





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



 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



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:

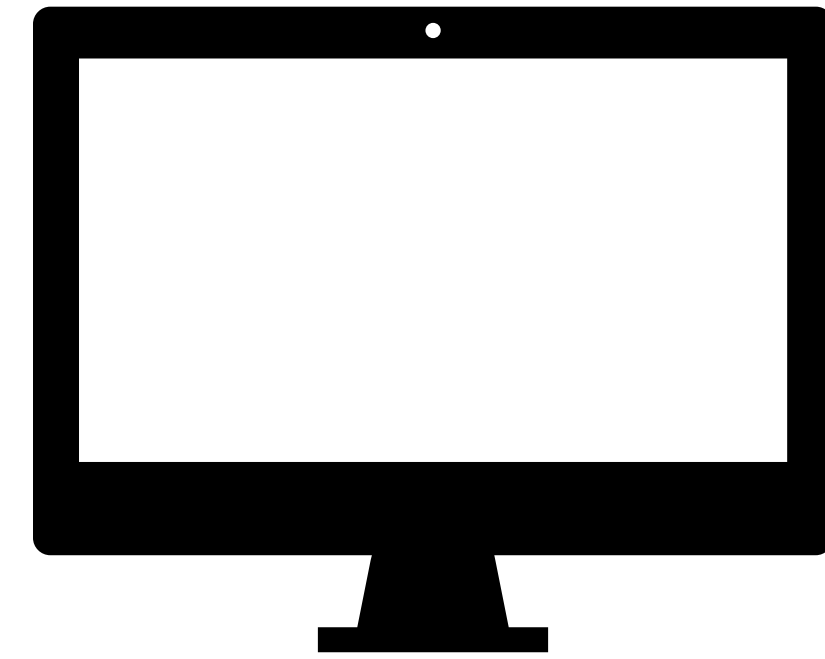
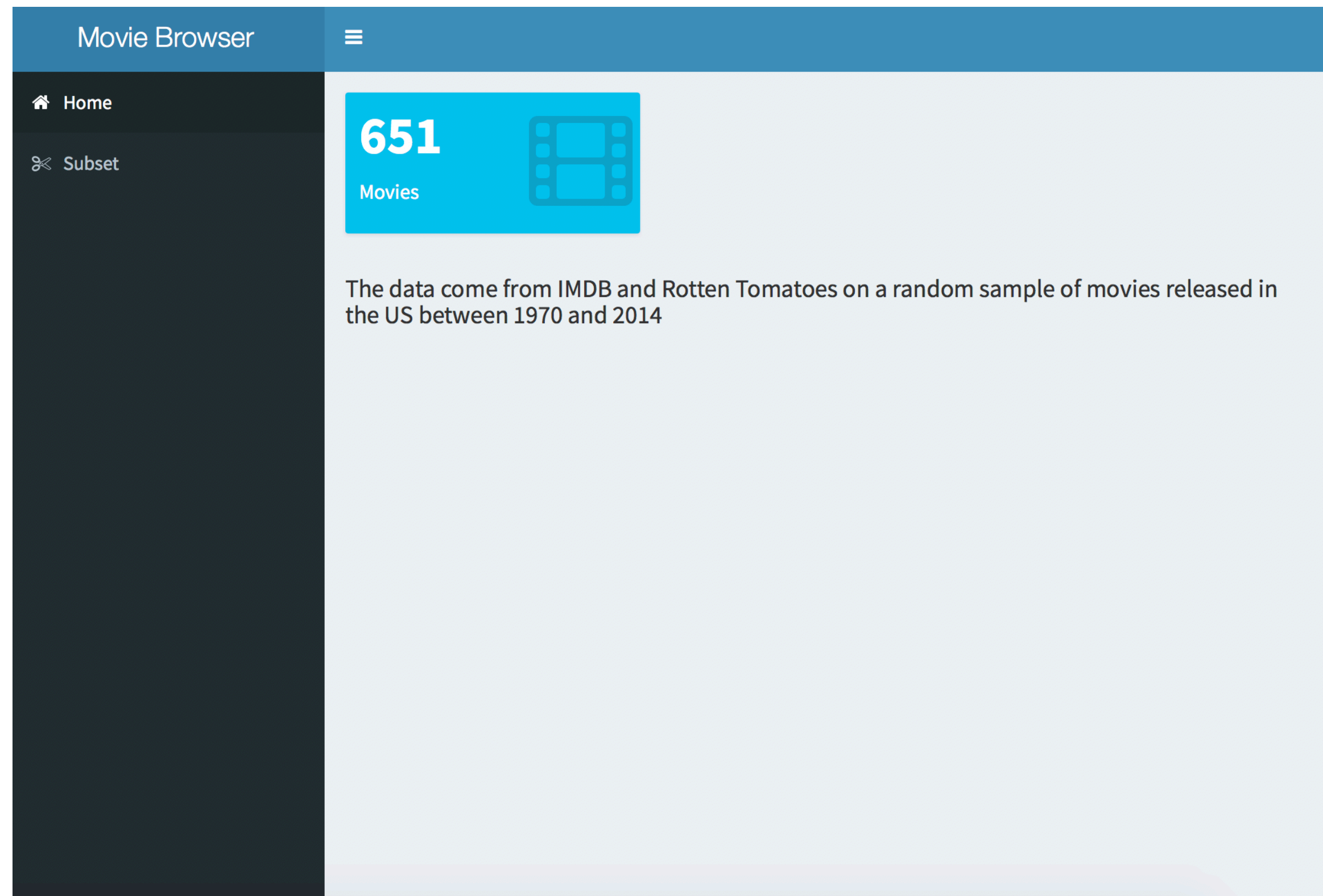
Critics Score

Color by:

MPAA Rating



dashboards/moviedash-01.R

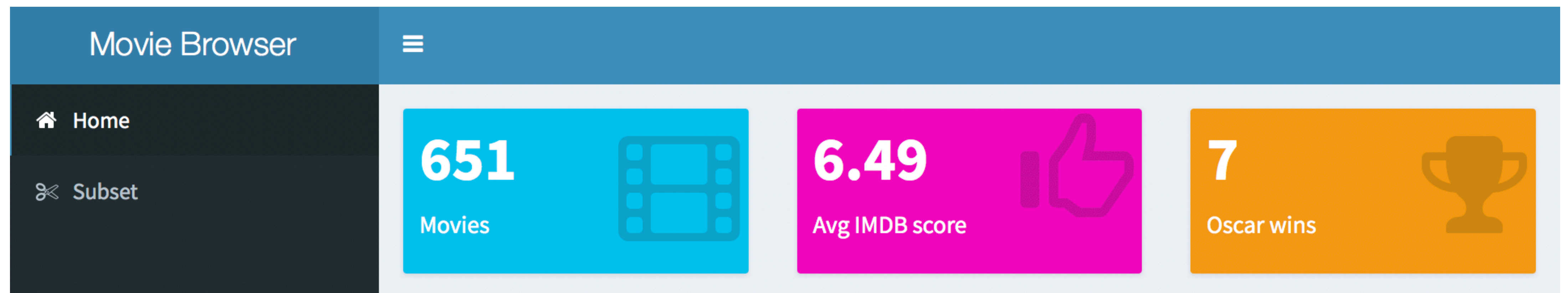


DEMO



Your turn

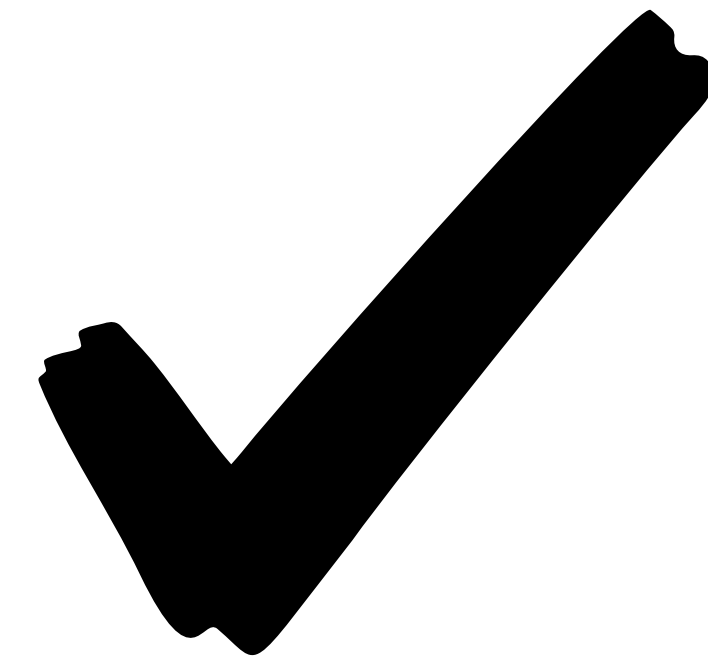
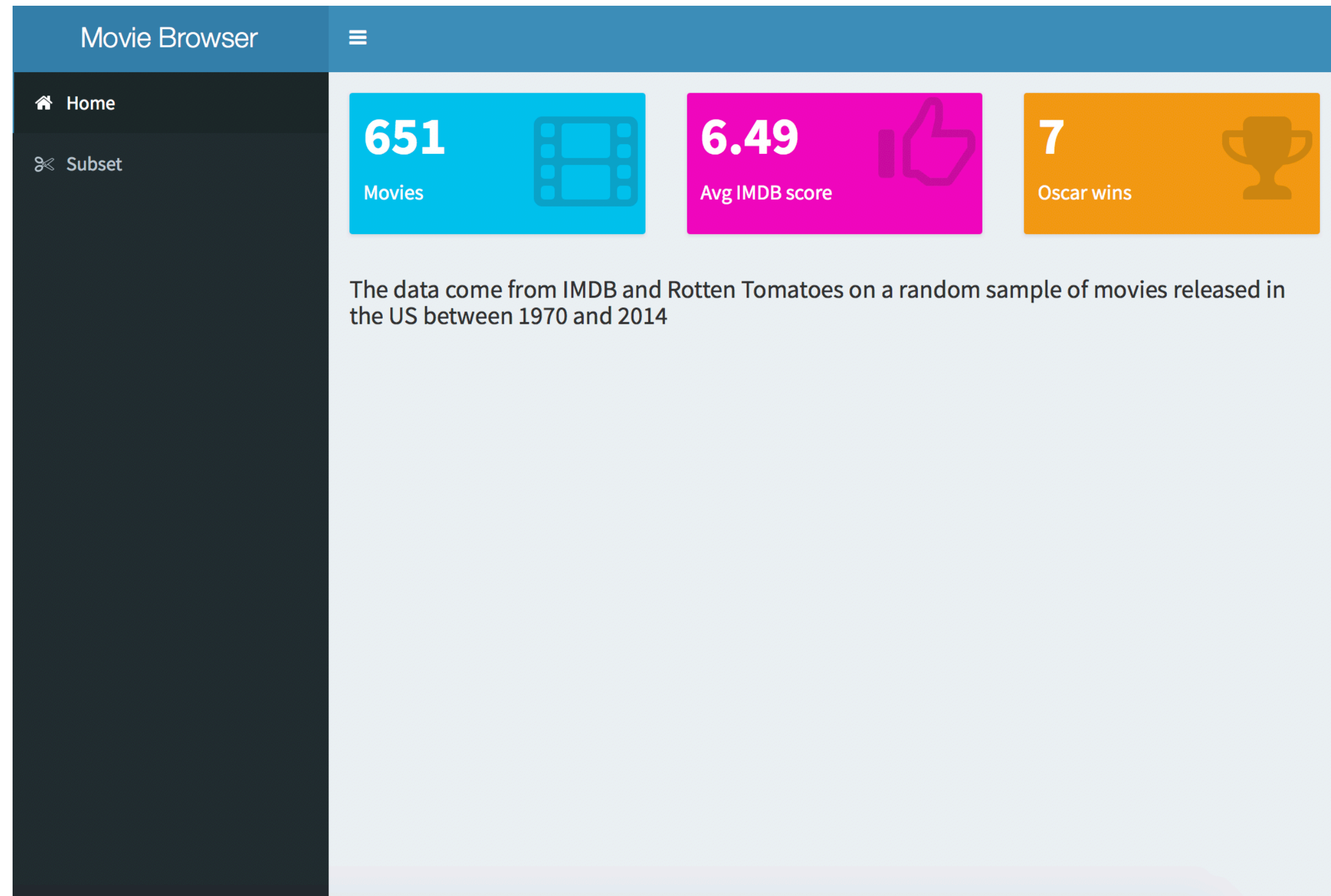
- Start with `dashboards/moviedash-01.R`
- Add two more value boxes: average IMDB rating and number of Oscar wins
- Try to match the colors and icons as well



5_m 00_s



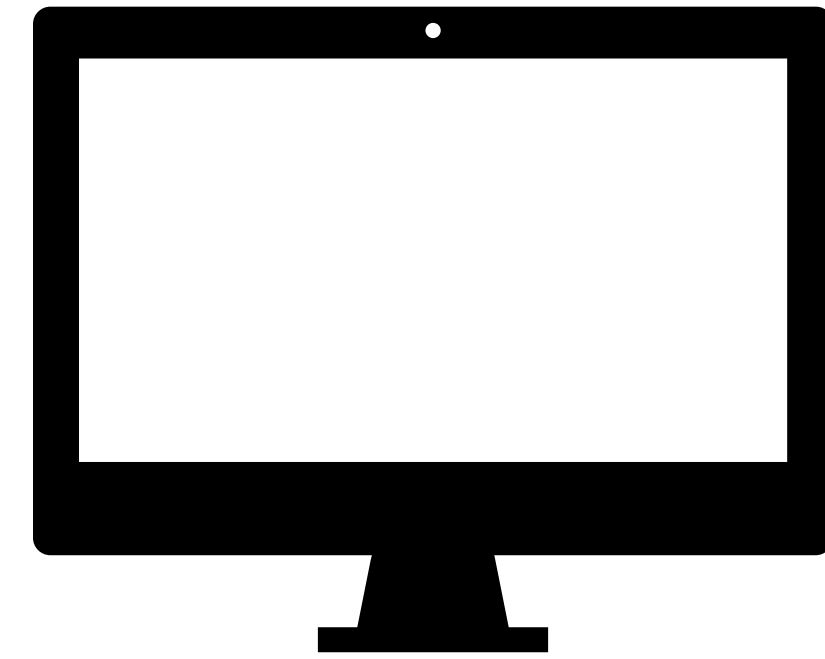
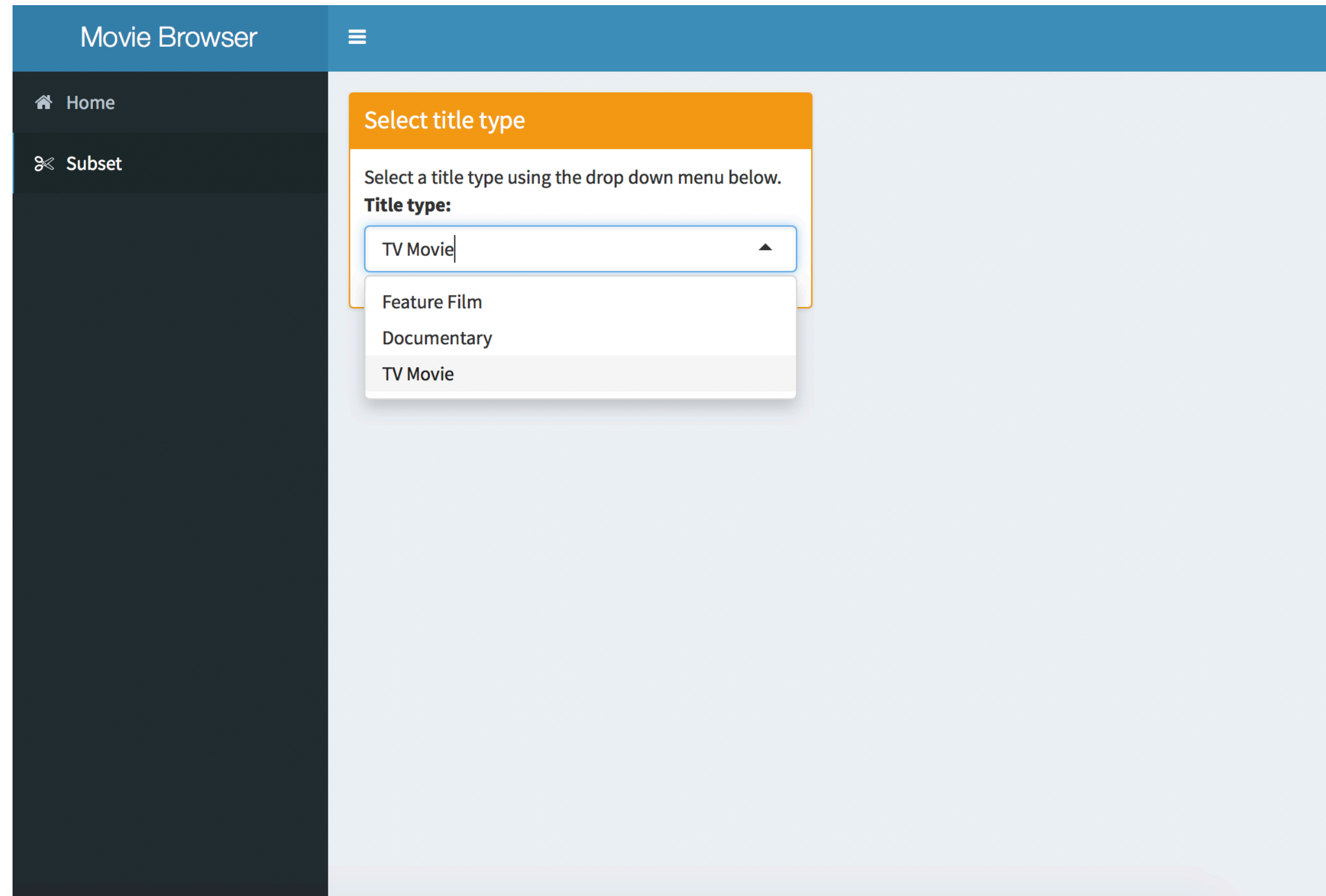
dashboards/moviedash-02.R



SOLUTION



dashboards/moviedash-03.R

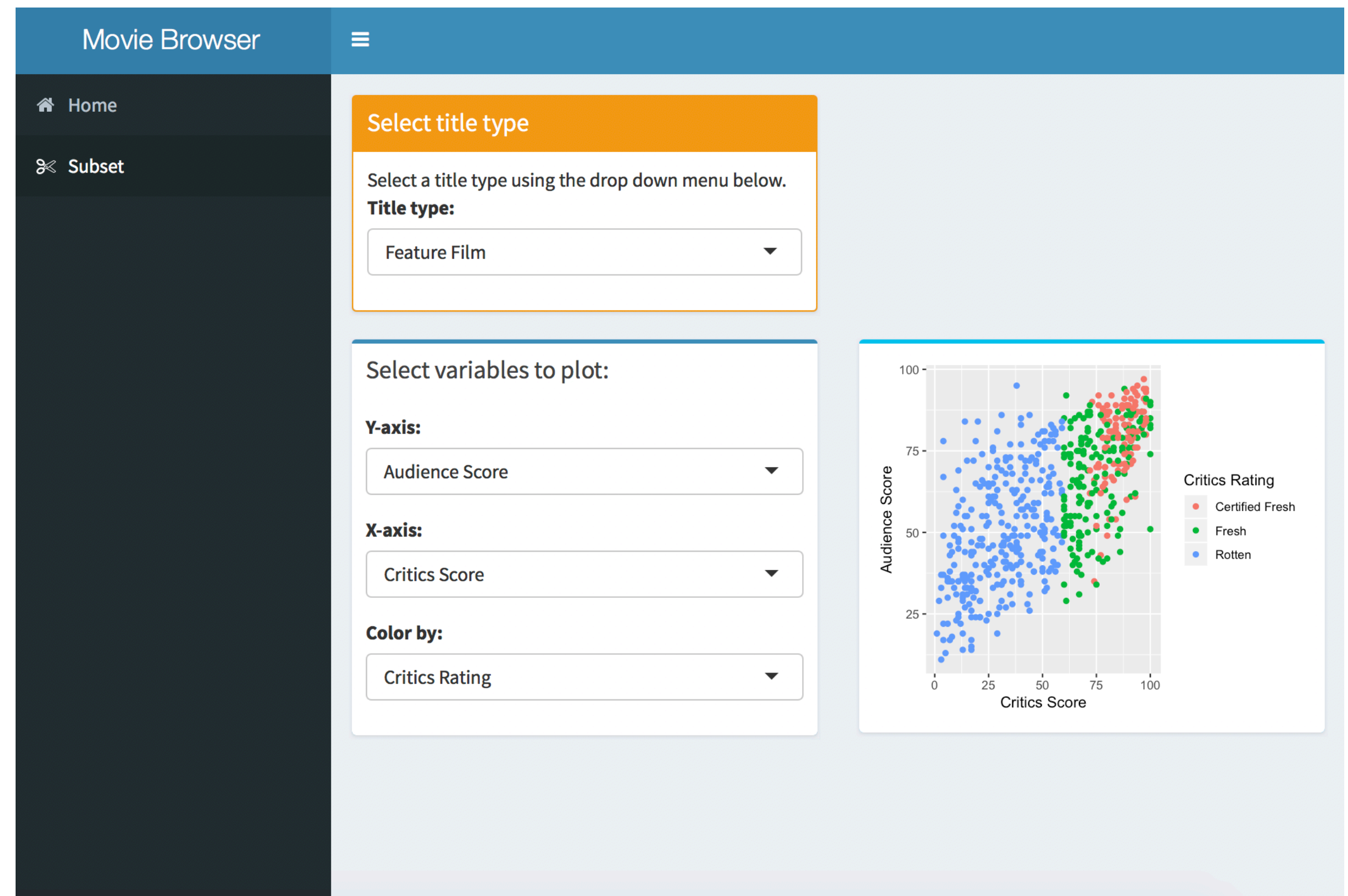


DEMO



Your turn

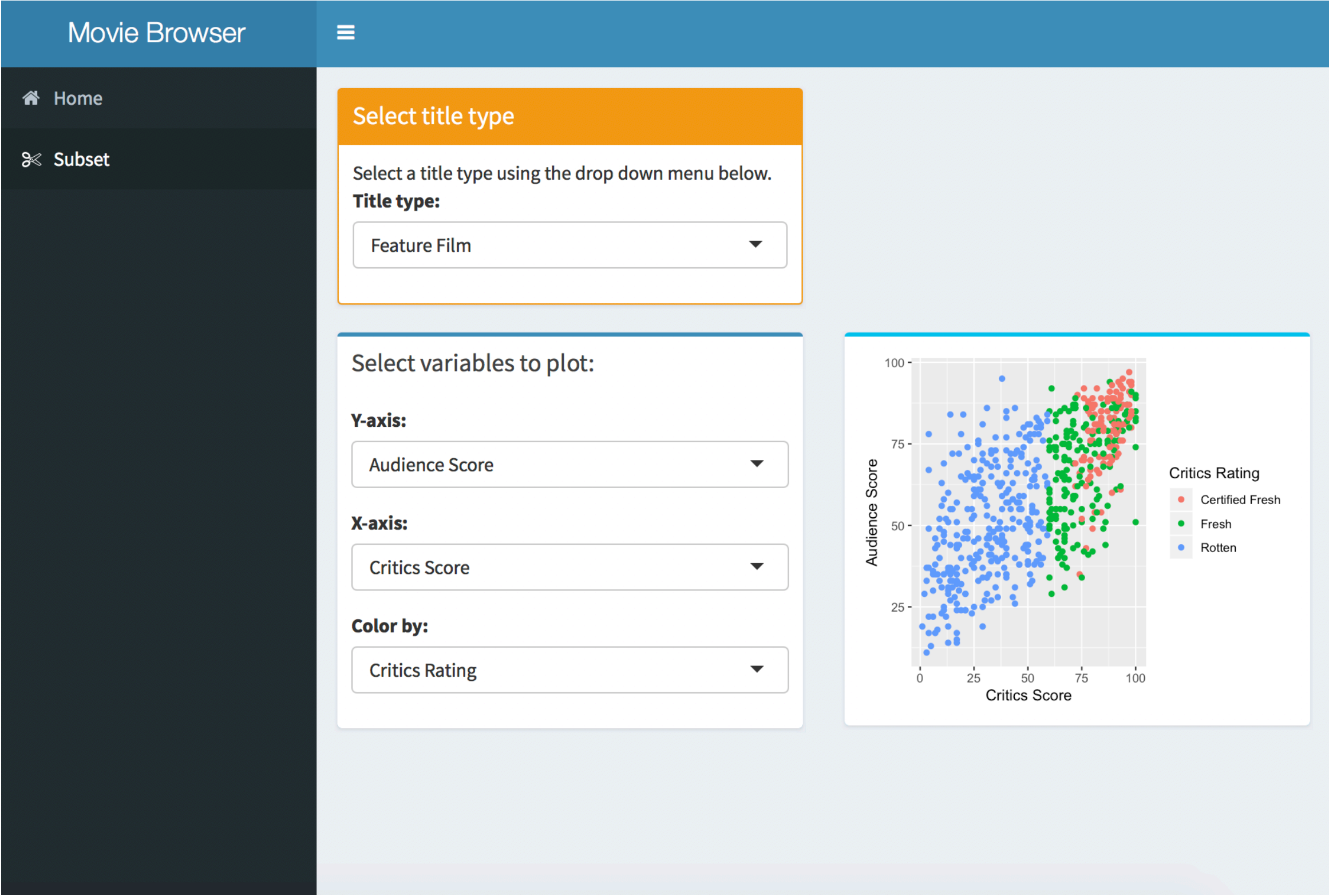
- Start with dashboards / moviedash-04.R
- Fill in the blanks to achieve the look / functionality on the right
- You can re-use code from earlier



10_m 00_s



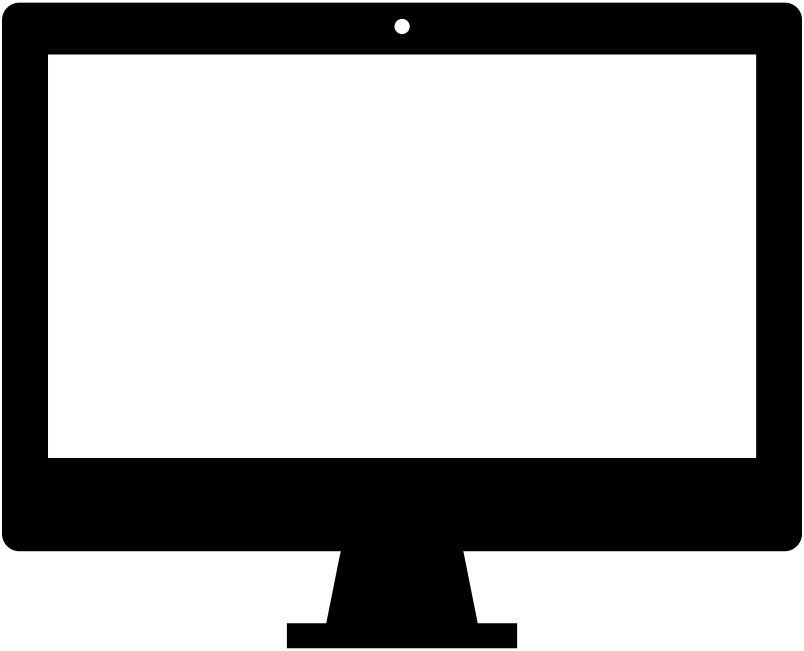
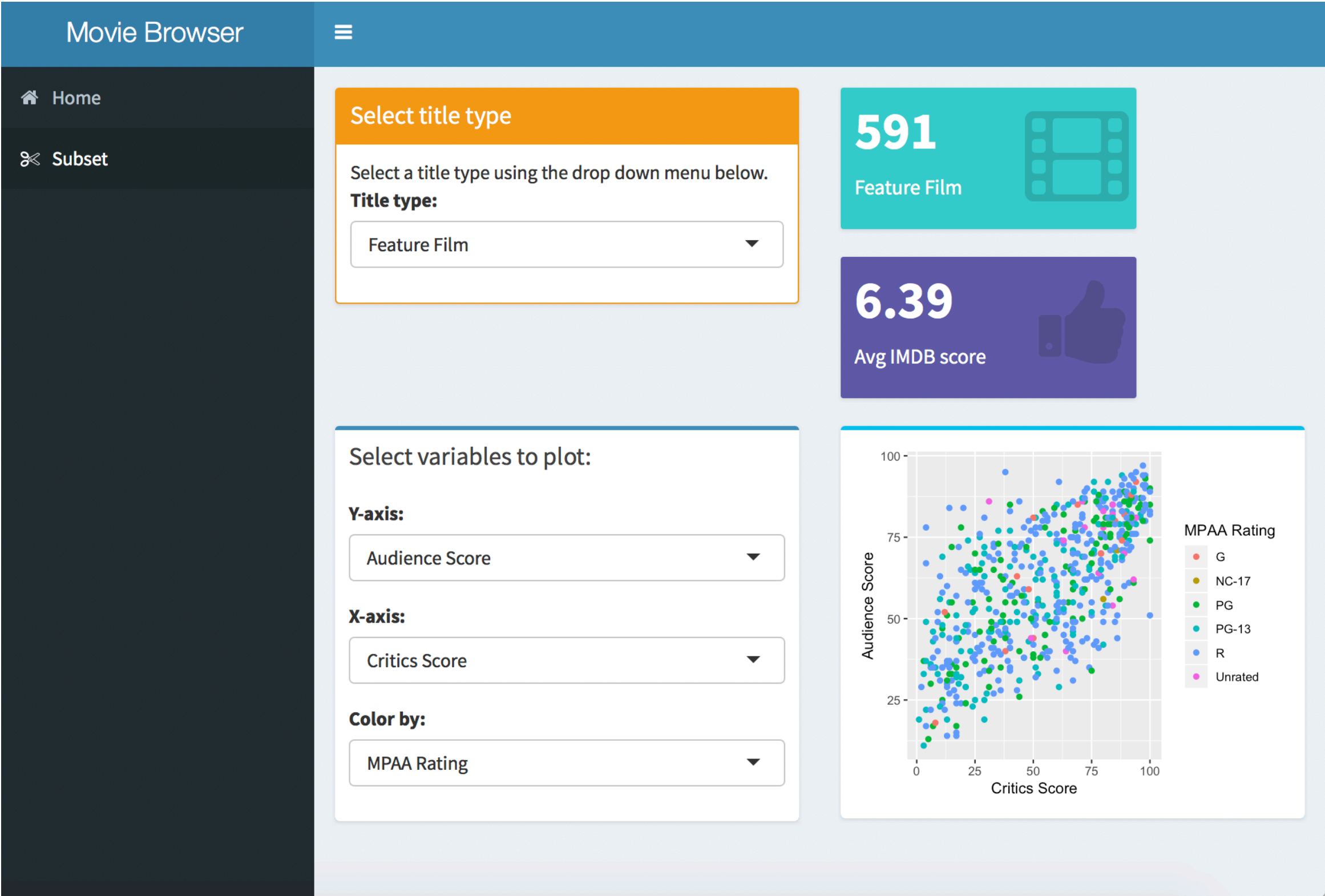
dashboards/moviedash-05.R



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)



5_m 00_s



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



5_m 00_s



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

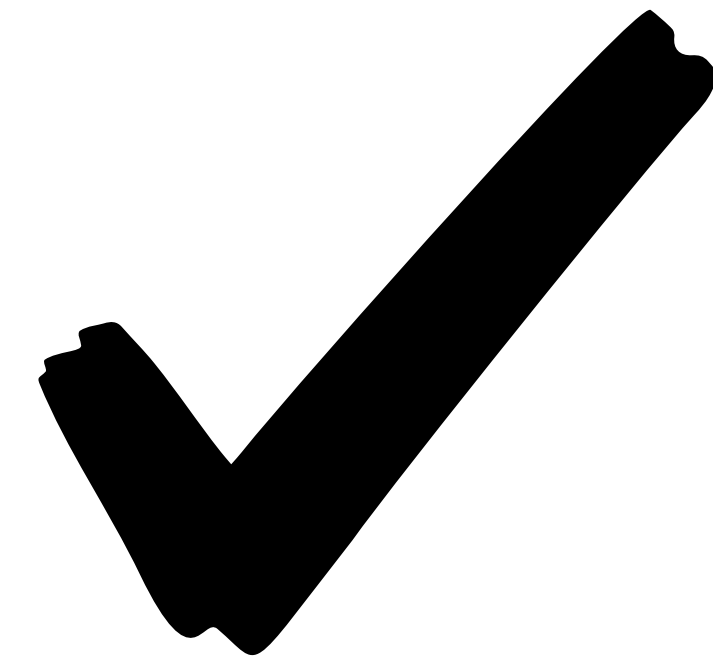
- Continue working on `flexdashboards/flexdash-01.Rmd`
- Add another UI widget, a `radioButton`, that allows the user to select whether the plot used to visualize the distribution of weight should be histogram or a violin plot



3_m 00_s



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::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 1 new
	shiny Please ask your questions about shiny here.	27 / week 3 unread 12 new
	R Markdown Please ask your questions about R Markdown here.	8 / week 1 unread 2 new





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Associate Professor at Duke University



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