Data Visualization with R
Shiny tutorial

Ariane Ducellier

University of Washington - Fall 2023

Panels

We can show multiple frames in screen and let the user select one. The processing of the data is only carried out for the currently selected tab.

```
tabsetPanel(
  tabPanel("title_text", textOutput("name_text")),
  tabPanel("title_plot", plotoutput("name_plot")),
  tabPanel("title_map", leafletOutput("name_map"))
)
```

The leaflet package allows us to produce maps shown with leafletOutput in the ui.R and created with renderLeaflet in the server.R file.

Reactive objects

In the server.r file, we filter the data using a reactive object:

```
theData = reactive({
  mapData %>%
    filter(year >= input$year
})
```

- A reactive object changes when its input changes.
- When it runs, the output is cached.
- If it is called several times in an application, it will not run again if the inputs are unchanged.

HTML

Add a slide about simple html code here.

Simple layouts

Left-to-right and top-to-bottom. The elements reorder themselves when resizing the window.

```
flowLayout( ... )
```

Top-to-bottom

```
verticalLayout( ... )
```

Left-to-right with manually set widths

```
splitLayout(cellWidths = c("25%", "75%"),
            ... ),
```

Complete layouts

Side bar and main panel

```
fluidpage(
    sidebarLayout(sidebarPanel, mainPanel, position))
)
```

Top level navigation bar and several tabs

```
navbarPage(title, tabPanel)
```

Left navigation bar and several tabs

```
fluidpage(
    navlistPanel(title, tabPanel)
)
```

Complete layouts

Rows and columns. The sum of the widths of the columns must be equal to 12.

```
fluidpage(
  fluidrow(
    column(width=4, ...),
    column(width=4, ...), ... ))
```

Combination of layouts

```
fluidPage(
  fluidRow(
    column(width=4, ...), column(width=8, ...)),
  splitLayout( ... ),
  verticalLayout( ... )
)
```