
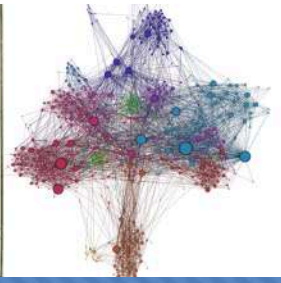

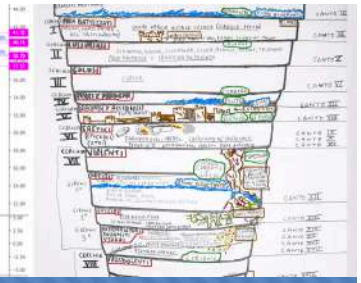

Leaflet in R

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https://rstudio.github.io/leaflet/

Leaflet is one of the most popular open-source JavaScript libraries for interactive maps. It's used by websites ranging from The New York Times and The Washington Post to GitHub and Flickr, as well as GIS specialists like OpenStreetMap, Mapbox, and CartoDB.

This R package makes it easy to integrate and control Leaflet maps in R.

Features

- Interactive panning/zooming
- Compose maps using arbitrary combinations of:
  - Map tiles
  - Markers
  - Polygons
  - Lines
  - Popups
  - GeoJSON
- Create maps right from the R console or RStudio
- Embed maps in knitr/R Markdown documents and Shiny apps
- Easily render spatial objects from the sp or sf packages, or data frames with latitude/longitude columns
- Use map bounds and mouse events to drive Shiny logic
- Display maps in non spherical mercator projections
- Augment map features using chosen plugins from leaflet plugins repository

Installation

```
install.packages("leaflet")
# to install the development version from Github, run
# devtools::install_github("rstudio/leaflet")
```

Basic Usages

- Create a map widget by calling leaflet().
- Add *layers* (i.e., features) to the map by using layer functions (e.g. addTiles, addMarkers, addPolygon) to modify the map widget.
- Repeat step 2 as desired.
- Print the map widget to display it.

```
library(leaflet)

m <- leaflet() %>%
  addTiles() %>%  # Add default OpenStreetMap map tiles
  addMarkers(lng=174.768, lat=-36.852, popup="The birthplace of R")
m  # Print the map
```

Basemap & setView

m <- leaflet() %>% setView(lng = -71.0589, lat = 42.3601, zoom = 12)

m %>% addTiles()

m %>% addProviderTiles(providers$Stamen.Toner)

Markers


```
my_map <- my_map %>%
addMarkers(lat=39.2980803,
           lng=-76.5898801,
           popup="Jeff Leek's Office")
my_map
```

Library declaration

- ##install.packages("leaflet")
- ##install.pcackages("sp")
- ##install.packages("rgdal")
- ##install.packages("RColorBrewer")
- ##install.packages("leaflet.extras")
- ##install.packages("leaflet.minicharts")
- ##install.packages("htmlwidgets")
- ##install.packages("raster")
- ##install.packages("mapview")
- ##install.packages("leafem")

- **library(leaflet)**
- library(sp)
- library(rgdal)
- library(RColorBrewer)
- library(leaflet.extras)
- library(leaflet.minicharts)
- library(htmlwidgets)
- library(raster)
- library(mapview)
- library(leafem)
- library(leafpop)
- library(sf)
- library(htmltools)

First part – Reading Files styling elements

Reading a shapefile

```
## Read the shapefile
countries <- readOGR('countries/countries.shp')
## Create the palette of colors for the shapefiles
palette_countries <- colorNumeric(palette = "YlOrRd", domain = countries$number)
```

ATTRIBUTE

VARIABLE

Reading a csv

```
## Read the csv
data <- read.csv("pizzamap.csv")
## Create the palette of colors
palette_data <- colorNumeric("YlGn", data$price_euro_average)
## Create an image through the use of a link
url <- "http://miam-images.m.i.pic.centerblog.net/o/b0cb1d85.png"
## url <- data$url
pizza_icon <-  makeIcon(url, url, 40, 40)
```

Second part – Adding parts

Basemap

```
m <- leaflet() %>%
  ## Basemap
addProviderTiles(providers$CartoDB.Positron)  %>%
## define the view
setView(lng = 3.721387, lat = 45.546099, zoom = 3 ) %>%
```

Marker

```
addMarkers(data = data,
           lng = ~lng,
           lat = ~lat,
           group = "Pizza Marker",
           popup = ~paste0(name)) %>%
```

Third part – Layers and Legends

```
## Add a legend with the credits
 addLegend("topright", colors = c("trasparent"), labels=c("Giovanni Pietro Vitali - giovannipietrovitali@gmail.com"), title="Pizza Map: ") %>%
```

Credit legend

```
addLayersControl(baseGroups = c("Pizzerias",
                                "Empty layer"),
                 overlayGroups = c("Countries",
                                   "By price",
                                   "Pizza Marker"),
                 options = layersControlOptions(collapsed = TRUE)) %>%
hideGroup(c("Empty", "Countries", "By price", "Pizza Marker"))
```

Layers selector

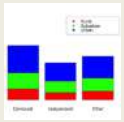
Tutirial #1

- Brent Thorne

https://www.youtube.com/channel/UCTall0S14Ek6DcvvvFIFPOg

https://www.youtube.com/watch?v=vl9D3uTk36k

Tutirial #2



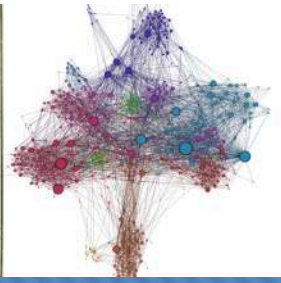
- Abhinav Agrawal
  https://www.youtube.com/channel/UCbck9jjLpwj7U6HHNps_9Gw

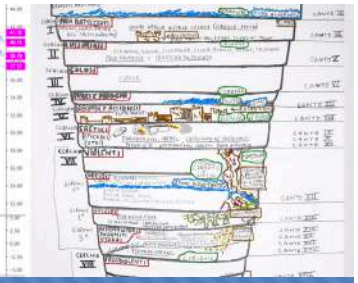
https://www.youtube.com/watch?v=ktWjjAlAKtE&list=PL6wLL_RojB5y8uL3uuIMnJ6JoTIFywQ-r&index=1

Dataset and working folder

http://bit.ly/346yp58

https://github.com/digitalkoine/PizzaMap-learn-to-code-maps-in-R-



Leaflet in R _end

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