Modern workflows in data science

Assignment 4

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In this assignment you will produce a dashboard that lets readers explore data from the World Value Study (WVS).

Your submission will again be a GitHub repo that will include the README and a script that runs and creates the app.

1. Download the World Value Study (wave 6) from here: http://www.worldvaluessurvey.org/WVSDocumentationWV6.jsp.

2. Your app has only one input: the country. It should have four sections or tabs:

a. **Overview:** here you can say what is the aim of the app and guide the user in how to navigate it **(10%)**
b. Exploring attitudes to **democracy** (V228A-V228I) **(20%)**
c. Exploring **news** consumption (V217-V224) **(20%)**
d. Exploring attitudes to **science** (V192-197) **(20%)**

Sections b, c and d all have three things inside:

- plot the averages (proportions by category for news) of the questions in that section for the country selected (i.e., if they select Algeria shows the graph just for Algeria)
- a table with the averages (proportions by category for news) of the questions in that section for the country selected
- a similar table as above but with the information on the entire WVS sample

The results in sections b, c and d should change depending on the country input (except the last table in each section which is the same for all the countries).

3. Make the tables and figures interactive **(10%)**

4. Presentation **(10%)**. Tables and graphs are easy to read. Overview section and GitHub README are well written and useful.

5. Publish app on www.shinyapps.io **(10%)**. Include the link to the app in the readme file.

Top tips

- You might want to separate the process of cleaning the data and the app. As such, you might want to make a R script for all the preparation that saves all the objects you need and a script that just includes the things needed to run the shiny app.

- You might want to prepare all the graphs and tables in R before putting them in Shiny to make sure they work.

- To might want to consider using Shinydashboard to help organize the app and make the different tabs. You can also check out this link: https://shiny.rstudio.com/articles/dashboards.html

- You might want to make reactives that summarizes the country level information needed for the plots and tables.

- To make tables interactive use `dataTableOutput`/`renderDataTable`. For interactive graphs use `renderPlotly`/`plotlyOutput`. On how to make a ggplot into a shiny plot check out this link: https://stackoverflow.com/questions/37663854/convert-ggplot-object-to-plotly-in-shiny-application

- It is easy to publish a shiny app from rstudio. After you run the app just press the "publish" button. You will need to make an account on: https://www.shinyapps.io/