Google Motion Charts with R: Package Vignette

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Abstract

The `GoogleMotionChart` package is providing an interface between R and the Google Visualisation API. The functions of the package allow the user to transform data stored in a R `data.frame` structure into a Google Motion Chart. The output is html code, which when run on a web server, generates a dynamic flash based bubble chart to explore several indicators over time.

1 Introduction

The standard motion chart is essentially an animated bubble chart, which allows the user to explore several indicators over time. The idea of motion chart was popularised by Hans Rosling at a Ted talk [TED06] about social and economic developments in the world, see also [Gap10].

2 Google Motion Chart API

The Google Motion Chart is part of Google Visualisation API [Goo10a]. Charts are rendered within a browser using Adobe Flash. The charting data can either be embedded into the html file or read dynamically. Key to Google Visualisation API is that the data is structured in a DataTable [Goo10c], and this is where this package helps. The data has to have at least four columns with bubble name (`idvar`), time (`timevar`) and two columns of numeric values. Further columns are optional. The Google Public Data Explorer [Goo10b] shows several examples of motion charts and how they can help to analyse data. Figure 1 shows the graphical user interface of a motion chart.

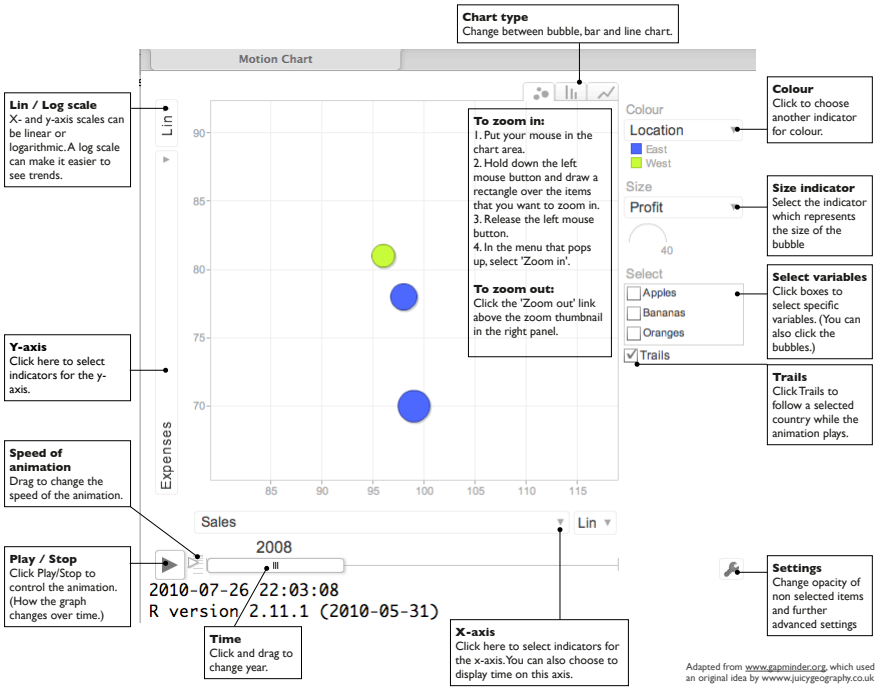

Figure 1: Overview of a Google motion chart. Screenshot of the output of `MotionChartPage(Fruits, idvar='Fruit', timevar='Year', file='FruitAnalysis.rsp')`

References

[Gap10] Gapminder, http://www.gapminder.org. 2010.

[Goo10a] Google Inc., http://code.google.com/apis/visualization/documentation/gallery/motionchart.html. *Google Motion Chart API*, 2010.

[Goo10b] Google Inc., http://www.google.com/publicdata/home. *Google Public Data Explorer*, 2010.

[Goo10c] Google Inc, http://code.google.com/apis/visualization/documentation/reference.html. *Google Visualisation Reference*, 2010.

[TED06] TED Talk, http://www.ted.com/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html. *Hans Rosling shows the best stats you've ever seen*, 2006.