The Use of R in Official Statistics conference - uRos

- [urosconf.org](https://urosconf.org) / @urosconf
- Since 2013
- R community in Official Statistics
- About 100 participants
The Use of R in Official Statistics conference - uRos

- [https://urosconf.org](https://urosconf.org) / @urosconf
- Next conference May 2020 in Vienna @ Statistics Austria
unconfUROS

- satellite event since
- 2018 in The Hague
- Second May 2019 in Bucharest
Collecting ideas

- Collected from participants (and other interested R users)
- Prototype should be doable in 1-2 days
- Need in the area of official statistics

Example ideas

- Shiny app for data validation
- Wrapper for the geocoding service Locatieserver
- A categorical variable that satisfies needs of NSIs
- Inventory of network measures
voronoiTreemap - Idea

- Make it easy to create a plot like this with R
- Team together with Bernhard Meindl (Statistics Austria) and Manolo Malaver-Vojvodic (Statistics Canada)
voronoiTreemap - Foundation

- D3 plugin for Voronoi treemap available
  https://github.com/Kcnarf/d3-voronoi-treemap
- R package htmlwidgets http://htmlwidgets.org/
CRAN version 0.2.0
https://github.com/uRosConf/voronoiTreemap

important functions:
- vt_input_from_df ... easy data input as a data frame
- vt_export_json ... export to json
- vt_d3 ... create an htmlwidget
- vt_app ... start a shiny to create a Voronoi treemap

data(ExampleGDP)
kntir::kable(head(ExampleGDP,3))

<table>
<thead>
<tr>
<th>h1</th>
<th>h2</th>
<th>h3</th>
<th>color</th>
<th>weight</th>
<th>codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>Asia</td>
<td>China</td>
<td>#f58321</td>
<td>14.84</td>
<td>CN</td>
</tr>
<tr>
<td>Total</td>
<td>Asia</td>
<td>Japan</td>
<td>#f58321</td>
<td>5.91</td>
<td>JP</td>
</tr>
<tr>
<td>Total</td>
<td>Asia</td>
<td>India</td>
<td>#f58321</td>
<td>2.83</td>
<td>IN</td>
</tr>
</tbody>
</table>
R package

- CRAN version 0.2.0
- https://github.com/uRosConf/voronoiTreemap
- important functions:
  - `vt_input_from_df` ... easy data input as a data frame
  - `vt_export_json` ... export to json
  - `vt_d3` ... create an htmlwidget
  - `vt_app` ... start a shiny to create a Voronoi treemap

```r
data(ExampleGDP)
knitr::kable(head(ExampleGDP, 3))
```

<table>
<thead>
<tr>
<th>h1</th>
<th>h2</th>
<th>h3</th>
<th>color</th>
<th>weight</th>
<th>codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>Asia</td>
<td>China</td>
<td>#f58321</td>
<td>14.84</td>
<td>CN</td>
</tr>
<tr>
<td>Total</td>
<td>Asia</td>
<td>Japan</td>
<td>#f58321</td>
<td>5.91</td>
<td>JP</td>
</tr>
<tr>
<td>Total</td>
<td>Asia</td>
<td>India</td>
<td>#f58321</td>
<td>2.83</td>
<td>IN</td>
</tr>
</tbody>
</table>
Create a first graph

gdp_json <- vt_export_json(vt_input_from_df(ExampleGDP))
vt_d3(gdp_json)
There are a couple of settings you can change:

`vt_d3(gdp_json, label = FALSE, color_border = "#000000",
        size_border = "2px", legend = TRUE)`
There a couple of settings you can change II


```r
t_d3(gdp_json, legend = TRUE, legend_title = "Continents", seed = 1)
```
Colors can be provided for each cell independently.

```r
data(canada)
canada <- canada[canada$h1 == "Canada",]
canada$codes <- canada$h3
canadaH <- vt_export_json(vt_input_from_df(
  canada, scaleToPerc = FALSE))
vt_d3(canadaH, label=FALSE, width = 400, height = 400, legend = TRUE)
```
Colors could be computed according to a numeric variable, e.g. with the `scales` package.

```r
canada$color <- scales::seq_gradient_pal(low = "#999999",
  high = "#ffffff")(canada$weight / max(canada$weight))
canadaH <- vt_export_json(vt_input_from_df(canada,
  scaleToPerc = FALSE))
vt_d3(canadaH, label=FALSE, width = 400, height = 400,
  color_border = "#000000")
```
You are invited to uRos2020 conference in Vienna
https://urosconf.org
If you are interested in collaborative development in the area of official statistics, join unconfUROS2020
https://github.com/uRosConf/unconfUROS2020
If you have an ideas to be implemented - tell us!