Mastering Shiny

Wickham, H. (2021). Mastering shiny. O'Reilly Media, Inc.

1 Your First Shiny App

2 Basic UI

3 Basic Reactivity

4 Case Study: ER Injuries

5 Workflow

1. Development

   - Type *shinyapp* in .R file to insert Shiny app snippet
   - Keyboard shortcut to run the app: *Ctrl+Shift+Enter*
   - Relaunch app after every save with background job:

     1. add script `shiny-run.R` to folder with `app.R`:

     ```
     options(shiny.autoreload = TRUE)
     shiny::runApp()
     ```

     2. with active `shiny-run.R`, RStudio > Tools > Background Jobs > Start Background Job
     3. copy URL from Jobs pane and run `rstudioapi::viewer("<URL>")`

2. Debugging

   - Shiny automatically prints the traceback to the console
   - Use interactive debugger with `browser()` in source
   - Use `message()` (with `glue::glue()`) or `str()` calls to understand when a part of the code is evaluated and to show values
   - Getting help: make a reprex (minimal reproducible example)

6 Layout, Themes, HTML

7 Graphics

interactive graphics `plotOutput("id", click = "plot_click")` in ui makes coordinates `input$plot_click` available in server

use `req()` to avoid app action before user input

use `nearPoints(<dataset>, input$plot_click)` to get points near to the click

can also use `dblclick`, `hover`, and `brush` (together with `brushedPoints()` helper) argument

can modify a plot interactively with `reactiveVal()`

8 User Feedback

9 Uploads and Downloads

10 Dynamic UI

11 Bookmarking

12 Tidy Evaluation