NOAA FISHERIES
SWFSC

Interactive web applications with R shiny

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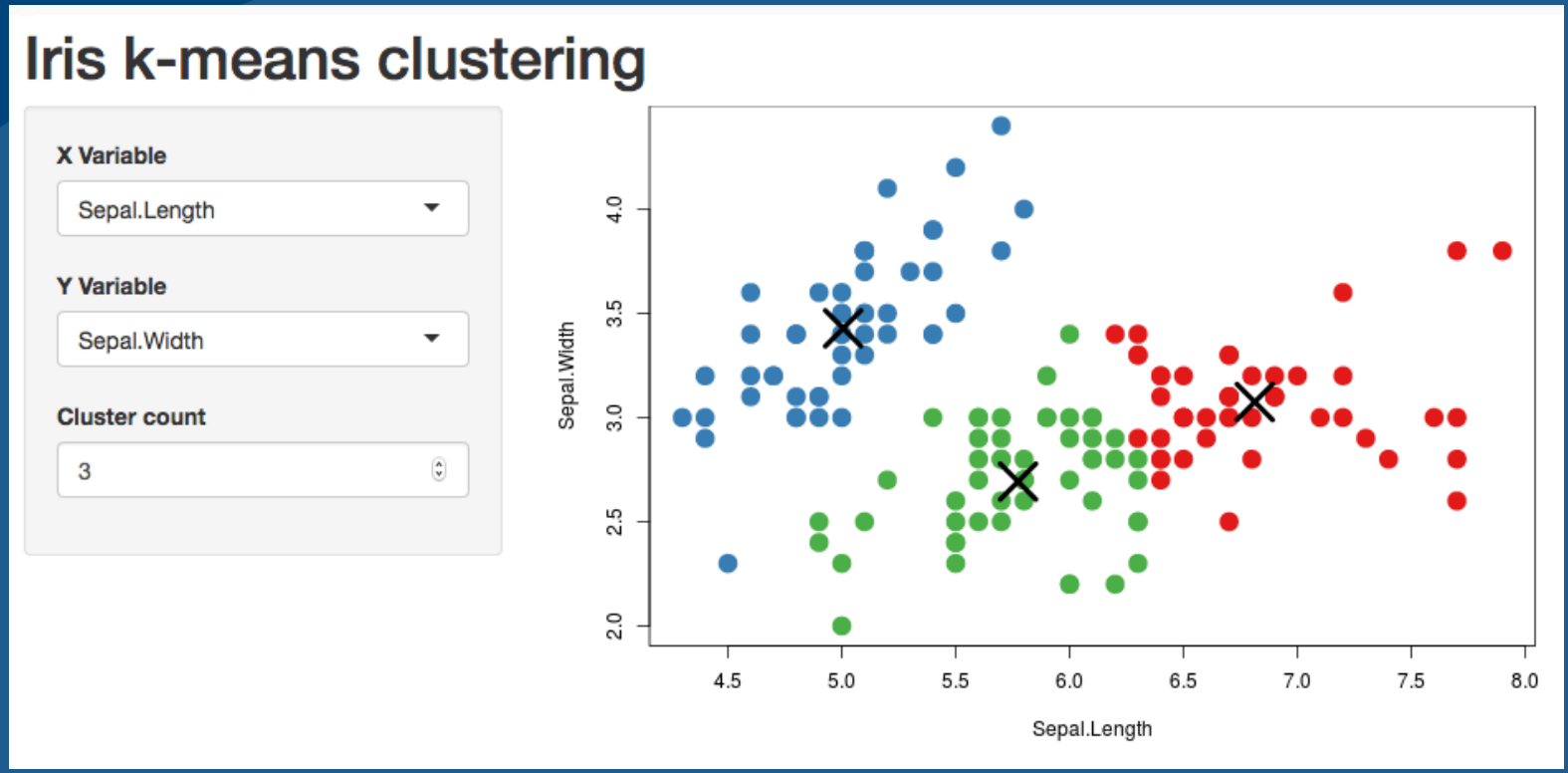
What is shiny?

R package for interactive web application development



What can shiny do for me?

1. Provides a pathway for non-coders to analyze data
2. Puts best-practice science into the hands of practictioners
3. Allows for dynamic outputs that respond as new data are available
4. Allows for website development without ever leaving the R environment
5. Integrates your data, code and analysis in the same location

Take a look at the AniMove App: https://ctmm.shinyapps.io/ctmmweb

Two pathways

1.

Build external website and then embed app

Deploy locally

Deploy on shinyapps.io

2.

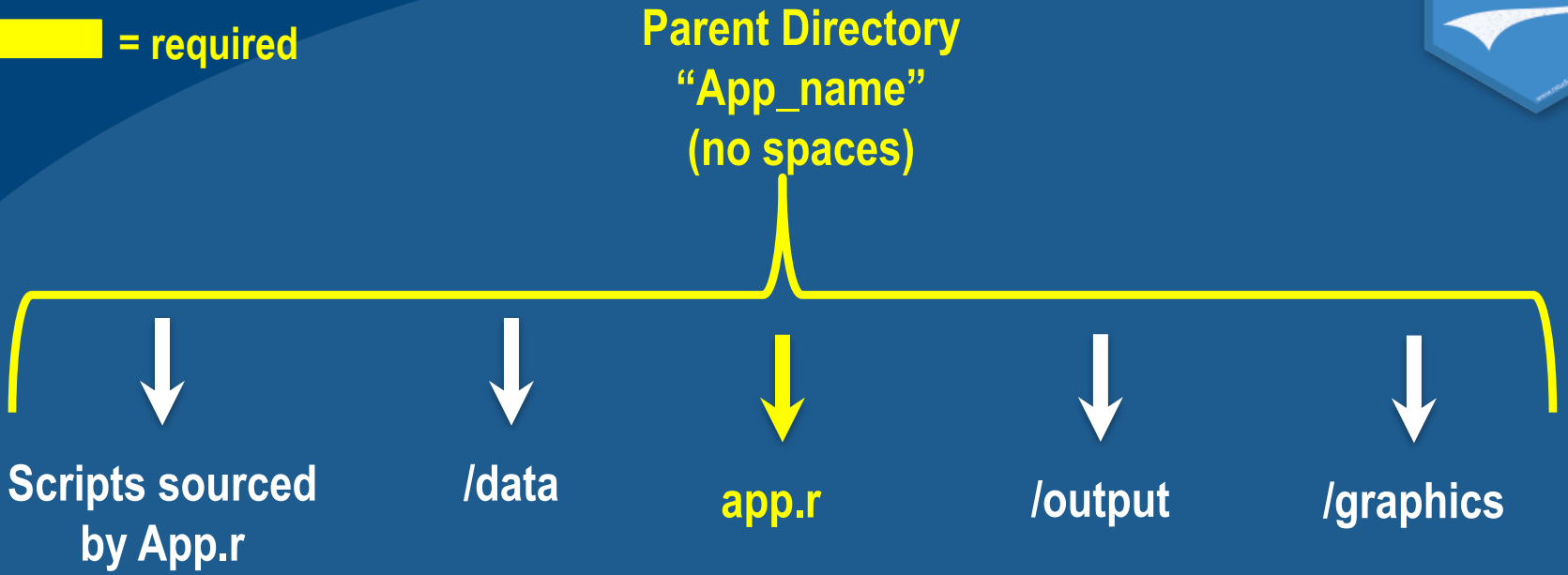
Build website using rmarkdown with app embedded

Deploy locally

Deploy on shinyapps.io

Architecture of a shiny directory

= required



Architecture of a shiny code block in app.R

= required

A. Load libraries
   -- Any libraries required by your code +
   library(shiny) ; library(rsconnect)

B. Load all your data

C. shinyUI(
   aesthetics
   user inputs)

D. shinyServer(
   how the act reacts to user inputs)

E. shinyApp(ui = ui, server = server)

Lets take a look

1. /r_shiny_workshop/historgram_app
2. /r_shiny_workshop/explore_fishery_app

1.

Build external website and then embed app

Deploy locally

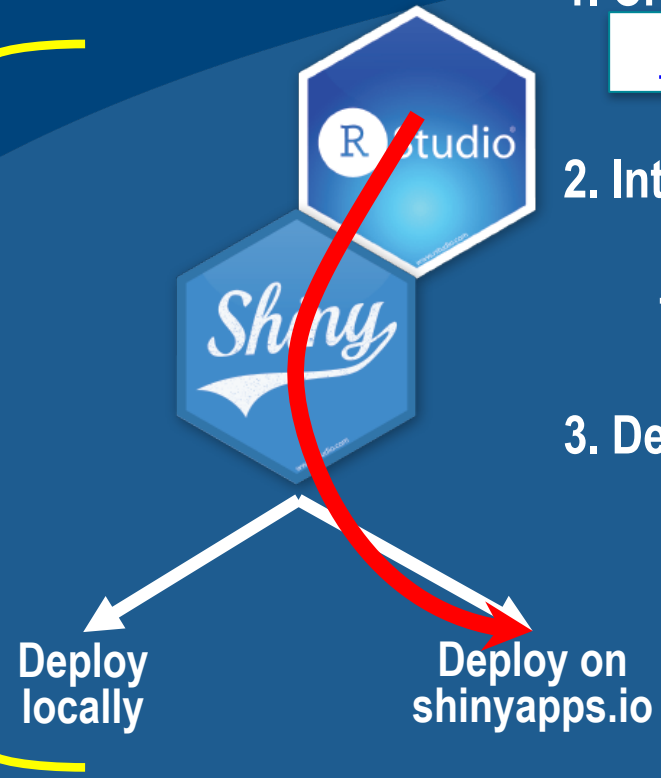
Deploy on shinyapps.io

Check out the shiny cheatsheat in /cheatsheats/shiny-cheatsheet.pdf

Lets take a look

1.

Build external website and then embed app



1. Create shinyapps.io account
   https://www.shinyapps.io/

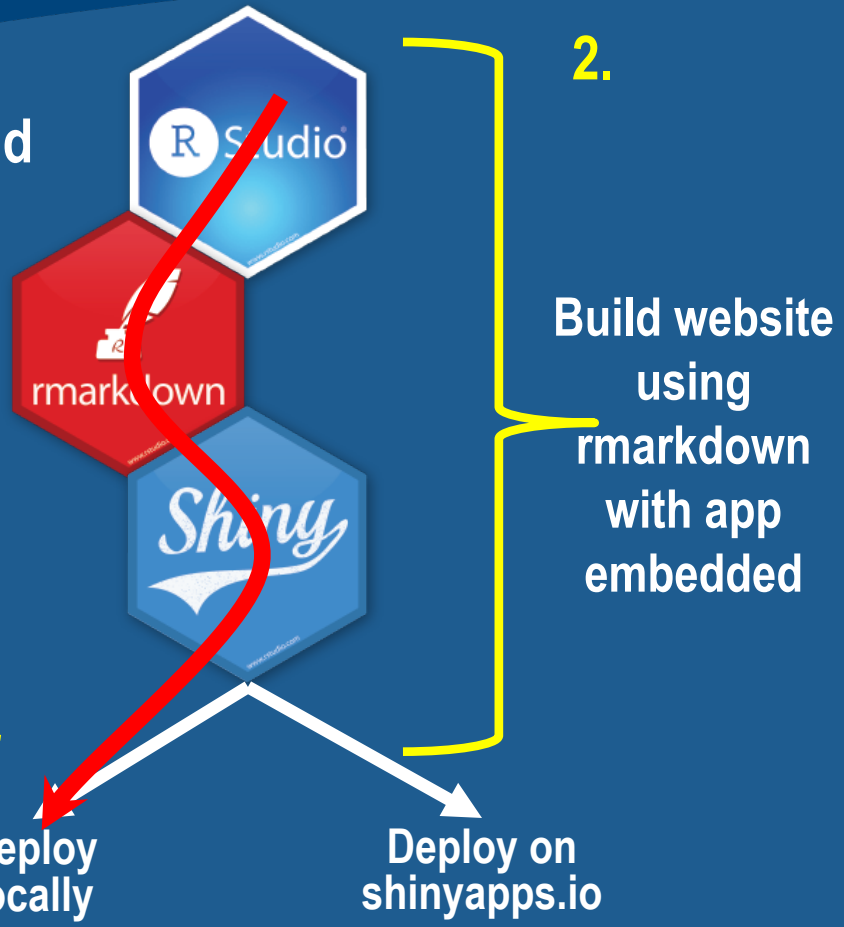
2. Introduce shinyapps.io to rstudio
   rsconnect::setAccountInfo(name='your_name', token='your_token', secret='your_secret')

3. Deploy app
   rsconnect::deployApp()

/r_shiny_workshop/explore_fishery_app

Lets take a look

1. /r_shiny_workshop/historgram_app_rmd



Check out the rmarkdown cheatsheat in /cheatsheats/rmarkdown-cheatsheet.pdf

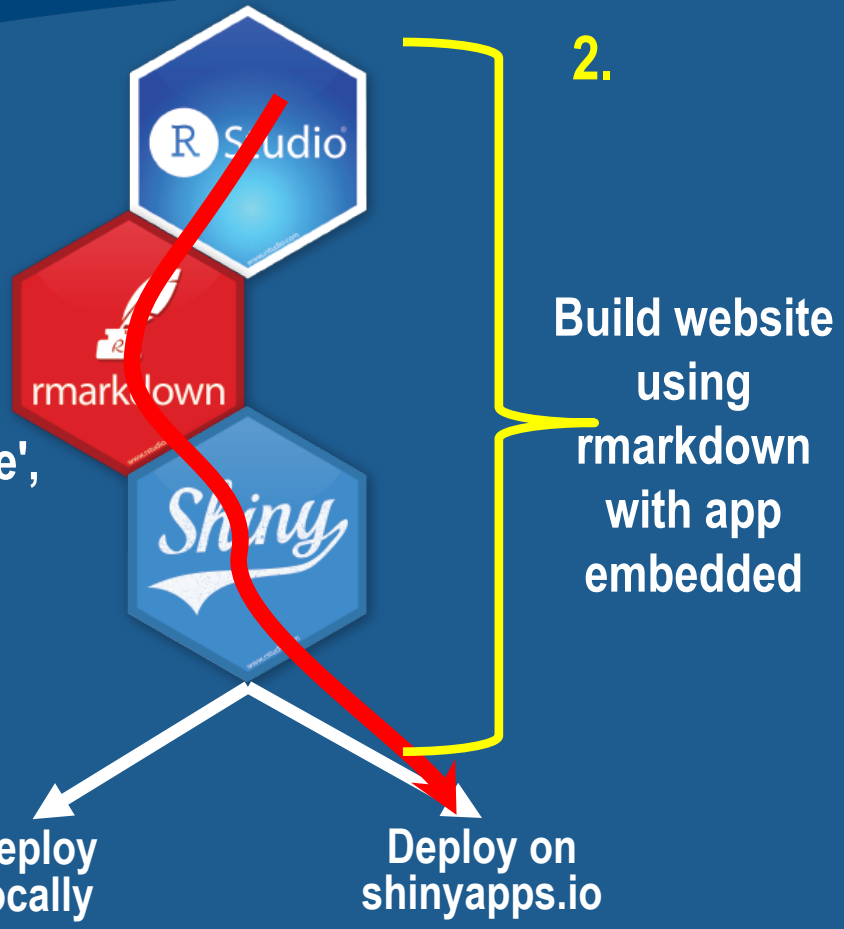
Lets take a look

1. Create shinyapps.io account
   https://www.shinyapps.io/

2. Introduce shinyapps.io to rstudio
   rsconnect::setAccountInfo(name='your_name',
   token='your_token', secret='your_secret')

   Only needs to happen once

3. Deploy app
   rsconnect::deployApp()

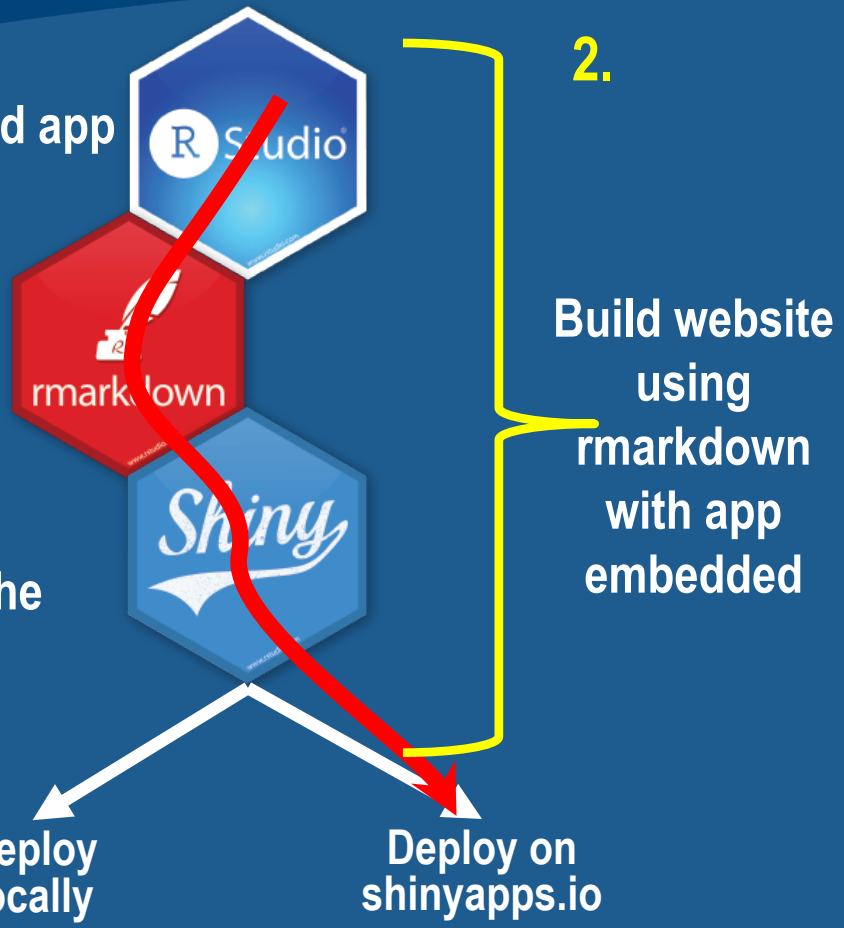


/r_shiny_workshop/historgram_app_rmd

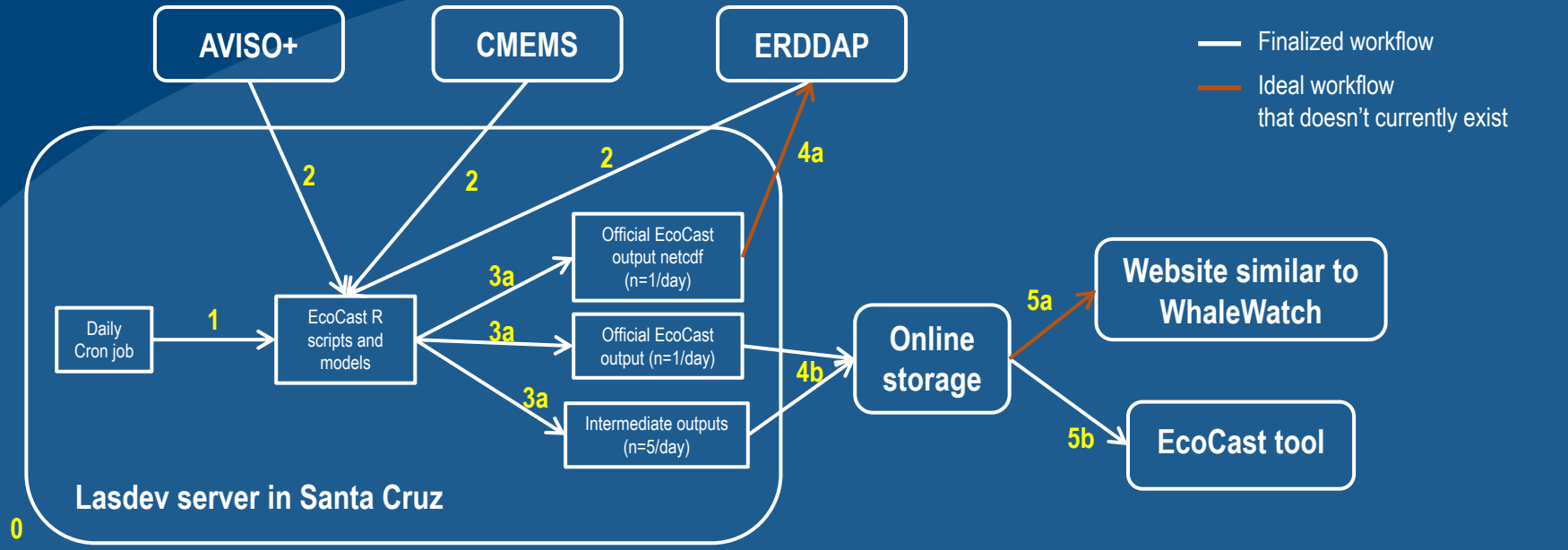
Try it yourself:

Turn explore_fishery_app into an rmarkdown based app

1. Create a new parent directory
2. Copy over data files
3. Copy histogram_app_rmd/app.r into parent directory
4. Edit the title
5. Replace sections 1:5 of the r code to match the explore_fishery_app
6. Deploy locally to make sure app works
7. Deploy on shinyapps.io



Shiny in action: EcoCast Tool



Try it for yourself: https://heatherwelch.shinyapps.io/rshinyapp_historical/