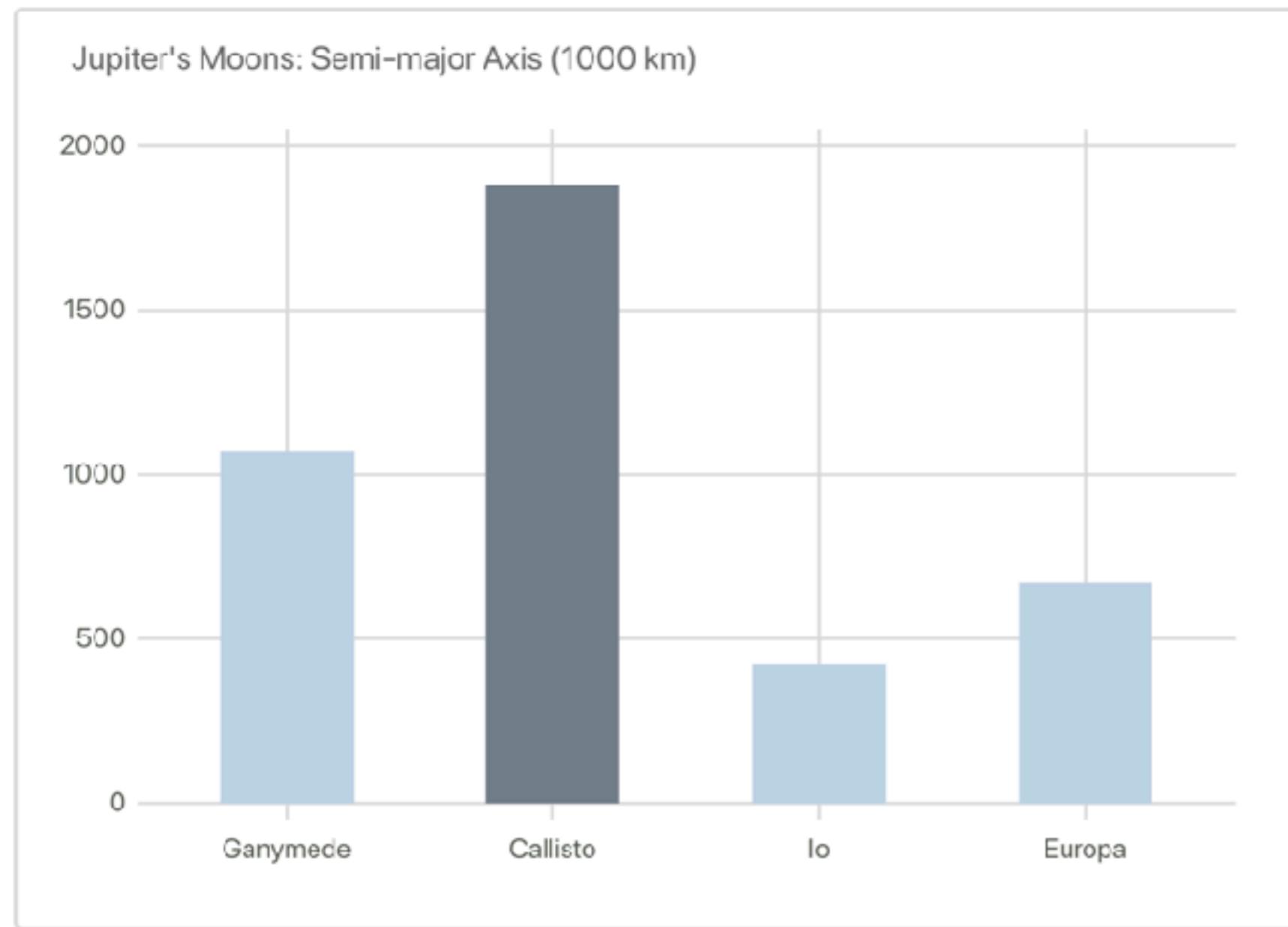
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Diameter: 5262.4 km

Listen to state change



Callisto

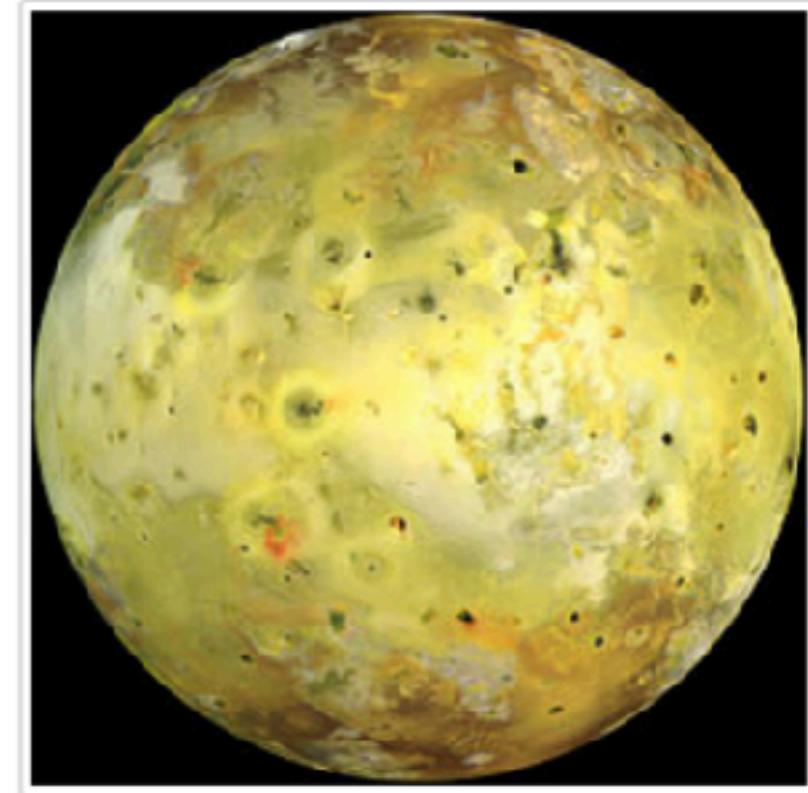
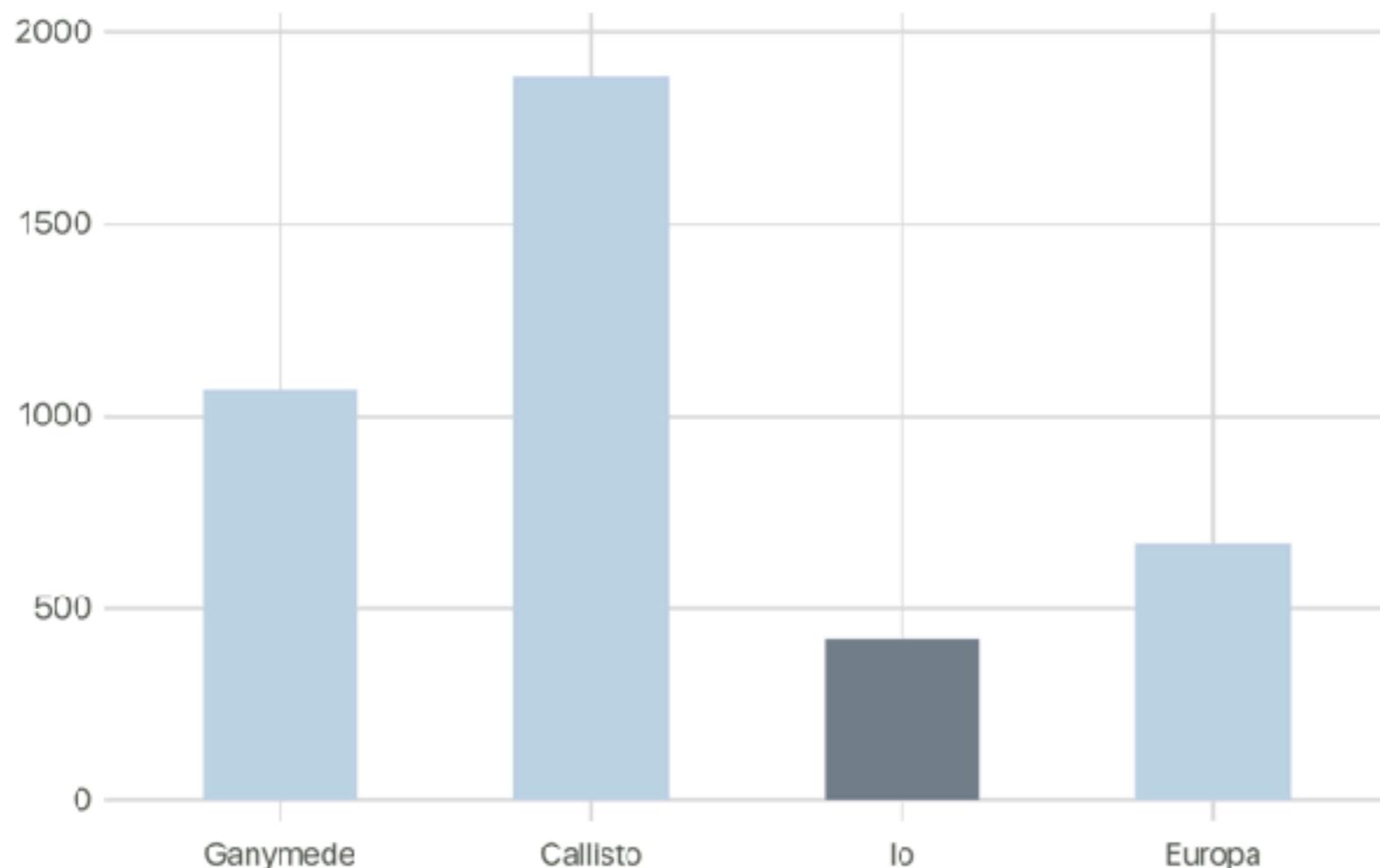
Semi-major-axis: 1882709 km

Mass: 10759000×10^{16} kg

Diameter: 4820.6 km

Listen to state change

Jupiter's Moons: Semi-major Axis (1000 km)



Io

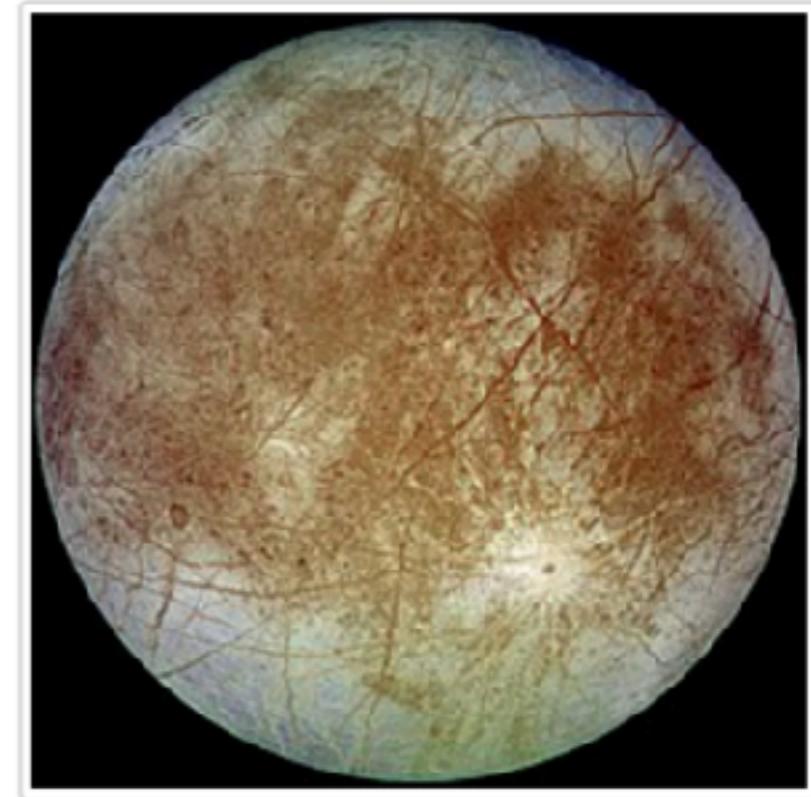
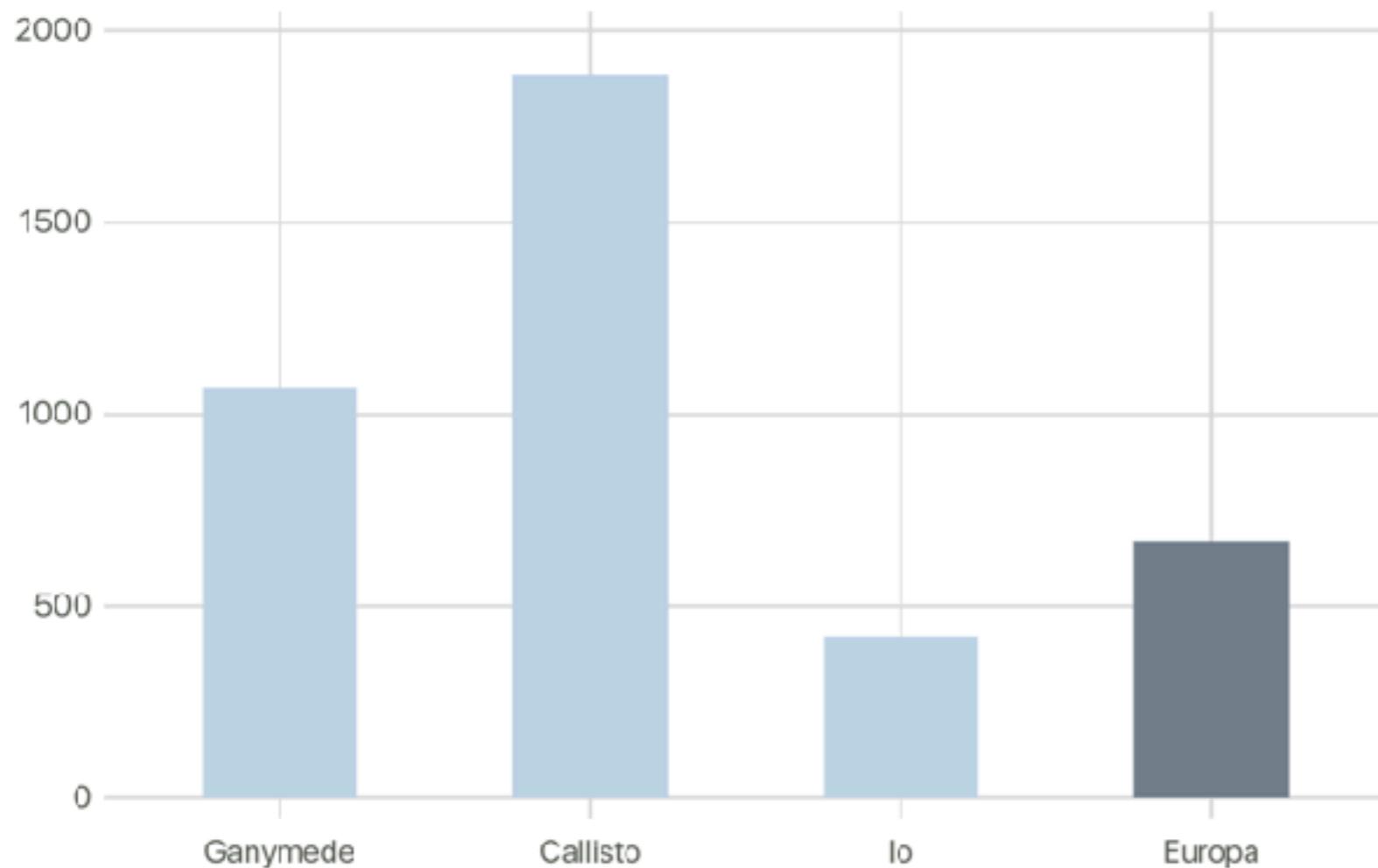
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Jupiter's Moons: Semi-major Axis (1000 km)



Europa

Semi-major-axis: 671034 km

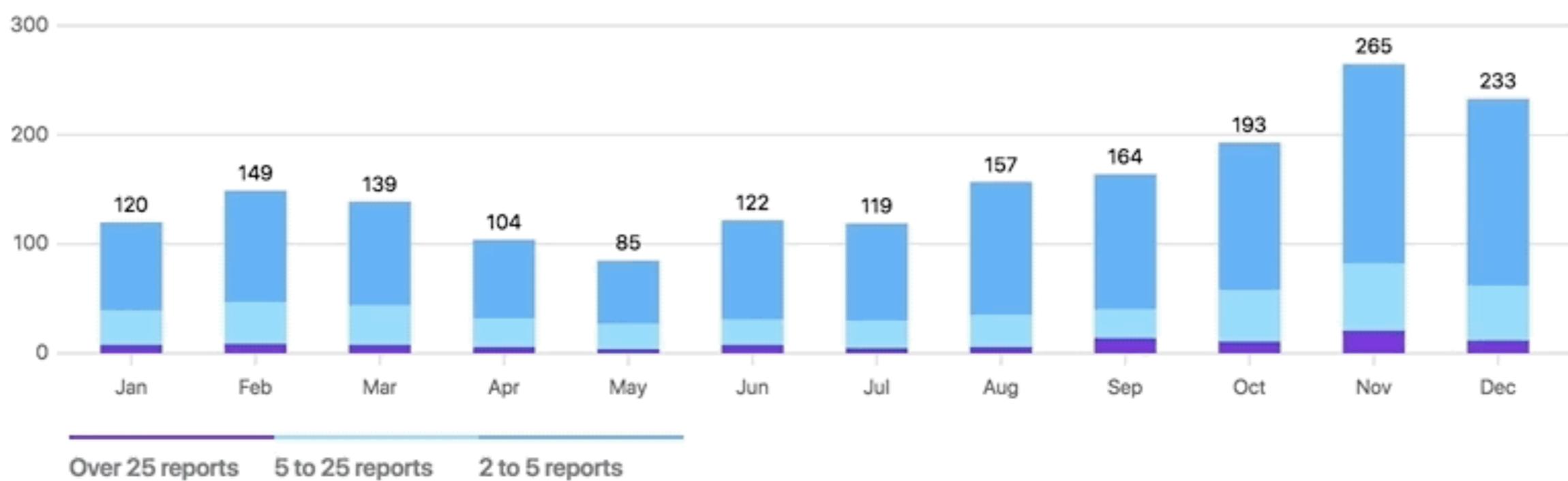
Mass: 4800000×10^{16} kg

Diameter: 3121.6 km

Fireball/Bolide Events - Yearly (reported)



Click or use arrow keys to navigate data points



A Word on Being
Open Source



frappe / charts

Unwatch ▾

243

Star

12,794

Fork

533

Code

Issues 80

Pull requests 15

Simple, responsive, modern SVG Charts with zero dependencies

<https://frappe.io/charts>

chart

javascript

svg

svg-chart

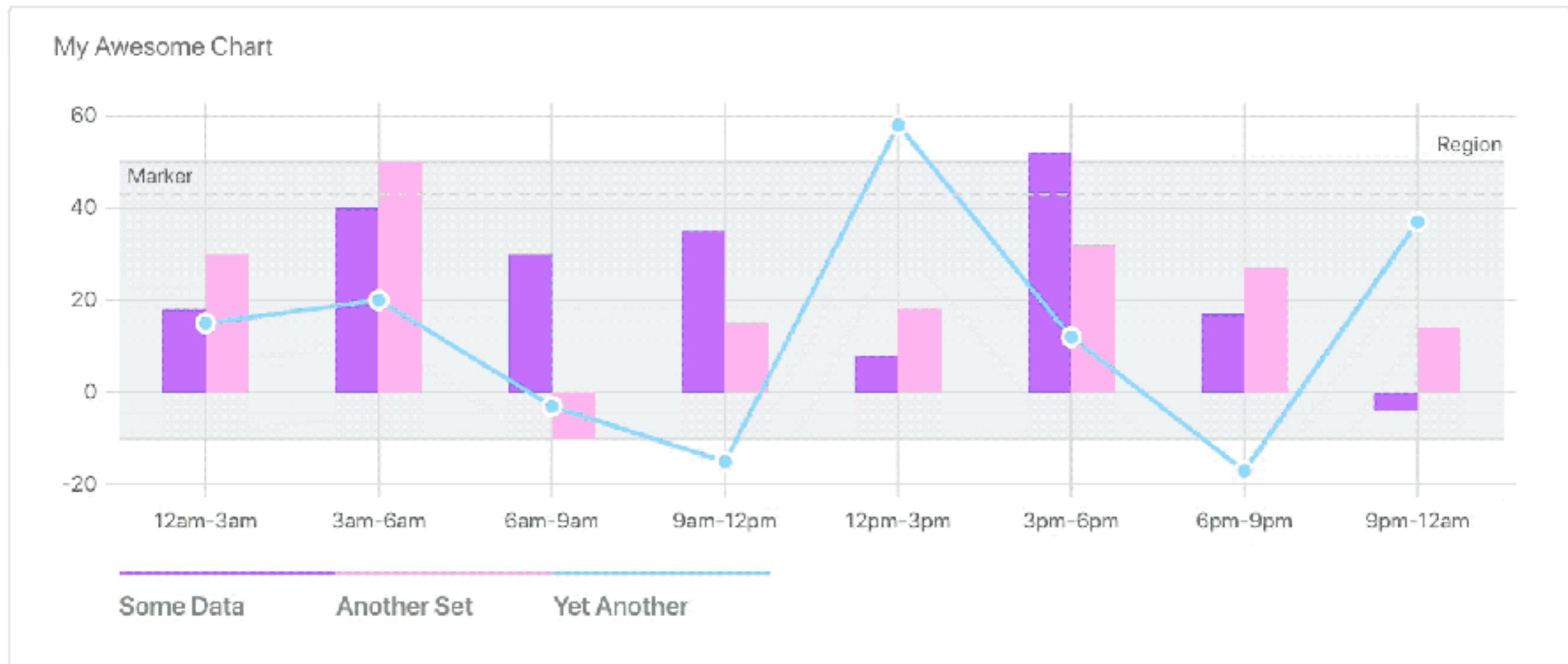
graph

zero-dependency

Manage topics

```
});
```

```
chart.export();
```



Mixed Pie Chart Percentage Chart Export ...

Update Values





▲ Show HN: Frappe Charts – GitHub inspired JavaScript charting with zero dependencies (frappe.github.io)

474 points by [rushabh](#) on Oct 31, 2017 | [hide](#) | [past](#) | [web](#) | [favorite](#) | 87 comments

▲ [polskibus](#) on Oct 31, 2017 [-]

Impressive! What are the supported browsers? What are your plans going forward?

▲ [pratu16x7](#) on Oct 31, 2017 [-]

Supported across all major browsers :) We've covered much ground on the most used charts (while the heatmap just happened to be something we needed) and have the basic components down. That'll facilitate putting in, say, more axis charts in future. We're sure of not running out of ideas, there are just so many chart types out there :D

▲ [silvestrov](#) on Nov 1, 2017 [-]

> Supported across all major browsers

Author of a
D3 book



Elijah Meeks

@Elijah_Meeks

Follow



I love these Frappe Charts from [@erpnext](#).
Super small and efficient and beautiful
tooltips.
frappe.github.io/charts/

12:30 AM - 25 Nov 2017

16 Retweets 55 Likes

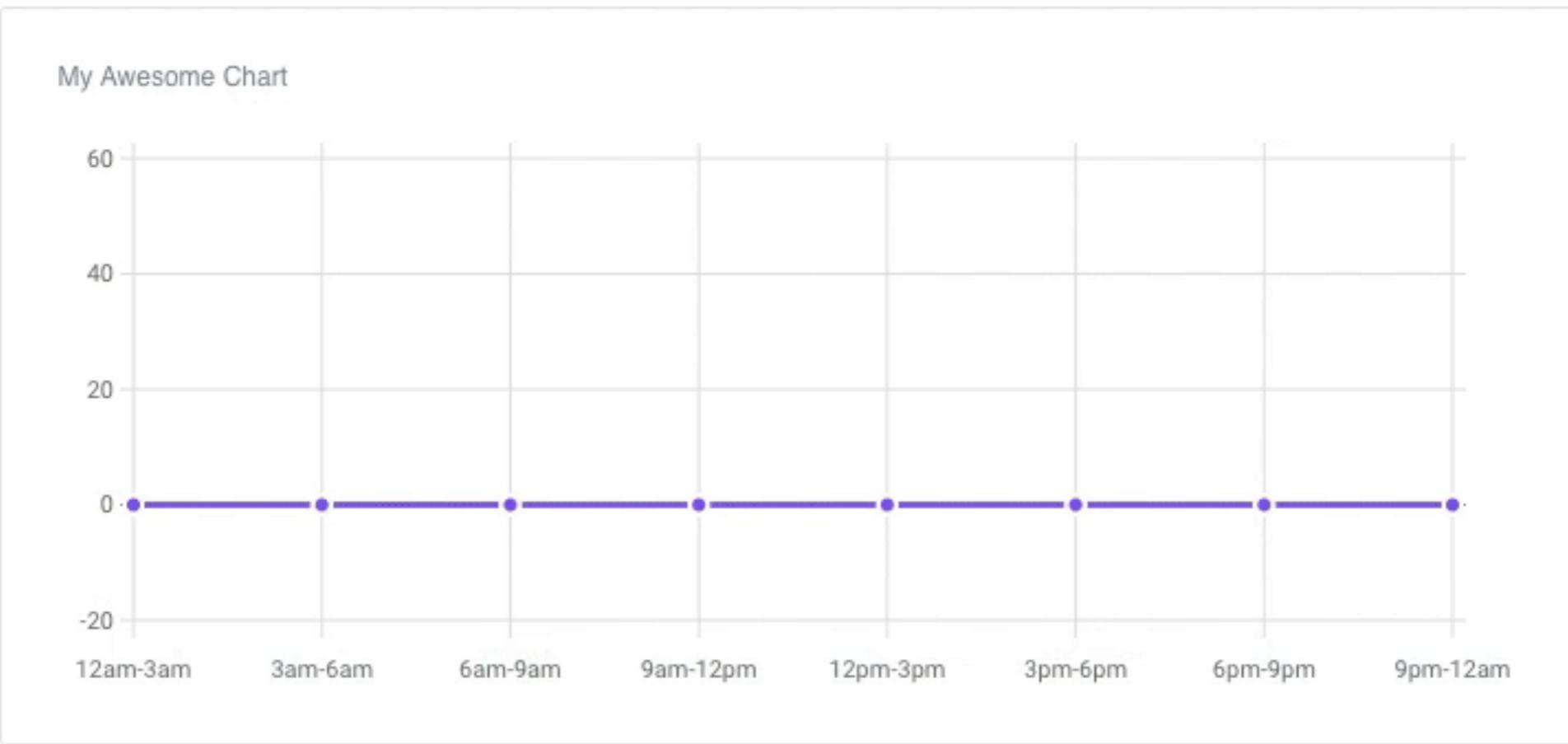


16



55

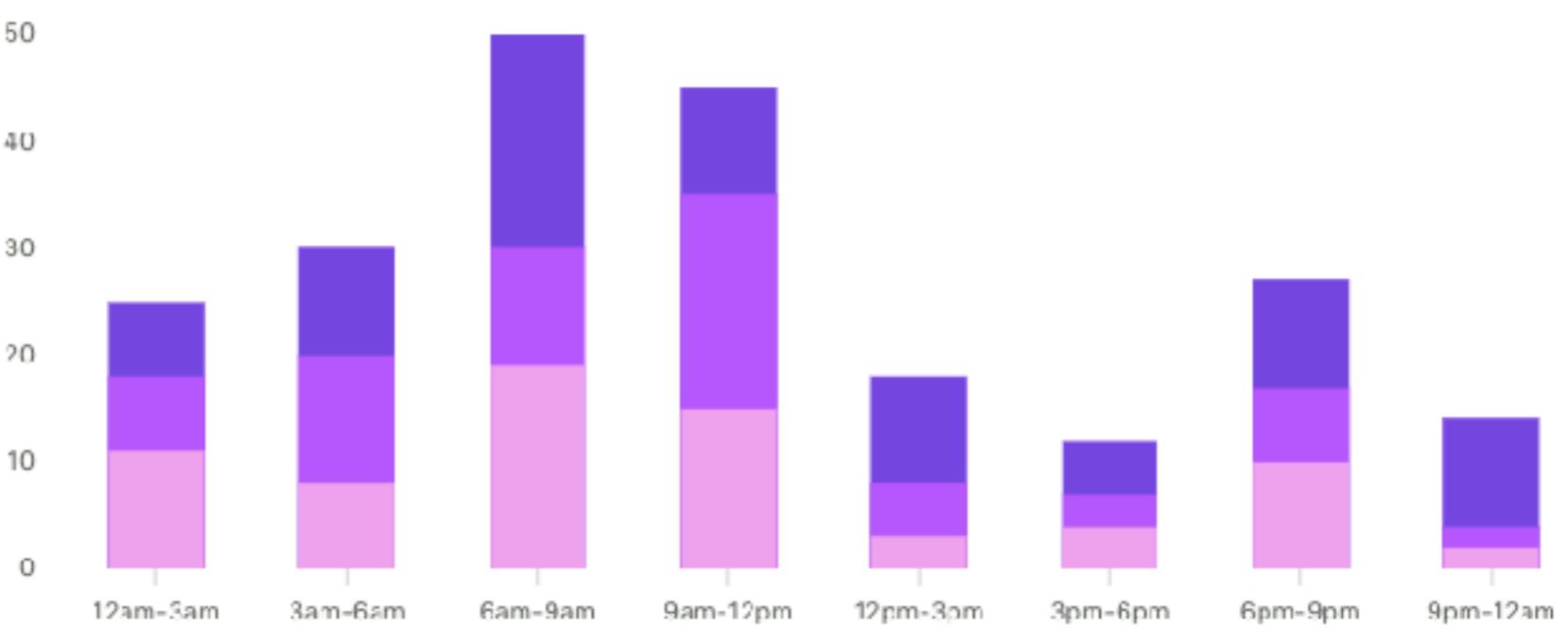
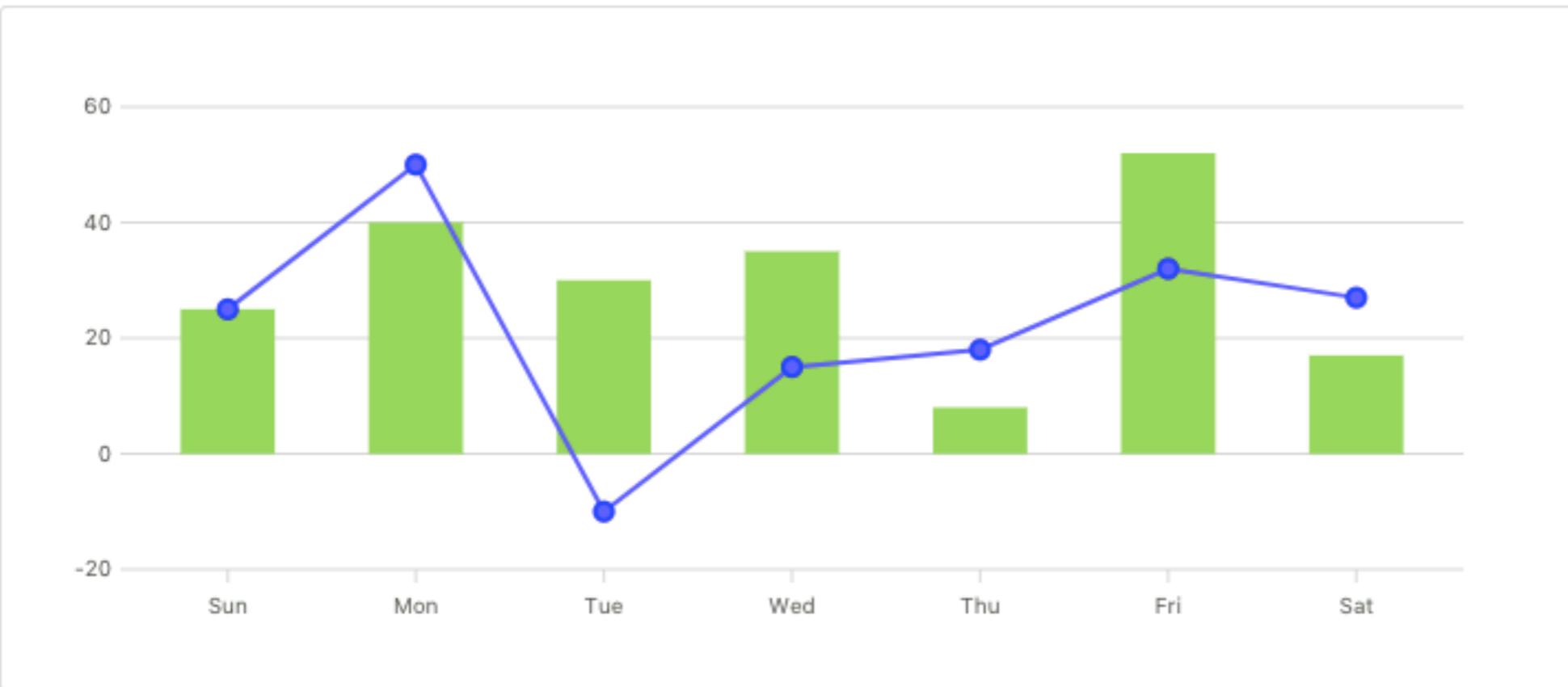




Bar Chart Line Chart Pie Chart Scatter Chart Percentage Chart

Why Percentage? 

User contribution



Responsiveness

Frappe Charts are responsive, as they rerender all the data in the current available container width. To demonstrate, let's take the example of setting the [bar width](#) for bar charts.

In order to set the bar width, instead of defining it and the space between the bars independently, we simply define the **ratio of the space between bars to the bar width**. The chart then adjusts the actual size proportional to the chart container.

js

```
barOptions: {  
    spaceRatio: 0.2 // default: 1  
},
```

Try resizing the window to see the effect, with different ratio values.



spaceRatio: 0.2

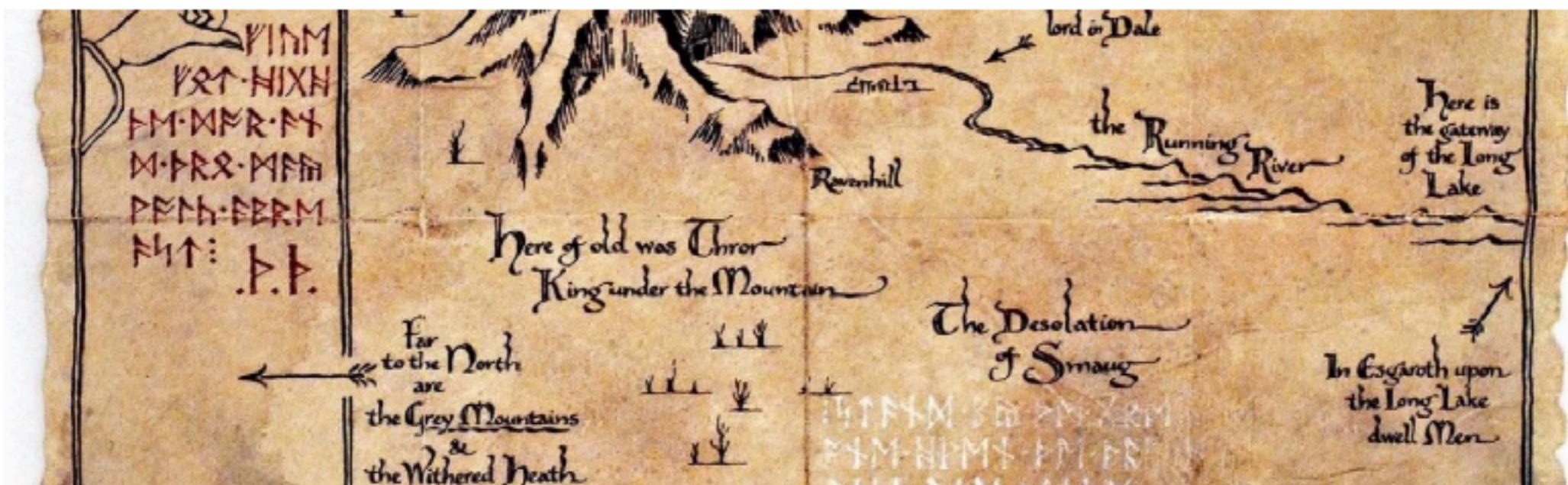
Stacked Bar Chart

Unlike lines, bars have two ways to show multiple data point values: adjacent or stacked bars. Stacked bar charts are similar to area charts, being useful for comparisions of similar trends. The property `[`stacked`]()` in ``barOptions`` renders a stacked bar chart instead of the default adjacent bars:

```
```js
barOptions: {
 stacked: 1 // default 0, i.e. adjacent
}
```
<project-demo data="bar-composite-data" v-bind:config="{
  type: 'bar',
  height: 240,
  colors:['blue', 'green', 'light-green'],
  barOptions: {
    spaceRatio: 0.4,
    stacked: 1
  },
}" v-bind:options="[
  {
    name: 'barOptions',
    path: ['barOptions', 'stacked'],
    type: 'boolean',
    states: { 'Stacked': 1, 'Adjacent': 0 },
    activeState: 1
  }
]">
</project-demo>
```



Prateeksha Singh in Frappé Thoughts
Jun 12, 2018 · 7 min



Writing the Docs

Venturing beyond the README



GitHub 
@github

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As of today you all have created 100M repositories on GitHub – nearly $\frac{1}{3}$ of those in the last year. 

What will you build next?



discover ▾

/

GIF

Cool new open source projects

You open sourced a lot of exciting work this year, from machine learning frameworks to games. These projects aren't the fastest growing or highest grossing but we thought they were star-worthy—and so did the community! *

- [google/dopamine](#)
A research framework for quickly prototyping reinforcement learning algorithms
- [facebookresearch/Detectron](#)
Implementations of the latest object detection algorithms
- [frappe/charts](#)
Responsive SVG charts with JavaScript (inspired by the GitHub UI <3)
- [felixrieseberg/windows95](#)
Windows 95 running in an Electron App
- [wangshub/wechat_jump_game](#)
A game for WeChat



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Responsive SVG charts with JavaScript (inspired by the GitHub UI <3)
- [felixrieseberg/windows95](#)
Windows 95 running in an Electron App
- [wangshub/wechat_jump_game](#)
A game for WeChat

If it weren't for ...

The GitHub Design Team

The Frappe Team

The ERPNext Community

Contributors

Thanks

@pratu16x7

