Dashboards

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What is in a dashboard?

Dashboards

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

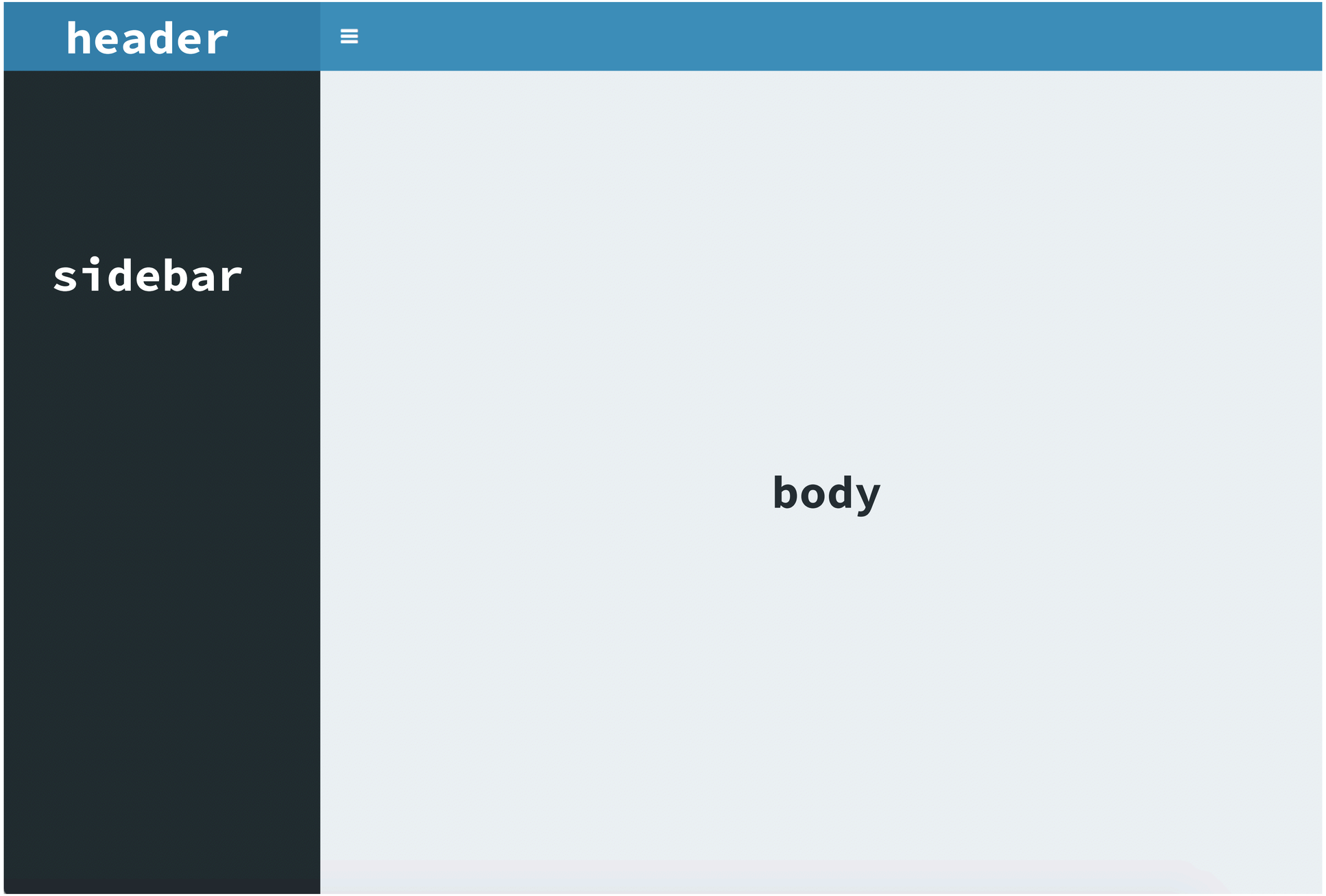
UI

- 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

flexdashboard vs. shinydashboard

flexdashboard	shinydashboard
R Markdown	Shiny UI code
Super easy	Not quite as easy
Static or dynamic	Dynamic
CSS flexbox layout	Bootstrap grid layout

shinydashboard


header
sidebar
body

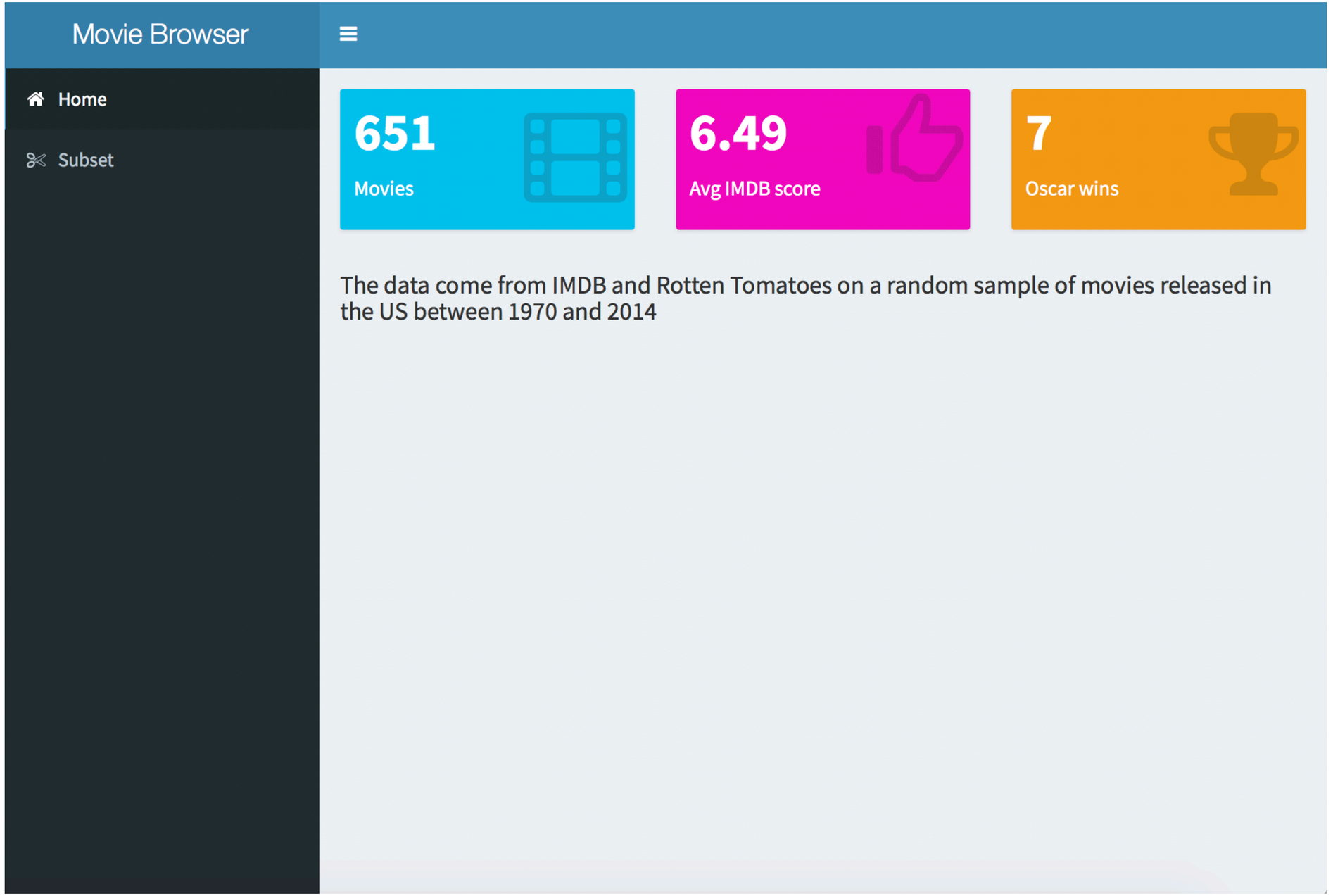
```
library(shiny)
library(shinydashboard)

ui <- dashboardPage(
  dashboardHeader(),
  dashboardSidebar(),
  dashboardBody()
)

server <- function(input, output) { }

shinyApp(ui, server)
```

User interface

controls the layout and appearance of dashboard

Server function

contains instructions needed to build dashboard


Movie Browser
Home
Subset
651
Movies
6.49
Avg IMDB score
7
Oscar wins
The data come from IMDB and Rotten Tomatoes on a random sample of movies released in the US between 1970 and 2014

Movie Browser

Home

Subset

Select title type

Select a title type using the drop down menu below.

Title type:

Feature Film

591

Feature Film

6.39

Avg IMDB score

Select variables to plot:

Y-axis:

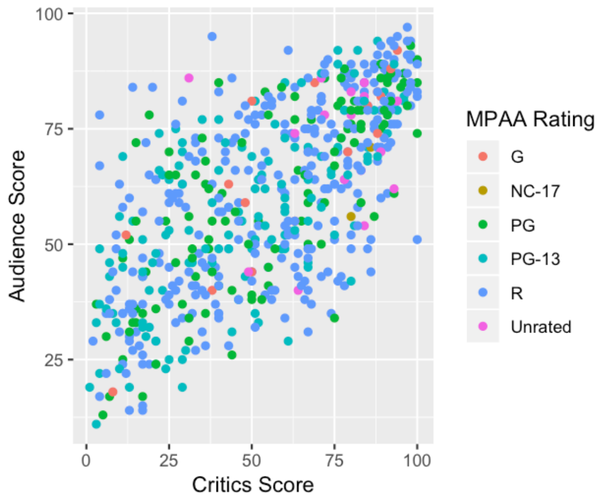
Audience Score

X-axis:

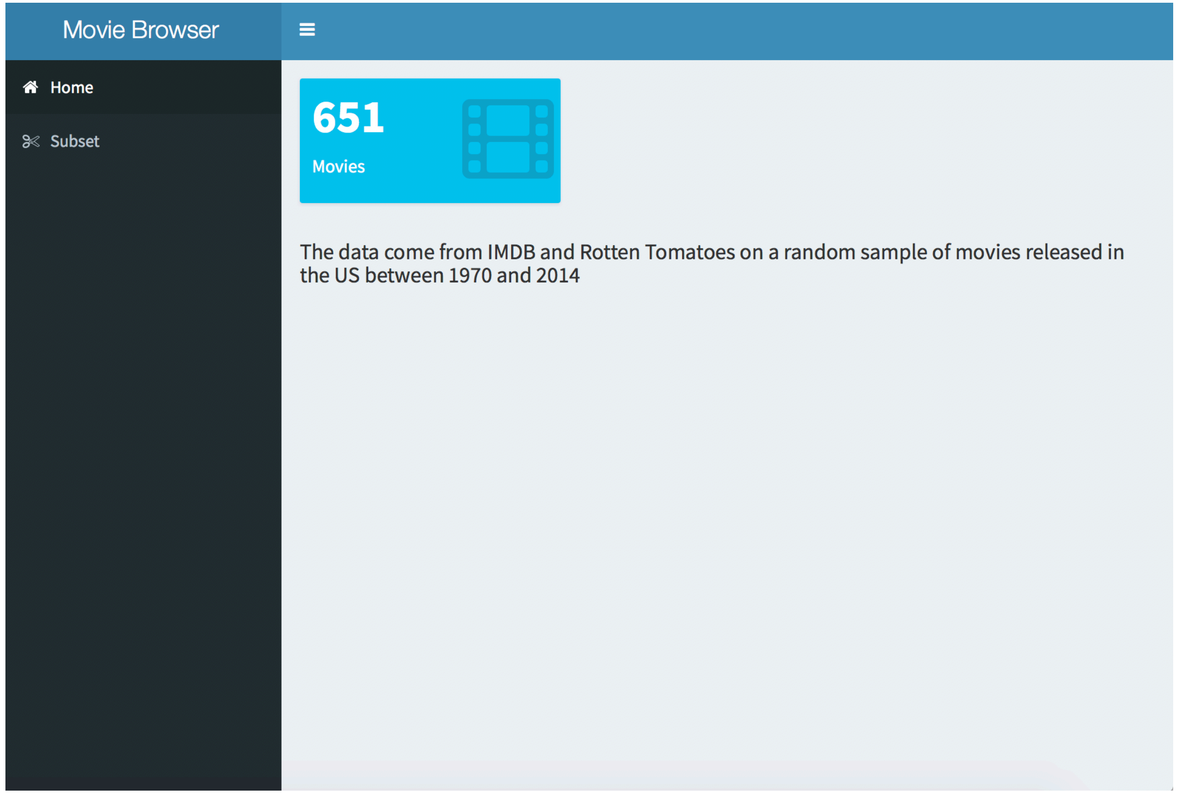
Critics Score

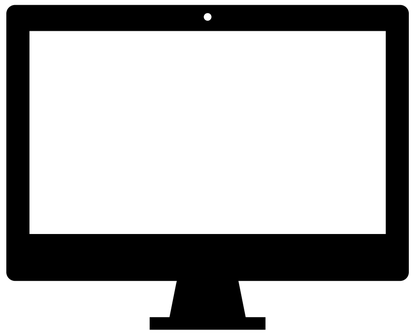
Color by:

MPAA Rating



dashboards/moviedash-01.R

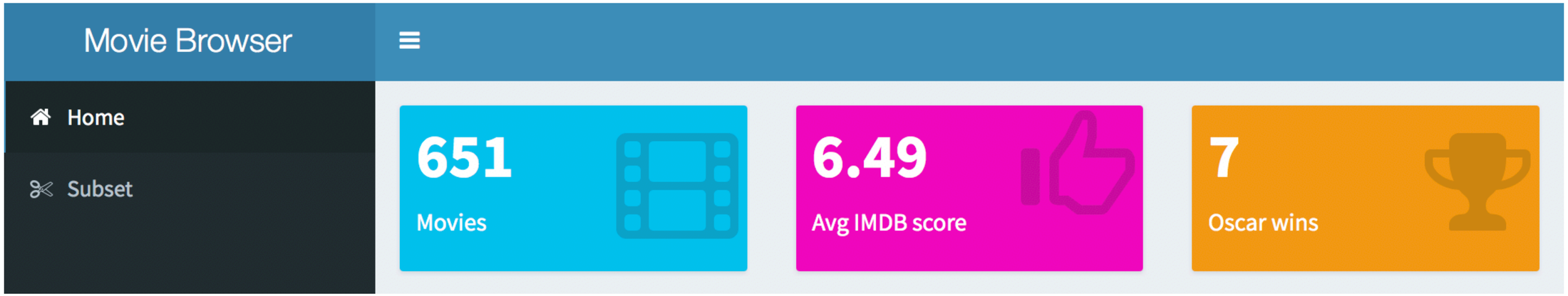




DEMO

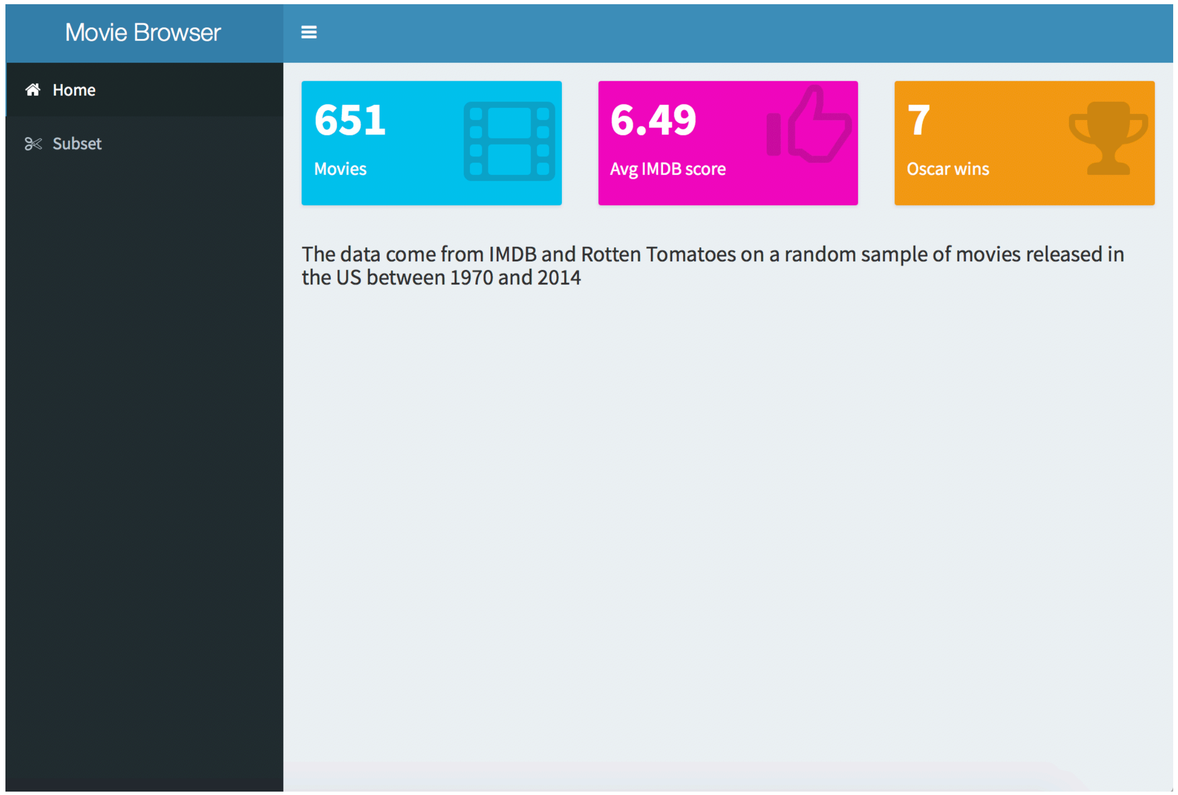
Your turn

- Start with `dashboards/moviedash-01.R`
- Add two more value boxes: average IMDB rating and number of Oscar wins
- Try to match the colors and icons as well



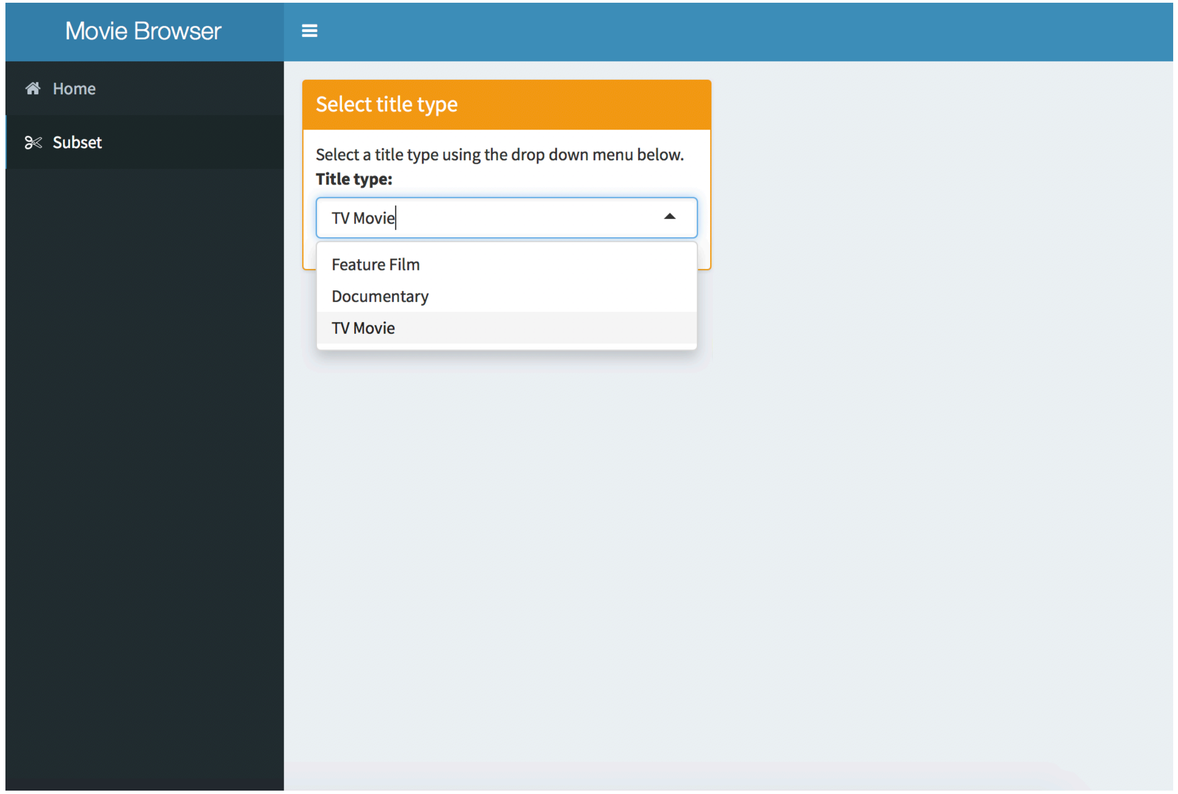
5m 00s

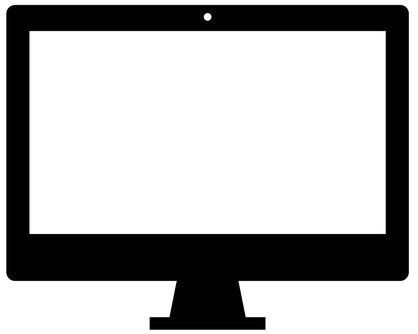
dashboards/moviedash-02.R



SOLUTION

dashboards/moviedash-03.R

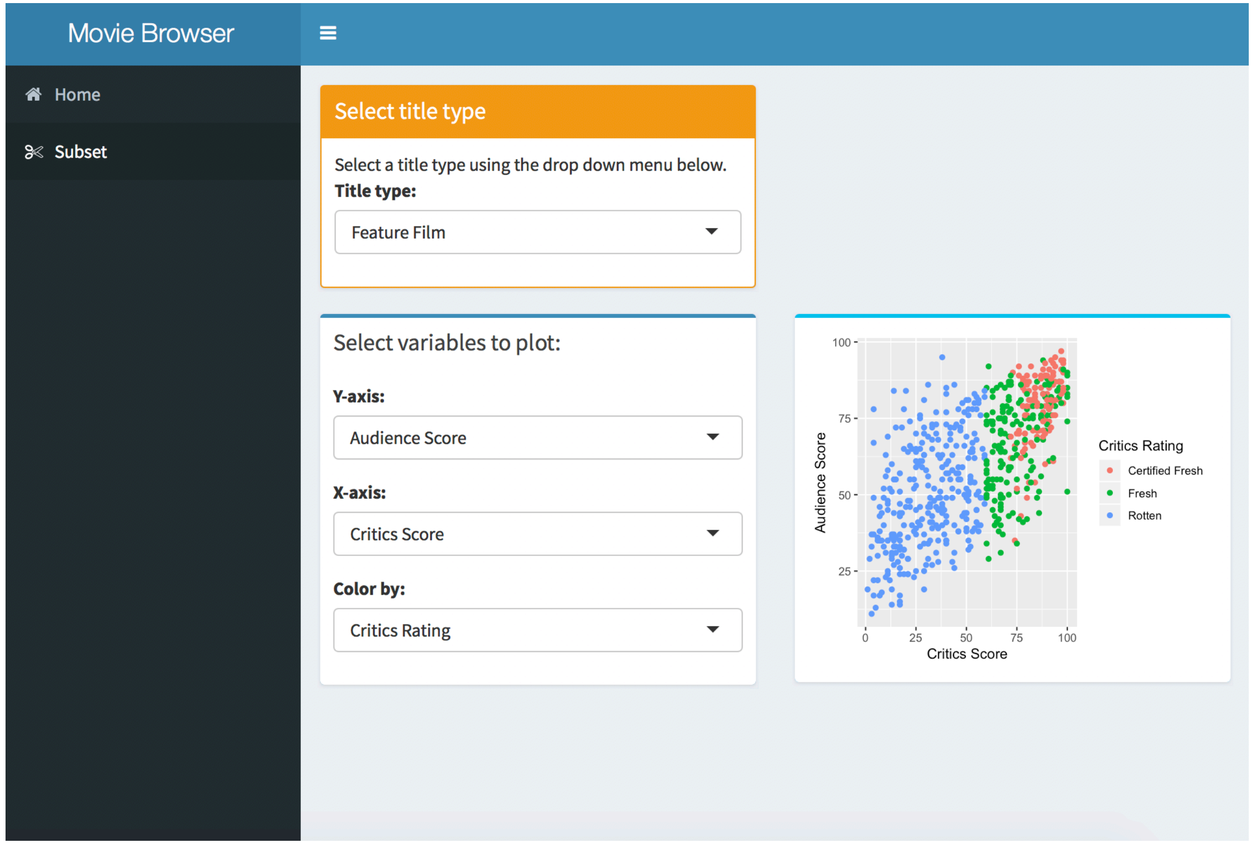




DEMO

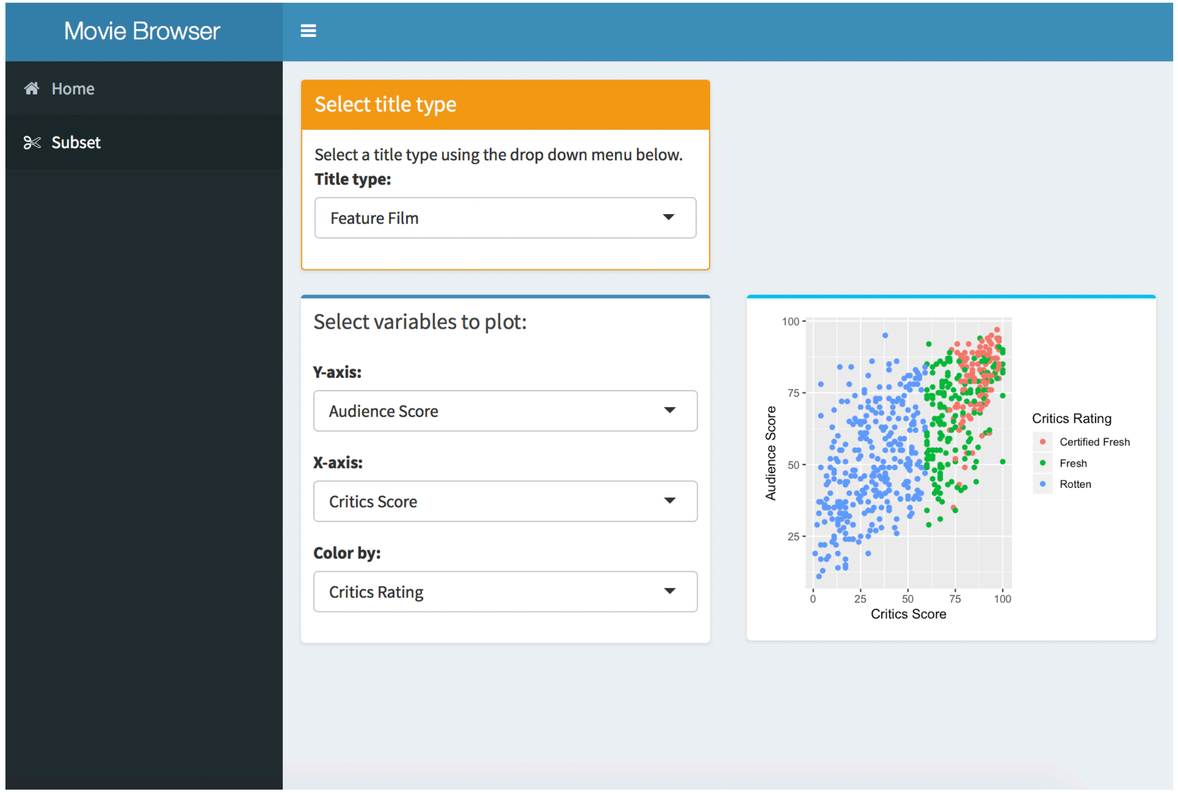
Your turn

- Start with `dashboards/moviedash-04.R`
- Fill in the blanks to achieve the look / functionality on the right
- You can re-use code from earlier



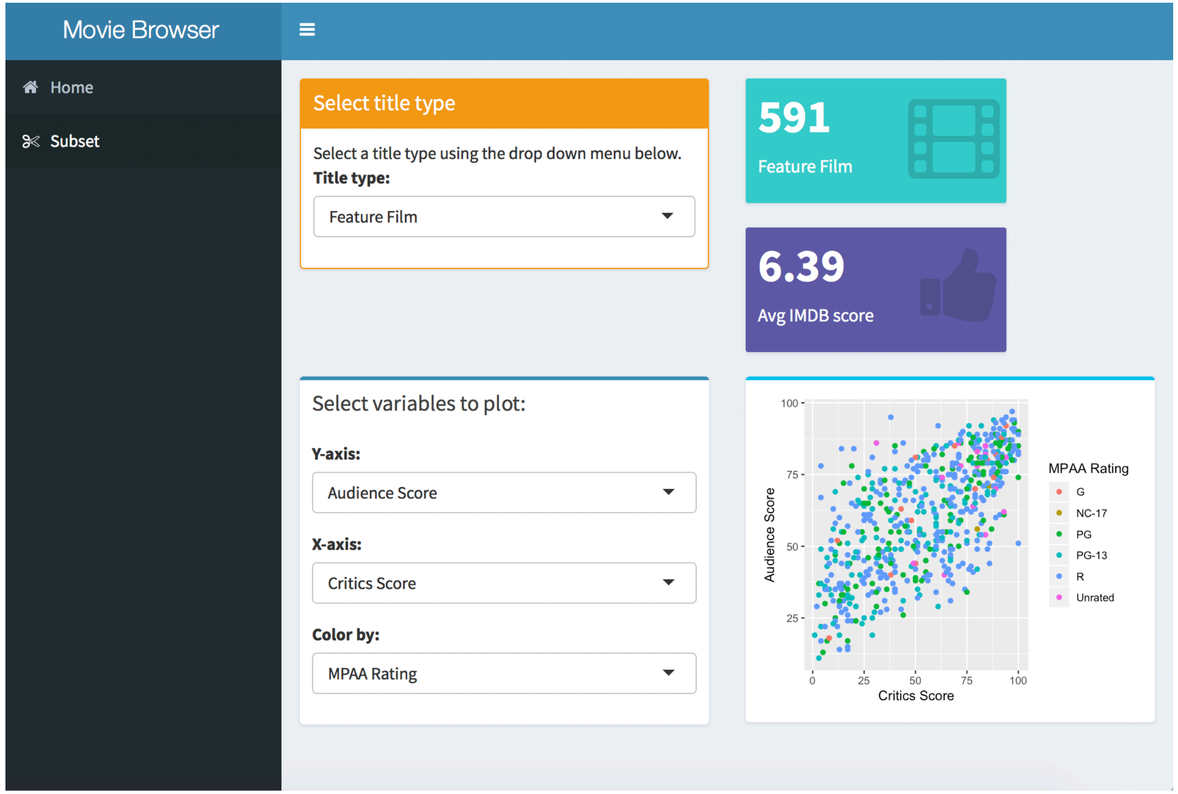
10m 00s

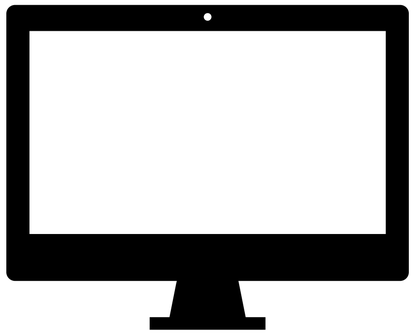
dashboards/moviedash-05.R



SOLUTION

dashboards/moviedash-06.R





DEMO

flexdashboard

Your turn

- `library(flexdashboard)`
- File → New file → R Markdown → From Template
- Create three plots that go in each of the panes using built-in R datasets or any data we have used in the workshop (or your own data)

Your turn

- Open `flexdashboards/flexdash-01.Rmd`
- How is it different than Shiny apps and dashboards we have been building so far, how is it similar?
- Make a change to the layout of the dashboard, see http://rmarkdown.rstudio.com/flexdashboard/using.html#layout for help
- Change the theme of the dashboard, see http://rmarkdown.rstudio.com/flexdashboard/using.html#appearance for help

5m 00s

Shiny documents

- Add `runtime: shiny` to header.
- Add `inputs` in code chunks.
- Add `renderXyz` functions in code chunks.
  - No need for `output$x <-` assignment, or for `xyzOutput` functions.

Your turn

- Continue working on `flexdashboards/flexdash-01.Rmd`
- Add another UI widget, a radioButton, that allows the user to select whether the plot used to visualize the distribution of weight should be histogram or a violin plot

3m 00s

Solution to the previous exercise

`flexdashboards/flexdash-02.Rmd`

SOLUTION

Your turn

- Recreate the app `dashboards/moviedash-06` (or as much of it as you can) in the flexdashboard.

Where to go next?

RStudio Community

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

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

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

Teaching — 3 / week
For discussions about teaching.
4 unread
1 new

shiny — 27 / week
Please ask your questions about shiny here.
3 unread
12 new

R Markdown — 8 / week
Please ask your questions about R Markdown here.
1 unread
2 new