> 

> 

Build **Improve** **Share**

Mine Çetinkaya-Rundel

@minebocek
mine-cetinkaya-rundel
mine@rstudio.com

BUILD > IMPROVE > SHARE

Apps and Dashboards with Shiny
WSDS 2018

Shiny is an R package that makes it easy to build interactive web apps straight from R. With Shiny, you can create standalone apps, embed them in R Markdown documents, build dashboards, and much more. This course

all materials @ bit.ly/shiny-wsds

approach to telling your data story, let users interact with your data and your analysis, and do it all with R, this workshop is for you! Please bring a laptop with you to the course.

Materials for this workshop at WSDS 2018 are below.

- **Instructor:** Mine Çetinkaya-Rundel, Duke University + RStudio
- **TAs:**
  - Amanda Gadrow, RStudio
  - Jennifer Thompson, Vanderbilt University Medical Center

Access

OPTION 1

bit.ly/shiny-wsds-cloud

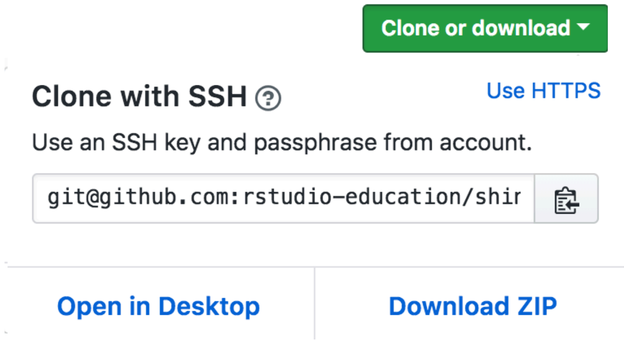
log in and sit tight

OPTION 2

bit.ly/shiny-wsds-git

1. clone or download

2. launch `shiny-wsds18.Rproj`



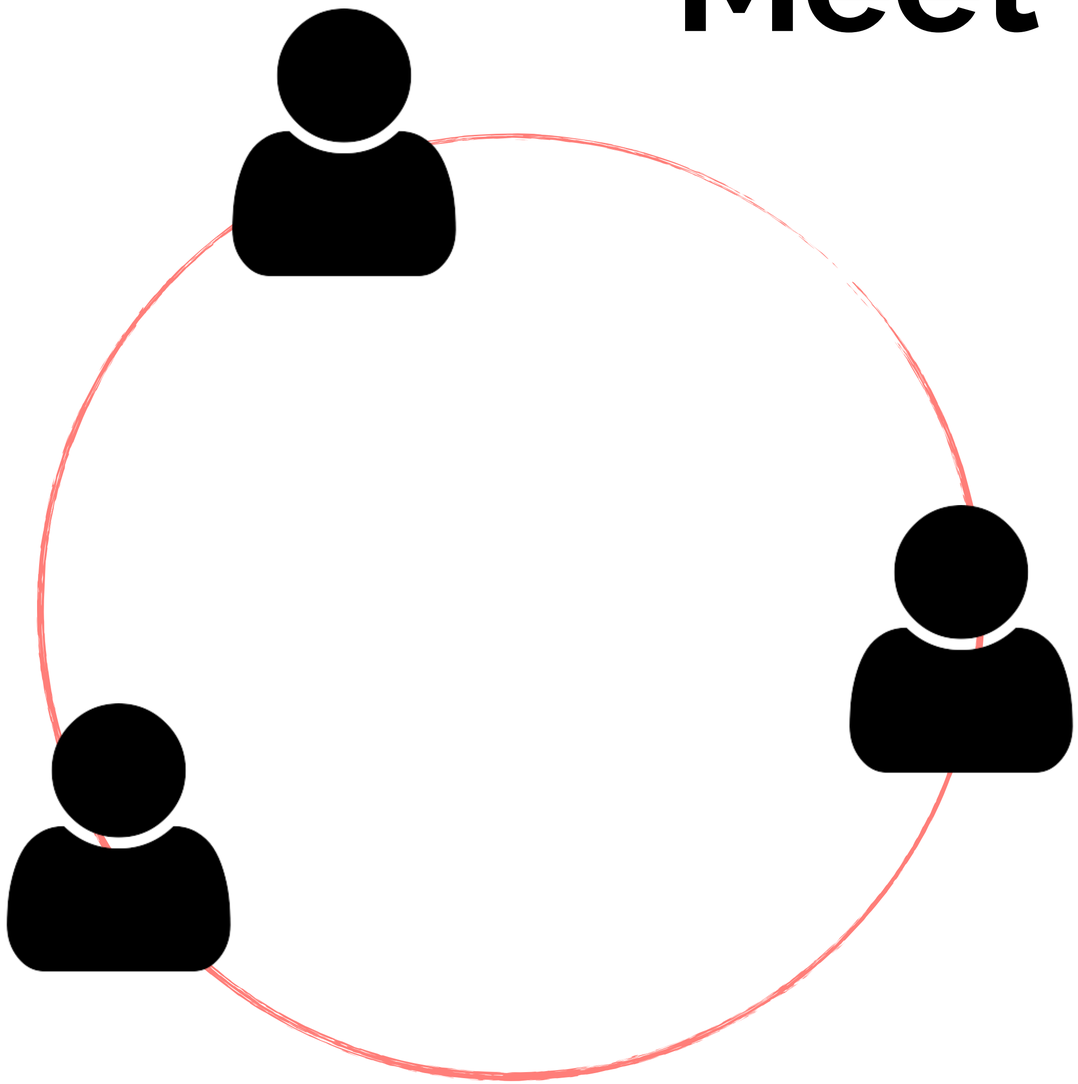
Meet & greet

Amanda Gadrow
Software Engineer
RStudio

Mine Çetinkaya-Rundel
Associate Professor
Duke Statistical Science
+
Data Scientist & Professional Educator
RStudio

Jennifer Thompson
Biostatistician
Vanderbilt University Medical Center

Meet & greet



Asking for help

Overview

- 01 - Building dashboards with flexdashboard
- 02 - Getting started with shiny
- 03 - Understanding reactivity
- 04 - Designing UI
- Lots of info!
- Lots of “your turn” breaks

Where to go next after this workshop?

RStudio Community

rstudio::conf 2018
This category is for anything and everything related to rstudio::conf.
7 / week
4 unread
2 new

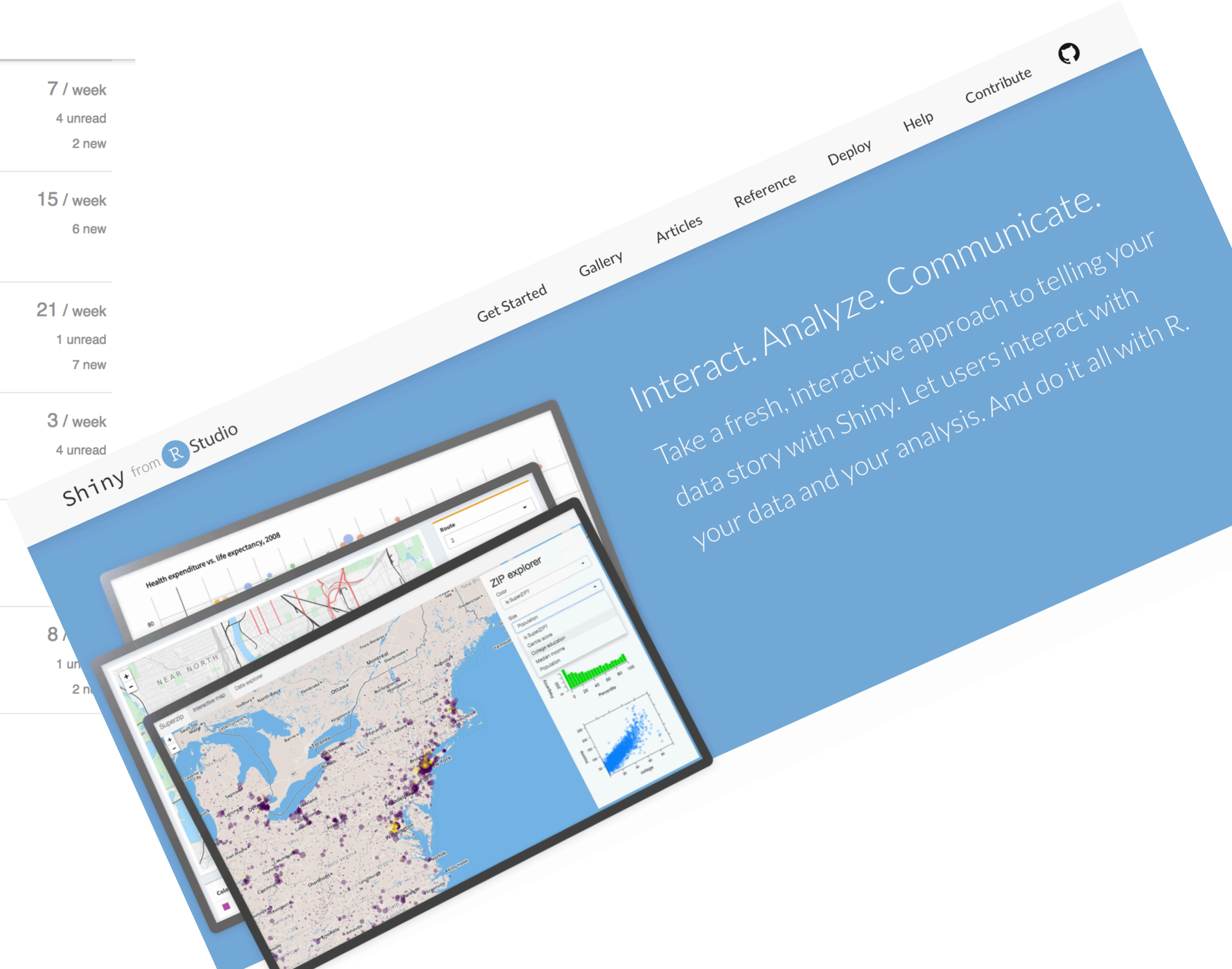
tidyverse
This category is for anything and everything about the tidyverse.
15 / week
6 new

RStudio IDE
This category is for discussing the RStudio IDE, both desktop and server versions.
21 / week
1 unread
7 new

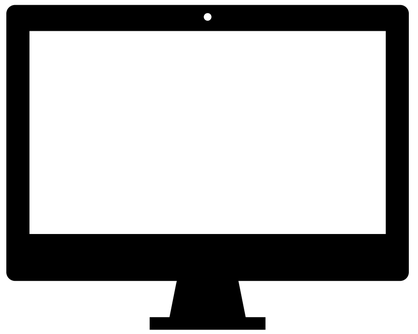
Teaching
For discussions about teaching.
3 / week
4 unread

shiny
Please ask your questions about shiny here.

R Markdown
Please ask your questions about R Markdown here.
8 /
1 un
2 n



gallery.shinyapps.io/un-women-dash



DEMO

Dashboards

- Built in layouts and UI elements
- Good venue for displaying automatically updating data
- May or may not be interactive

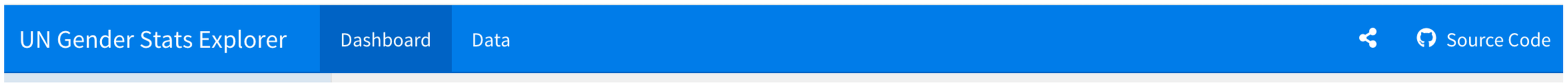
UI

- Static:
  - R code runs once and generates an HTML page
  - Generation of this HTML can be scheduled
- Dynamic:
  - Client web browser connects to an R session running on server
  - User input causes server to do things and send information back to client
  - Interactivity can be on client and server
  - Can update data in real time
- User potentially can do anything that R can do

Building a dashboard

1. Set up the YAML

```
---
title: "UN Women Stats Explorer"
output:
  flexdashboard::flex_dashboard:
    orientation: rows
    social: menu
    source_code: https://github.com/mine-cetinkaya-rundel/rladies-phl-shiny/blob/master/01-flexdash/un-women-dash.Rmd
runtime: shiny
---
```



2. Pick a layout

```
---
title: "Row Orientation"
output:
  flexdashboard::flex_dashboard:
    orientation: rows
---

Row
-------------------------------------

### Chart 1

```{r}

```

Row

Chart 2

```{r}

```

Chart 3

```{r}

```

```

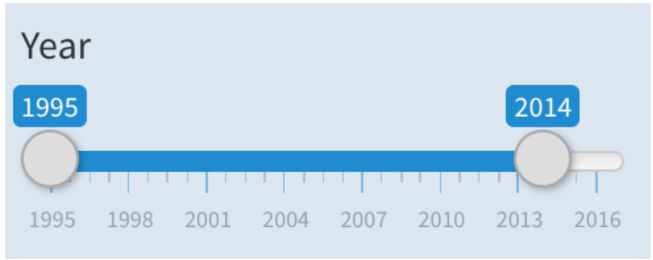

# 3. Use R Markdown and/or Shiny code to add components

```
selectInput(inputId = "x", label = "X-axis",
  choices = c("Average number of hours spent on unpaid domestic
and care work"
              = "hrs_unpaid_dom_care_work",
            "Average number of hours spent on paid and unpaid
domestic and care work combined"
              = "hrs_dom_care_work",...),
  selected = "labor_force")

renderPlot({
  ggplot(data = sel_data(),
         mapping = aes_string(x = input$x, y = input$y, color = "region")
    geom_point(size = 2, alpha = 0.8) +
    theme_minimal() +
    labs(x = xlab(), y = ylab(), color = "Region")
  })
```

Your turn

```
sliderInput(inputId = "year", label = "Year",
            min = min_year, max = max_year,
            value = c(2001, max_year), step = 1, sep = "")
```



- Open `un-women-dash.Rmd`
- Change the default selection of years to the `min_year` to 2014
- Run the app
- Select view mode in the drop down menu next to Run App to Preview in Viewer Pane
- Rerun the app

3m 00s