googleVis

Data Products

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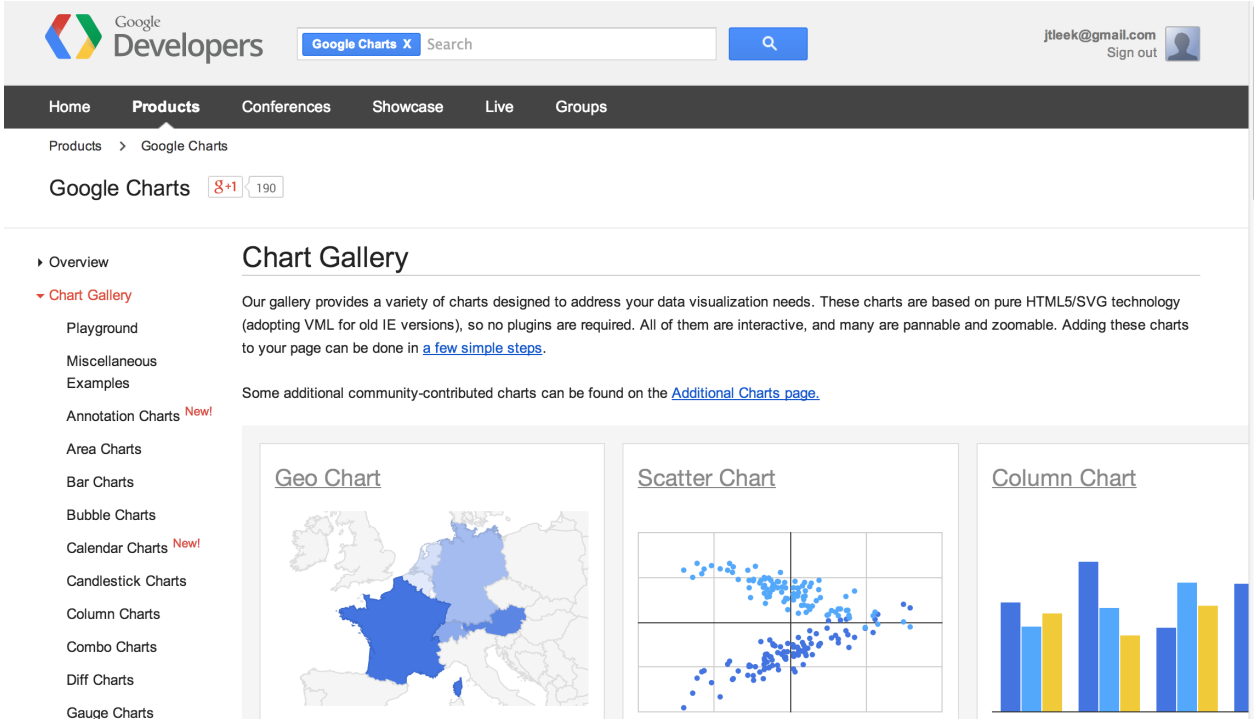
Google Vis API



https://developers.google.com/chart/interactive/docs/gallery

Basic idea

- The R function creates an HTML page
- The HTML page calls Google Charts
- The result is an interactive HTML graphic

Example

```
suppressPackageStartupMessages(library(googleVis))
M <- gvisMotionChart(Fruits, "Fruit", "Year", options = list(width = 600, height = 400))
print(M, "chart")
```

Charts in googleVis

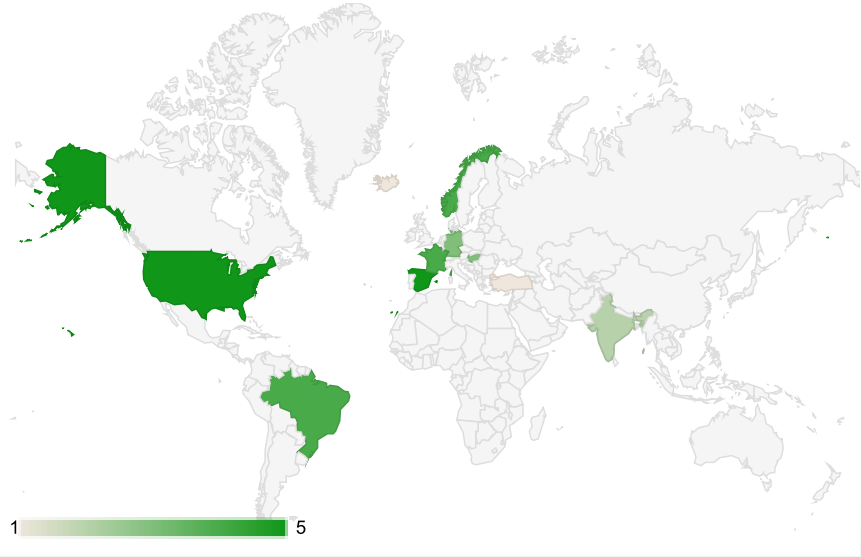
"gvis + ChartType"

- Motion charts: `gvisMotionChart`
- Interactive maps: `gvisGeoChart`
- Interactive tables: `gvisTable`
- Line charts: `gvisLineChart`
- Bar charts: `gvisColumnChart`
- Tree maps: `gvisTreeMap`

http://cran.r-project.org/web/packages/googleVis/googleVis.pdf

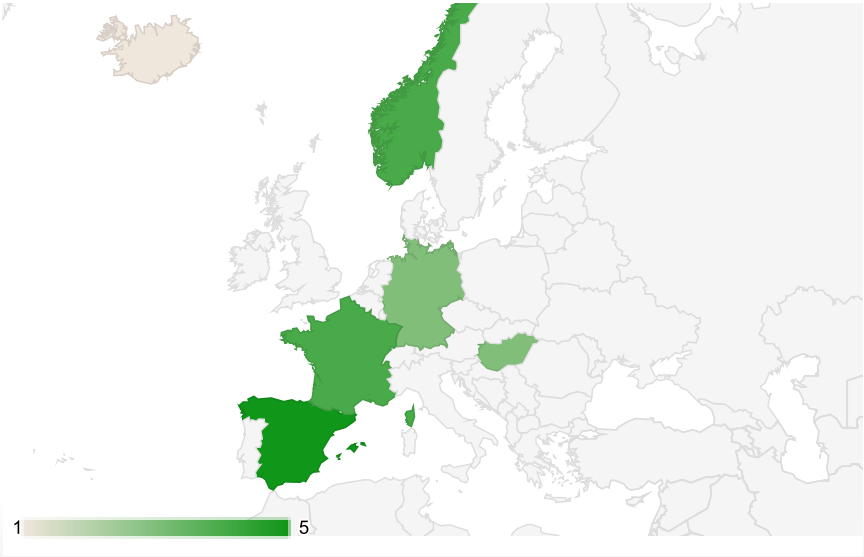
Plots on maps

```
G <- gvisGeoChart(Exports, locationvar = "Country", colorvar = "Profit", options = list(width = 600,
    height = 400))
print(G, "chart")
```



Specifying a region

```
G2 <- gvisGeoChart(Exports, locationvar = "Country", colorvar = "Profit", options = list(width = 600,
    height = 400, region = "150"))
print(G2, "chart")
```



Finding parameters to set under `options`

Configuration Options

Name	Type	Default	Description
backgroundColor	string or object	white	The background color for the main area of the chart. Can be either a simple HTML color string, for example: `'red'` or `'#00cc00'`, or an object with the following properties.
backgroundColor.fill	string	white	The chart fill color, as an HTML color string.
backgroundColor.stroke	string	'#666'	The color of the chart border, as an HTML color string.
backgroundColor.strokeWidth	number	0	The border width, in pixels.
colorAxis	Object	null	An object that specifies a mapping between color column values and colors or a gradient scale. To specify properties of this object, you can use object literal notation, as shown here: `{minValue: 0,  colors: ['#FF0000', '#00FF00']}`
colorAxis.minValue	number	Minimum value of color column in chart	If present, specifies a minimum value for chart color data. Color data values of this value and lower will be rendered as the first color in the

https://developers.google.com/chart/interactive/docs/gallery/geochart

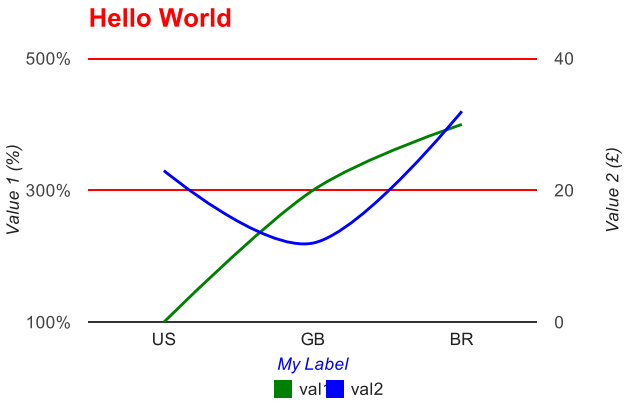
Setting more options

```
df <- data.frame(label = c("US", "GB", "BR"), val1 = c(1, 3, 4), val2 = c(23,
    12, 32))
Line <- gvisLineChart(df, xvar = "label", yvar = c("val1", "val2"), options = list(title = "Hello World
    legend = "bottom", titleTextStyle = "{color:'red', fontSize:18}", vAxis = "{gridlines:{color:'red',
    hAxis = "{title:'My Label', titleTextStyle:{color:'blue'}}", series = "[{color:'green', targetAxisI
    vAxes = "[{title:'Value 1 (%)', format:'##,######%'}, \n                                    {title:'V
    curveType = "function", width = 500, height = 300))
```

https://github.com/mages/Introduction_to_googleVis/blob/gh-pages/index.Rmd

Setting more options

```
print(Line, "chart")
```



Combining multiple plots together

```
G <- gvisGeoChart(Exports, "Country", "Profit", options = list(width = 200,
    height = 100))
T1 <- gvisTable(Exports, options = list(width = 200, height = 270))
M <- gvisMotionChart(Fruits, "Fruit", "Year", options = list(width = 400, height = 370))
GT <- gvisMerge(G, T1, horizontal = FALSE)
GTM <- gvisMerge(GT, M, horizontal = TRUE, tableOptions = "bgcolor=\"#CCCCCC\" cellspacing=10")
```

Combining multiple plots together

```
print(GTM, "chart")
```

Seeing the HTML code

```
M <- gvisMotionChart(Fruits, "Fruit", "Year", options = list(width = 600, height = 400))
print(M)
```

```
## <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
##   "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
## <html xmlns="http://www.w3.org/1999/xhtml">
## <head>
## <title>MotionChartID126636c9cf8e</title>
## <meta http-equiv="content-type" content="text/html;charset=utf-8" />
## <style type="text/css">
## body {
##   color: #444444;
##   font-family: Arial,Helvetica,sans-serif;
##   font-size: 75%;
##   }
##   a {
##   color: #4D87C7;
##   text-decoration: none;
## }
## </style>
```

Things you can do with Google Vis

- The visualizations can be embedded in websites with HTML code
- Dynamic visualizations can be built with Shiny, Rook, and R.rsp
- Embed them in R markdown based documents
  - Set `results="asis"` in the chunk options
  - Can be used with knitr and slidify

For more info

```
demo(googleVis)
```

- http://cran.r-project.org/web/packages/googleVis/vignettes/googleVis.pdf
- http://cran.r-project.org/web/packages/googleVis/googleVis.pdf
- https://developers.google.com/chart/interactive/docs/gallery
- https://developers.google.com/chart/interactive/faq