jake riley

https://rstudio.cloud/project/1788351

https://github.com/rjake/workshop-flexdashboard-shinyobjects

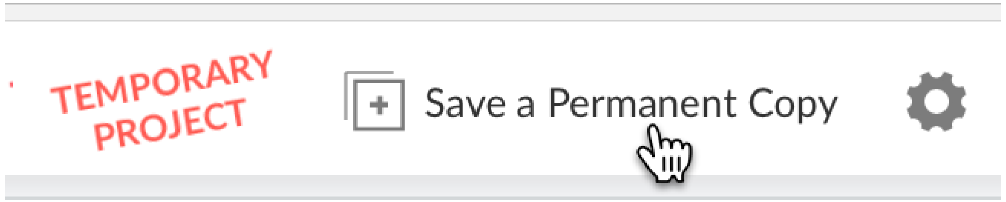
About Me

- Jake Riley
- Clinical Data Analyst at CHOP
- Avid package developer

- #dogdad
- @yake_84

Following Along

- RStudio Cloud
  - need an account
  - can sync up with GitHub
  - can copy my project https://rstudio.cloud/project/1788351

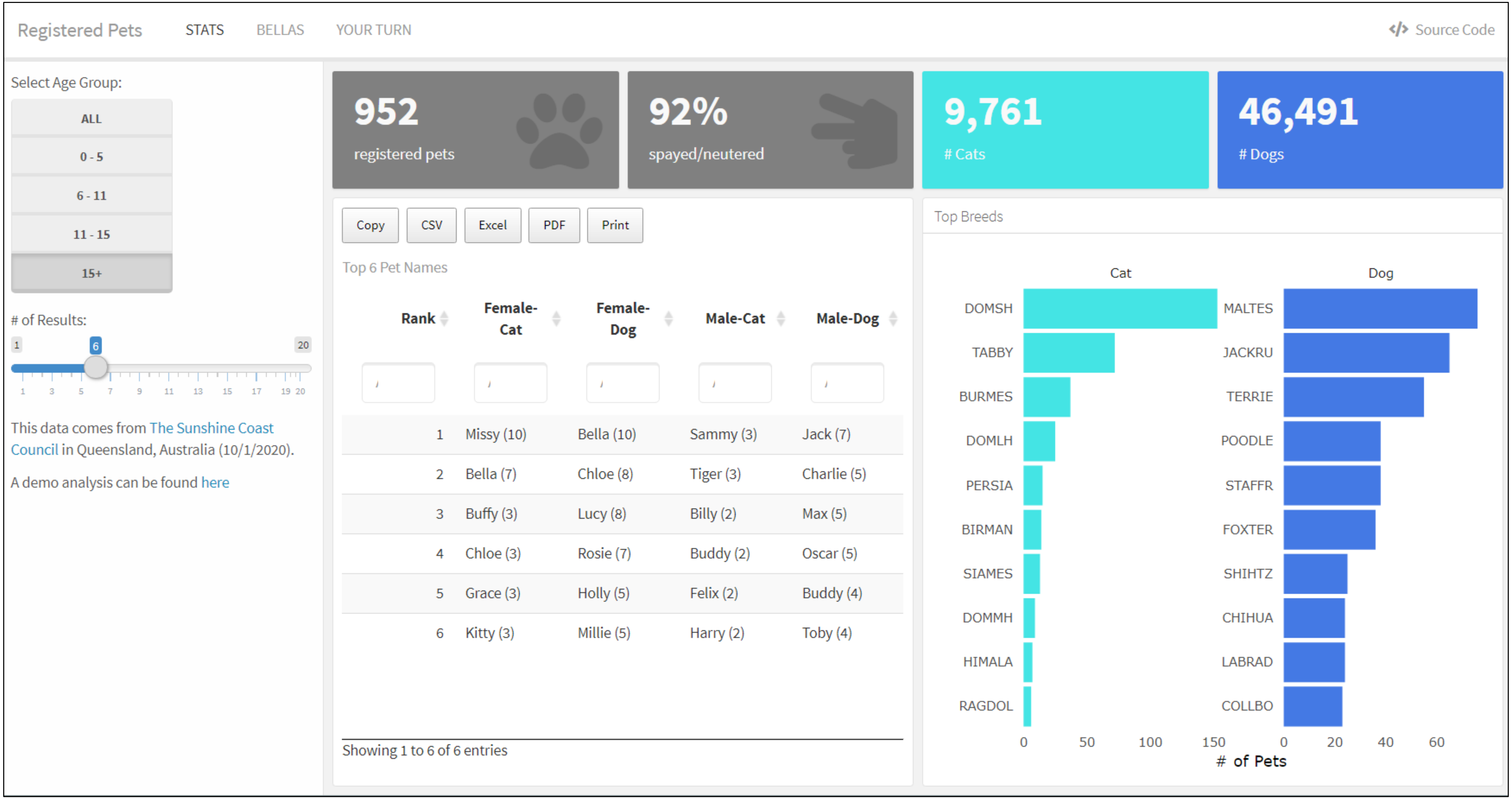


- GitHub
  - https://github.com/rjake/workshop-flexdashboard-shinyobjects

Before we get started

- Agenda
  - RMarkdown → RMarkdown + Shiny → Flexdashboard
  - shinyobjects workflow
  - Time to try out → put pictures on Google Drive
  - Reconvene & answer questions

- Out of scope
  - Tidyverse
  - All data manipulation is from the tidyverse
  - Will not be covered in detail
  - shiny proper



Select Age Group:

# of Results:

This data comes from The Sunshine Coast Council in Queensland, Australia (10/1/2020).

A demo analysis can be found here

952
registered pets

92%
spayed/neutered

9,761
Cats

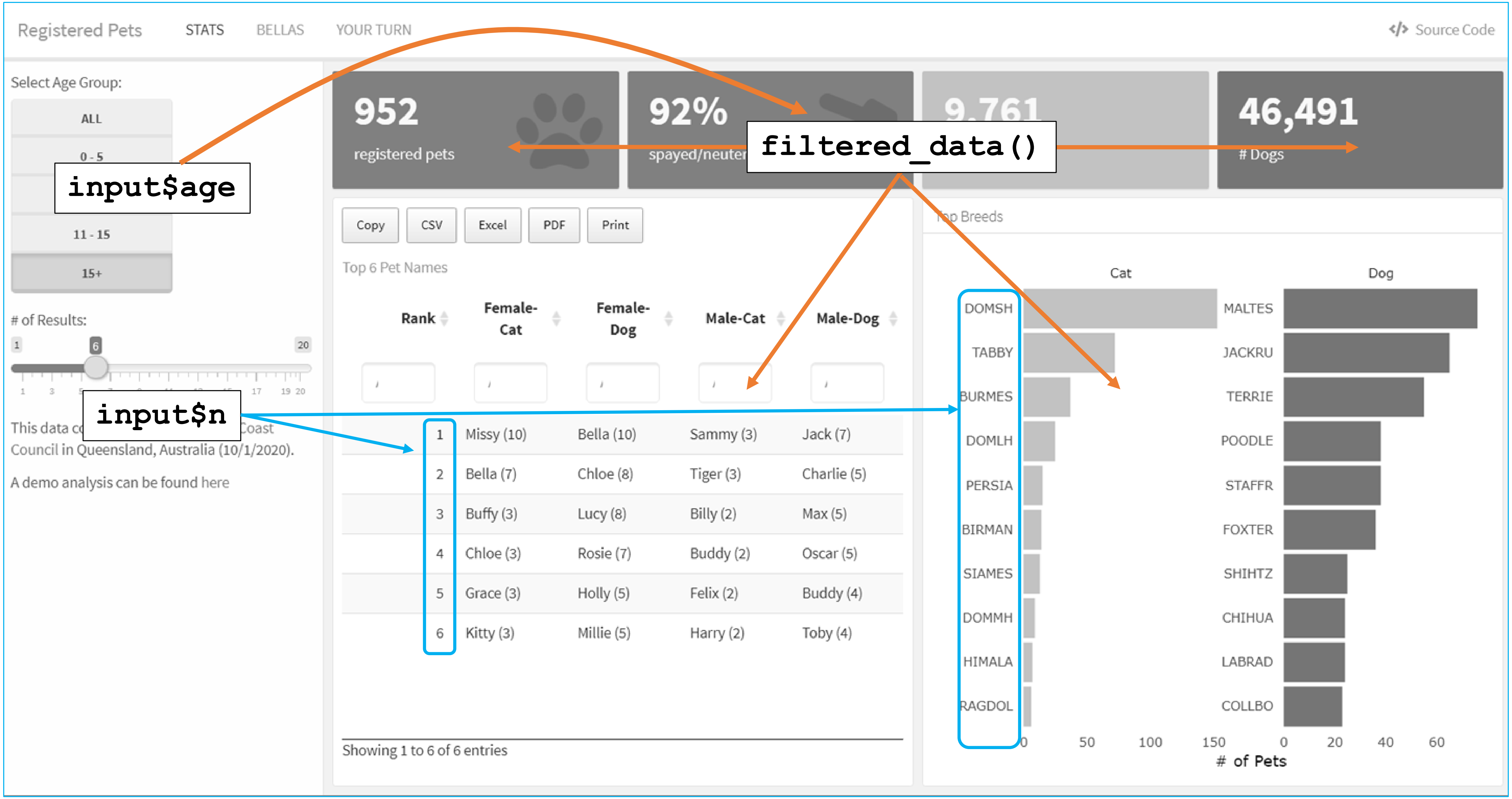
46,491
Dogs

Top 6 Pet Names

Rank	Female-Cat	Female-Dog	Male-Cat	Male-Dog
1	Missy (10)	Bella (10)	Sammy (3)	Jack (7)
2	Bella (7)	Chloe (8)	Tiger (3)	Charlie (5)
3	Buffy (3)	Lucy (8)	Billy (2)	Max (5)
4	Chloe (3)	Rosie (7)	Buddy (2)	Oscar (5)
5	Grace (3)	Holly (5)	Felix (2)	Buddy (4)
6	Kitty (3)	Millie (5)	Harry (2)	Toby (4)

Showing 1 to 6 of 6 entries

Top Breeds



Registered Pets STATS BELLAS YOUR TURN </> Source Code

Select Age Group:

ALL

0 - 5

11 - 15

15+

# of Results:

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952 registered pets

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Copy CSV Excel PDF Print

Top 6 Pet Names

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Showing 1 to 6 of 6 entries

Top Breeds

input$age

filtered_data()

input$n

What is reactivity?

- static data: **call as is**

- user inputs: **input$x** object
  - This is made by shiny
  - handled by UI components
  - sliderInput()
  - textInput()
  - radioGroupButtons()

- dynamic data/plots/titles: **reactive**
  - text = renderText()
  - plot = renderPlot()
  - table = renderTable()
  - plotly = renderPlotly()

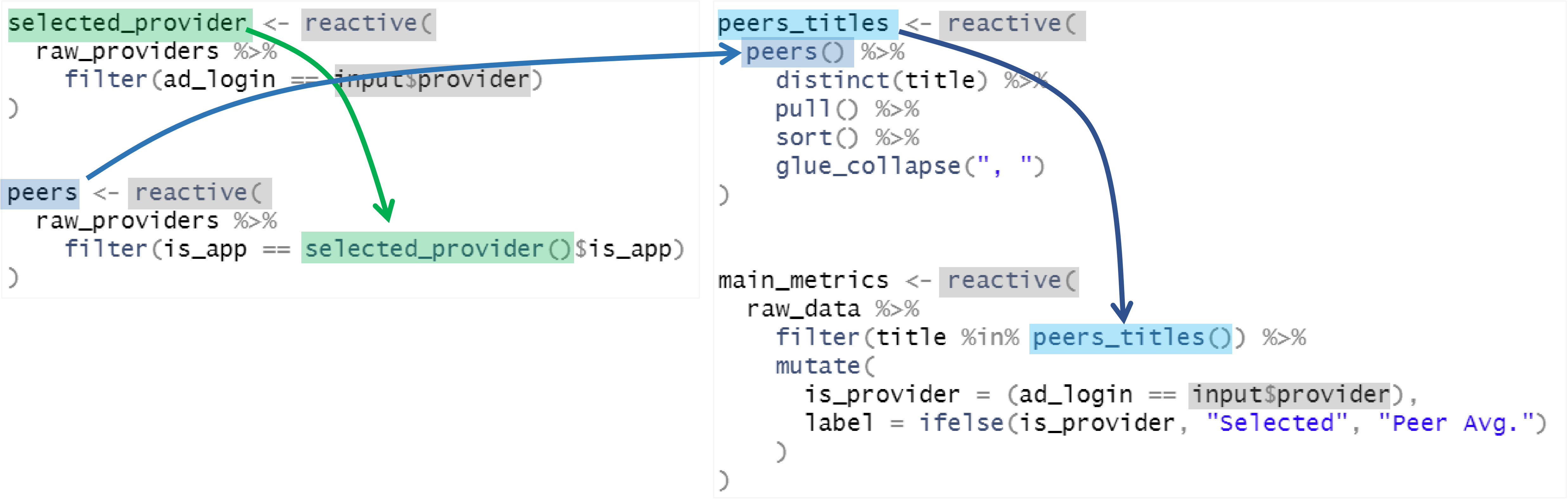
```
radioGroupButtons(
  inputId = "age_group",
  choices = c("All", age_groups),
  selected = "All‶
)
```

```
filtered_data <- reactive({
  if (input$age_group != "All") {
    filter(animals, age_group %in% input$age_group)
  } else {
    animals
  }
})
```

```
plotly::renderPlotly({
  p <-
    filtered_data() %>%
    mutate(breed = fct_lump(breed, input$n)) %>%
    ggplot(aes(y = breed, fill = type)) +
    geom_bar() +
    labs(title = input$age_group))

  plotly::ggplotly(p)
})
```

It can get really complicated



```
selected_provider <- reactive(
  raw_providers %>%
    filter(ad_login == input$provider)
)


peers <- reactive(
  raw_providers %>%
    filter(is_app == selected_provider()$is_app)
)
```

```
peers_titles <- reactive(
  peers() %>%
    distinct(title) %>%
    pull() %>%
    sort() %>%
    glue_collapse(", ")
)


main_metrics <- reactive(
  raw_data %>%
    filter(title %in% peers_titles()) %>%
    mutate(
      is_provider = (ad_login == input$provider),
      label = ifelse(is_provider, "Selected", "Peer Avg.")
    )
)
```

Good to know

- multistep logic should go in {…}
- If nothing is selected, input$x will return NULL
- ### when Row will put them next to each other
- ### when Column will stack them

```
plotly::renderPlotly({ # has {}
  p <-
    filtered_data() %>%
    ggplot(aes(y = breed, fill = type)) +
    geom_bar()

  plotly::ggplotly(p)
})
```

```
plotly::renderPlotly( # no {}
  plotly::ggplotly(
    filtered_data() %>%
    ggplot(aes(y = breed, fill = type)) +
    geom_bar()
  )
)
```

shinyobjects workflow

- create a **dummy input** object
- load_reactive_objects()
  - Changes reactive objects to static objects in your global environment
  - Entirely under the hood
- convert_selection()
  - converts just the code highlighted in source pane
- view_ui()
  - see what UI components will look like
- https://rjake.github.io/shinyobjects/