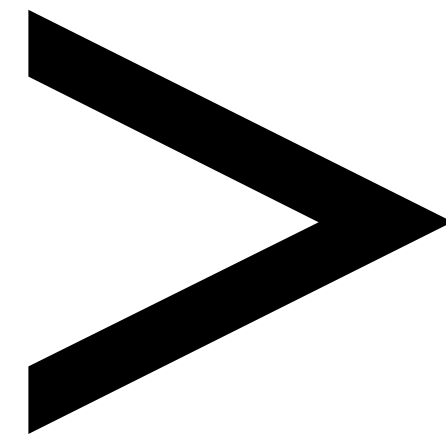
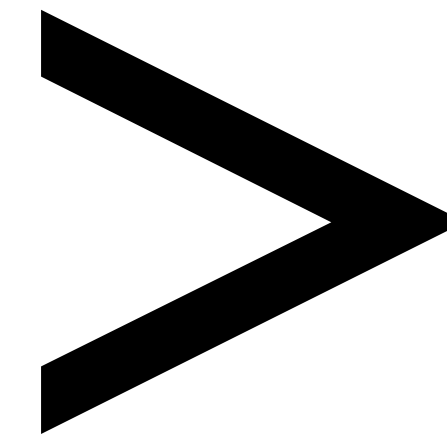




Build



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



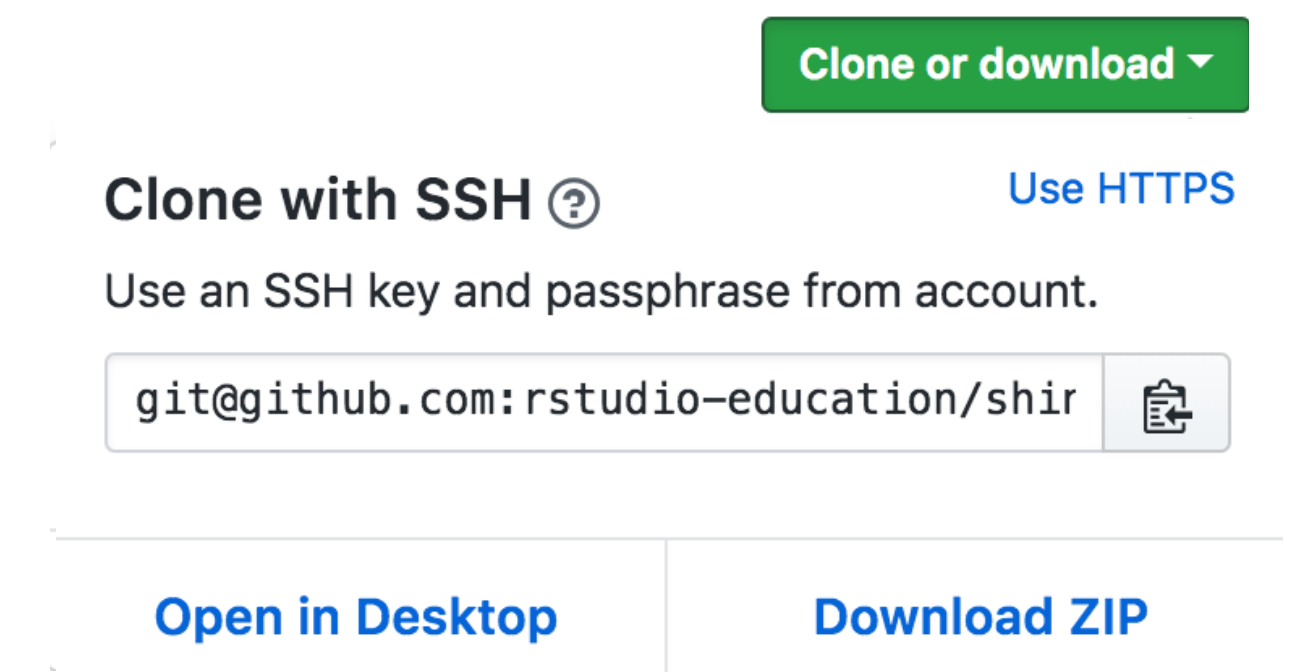
OPTION 2



bit.ly/shiny-wsds-git

1. clone or download

2. launch shiny-wsds18.Rproj



Meet & greet



Amanda Gadrow
Software Engineer
RStudio



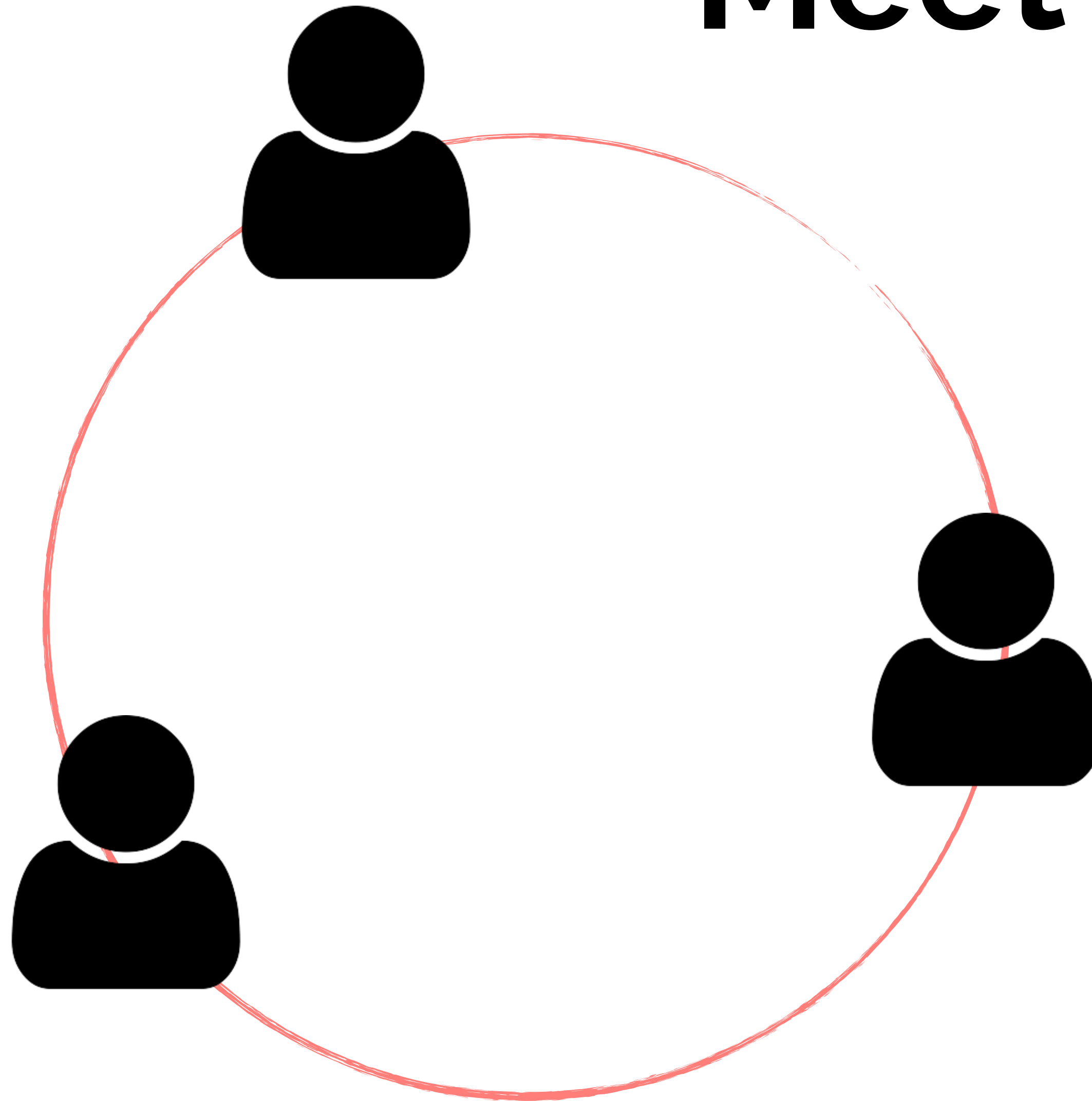
Mine Çetinkaya-Rundel
Associate Professor
Duke Statistical Science
+
Data Scientist & Professional Educator
RStudio



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::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.	



Get StartedGalleryArticlesReferenceDeployHelpContribute

shiny from R Studio

Health expenditure vs. life expectancy, 2008

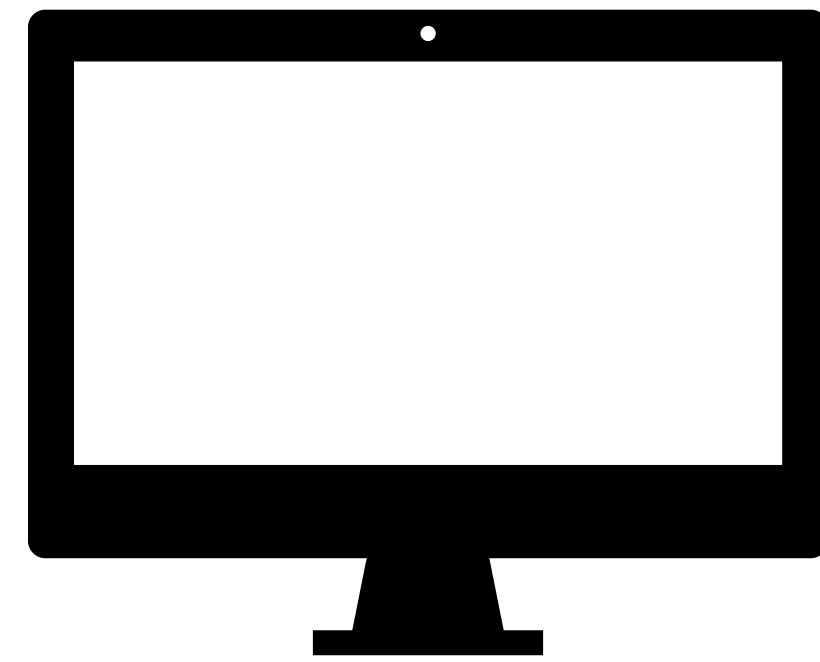
Interactive map

ZIP explorer

Interact. Analyze. Communicate.

Take a fresh, interactive approach to telling your data story with Shiny. Let users interact with your data and your analysis. And do it all with R.

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  
---
```



UN Gender Stats Explorer

Dashboard

Data



Source Code



2. Pick a layout

```
1 ---
2 title: "Row Orientation"
3 output:
4   flexdashboard::flex_dashboard:
5     orientation: rows
6   ---
7
8   Row
9   -----
10
11  ### Chart 1
12
13  ```{r}
14
15  ```
16
17  Row
18  -----
19
20  ### Chart 2
21
22  ```{r}
23
24  ```
25
26  ### Chart 3
27
28  ```{r}
29
30  ```
31
```

Chart 1

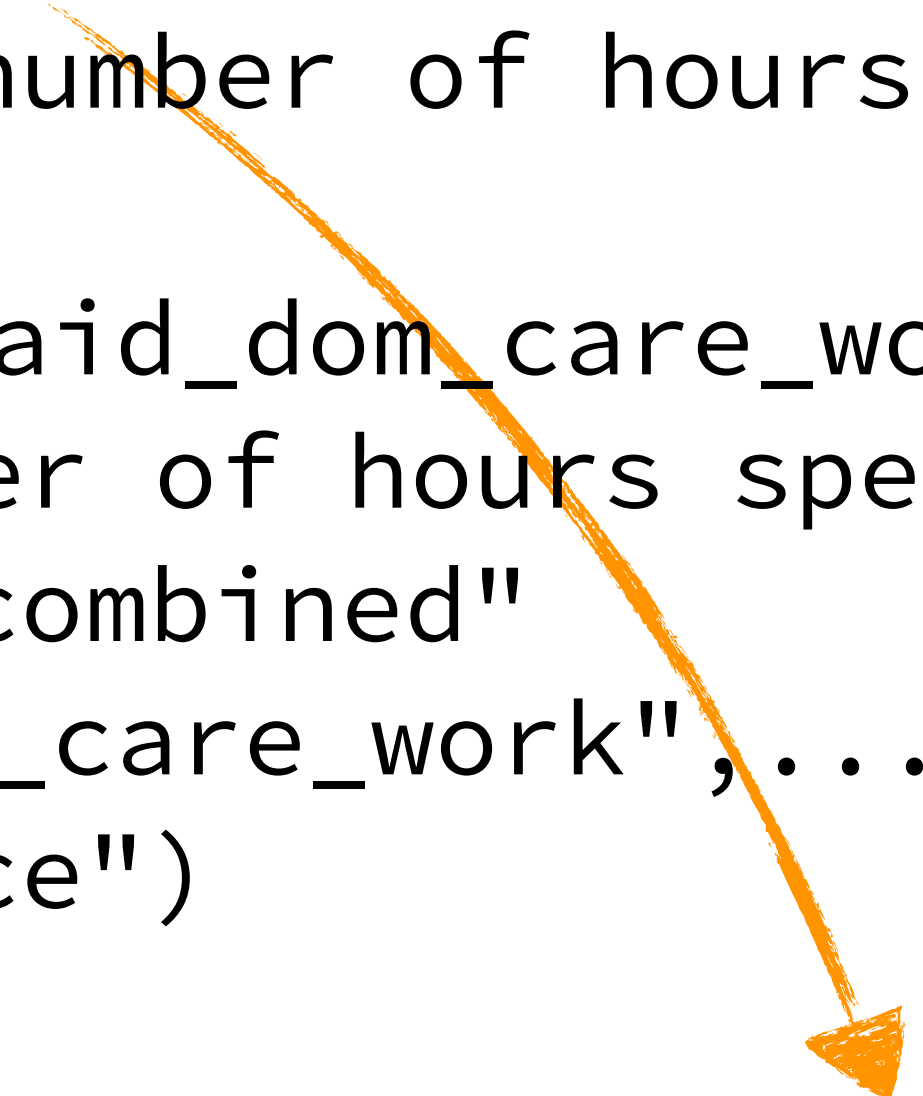
Chart 2

Chart 3



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")
```

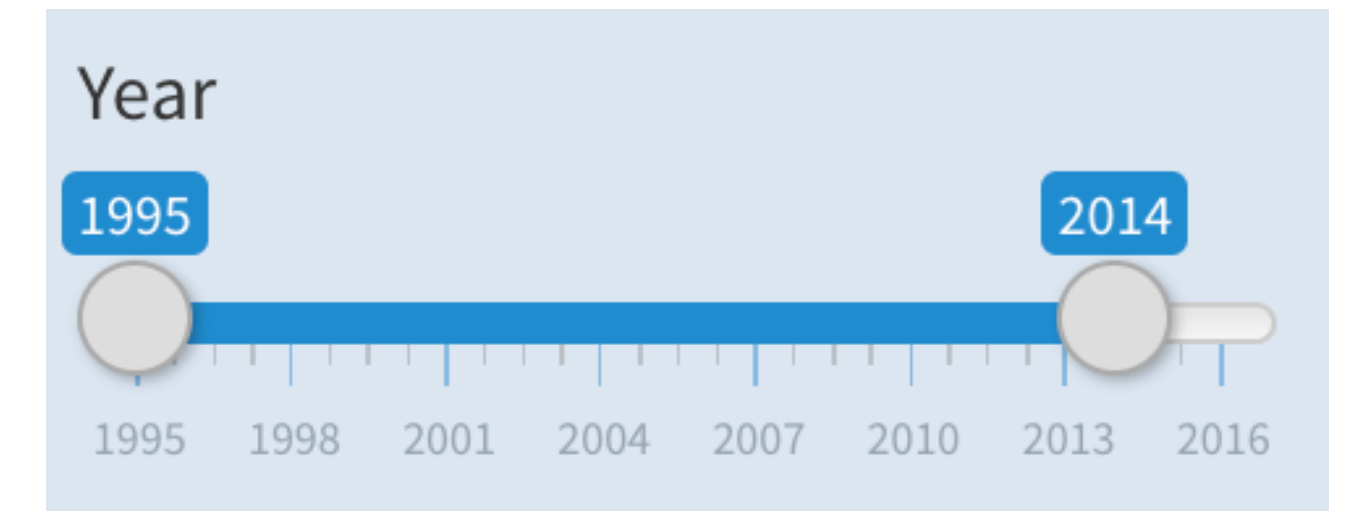


```
renderPlot({  
  ggplot(data = sel_data(),  
    mapping = aes_string(x = input$x, y = input$y, color = "region")  
  ) +  
  geom_point(size = 2, alpha = 0.8) +  
  theme_minimal() +  
  labs(x = xlab(), y = ylab(), color = "Region")  
})
```



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



3_m 00_s

