# Project 1

## Stat 108, Week 7

## Project Guidelines

In this project, your group will create an interactive dashboard using the R packages `shiny`, `shinydashboard`, and/or `flexdashboard`. Additionally, each group member will individually write a "data scientist's statement" (400-800 words) that communicates the intention behind the created work.

**Requirements of the dashboard:**

- Relies on at least one real-world (i.e., not fake or simulated) dataset.
- At least three user inputs.
- At least two reactive graph or maps.
- At least one reactive table.
- A tab/page which includes relevant meta information about the data along with a data citation and link to the data source.
- Relevant text for your users to navigate your dashboard and extract knowledge from it.
- A button that pop-ups an Rmd of the source code.

**Requirements of the data scientist's statement:**

- Addresses the purpose of the dashboard, including your motivations for focusing on the selected data and the intended audience.
- Discusses how you hope users will engage with the dashboard.
- Articulates why certain design choices, especially with respect to the interactivity, were made.
- Presents your desired take-away messages.

**Other considerations:**

- To facilitate feedback, we will be posting the dashboards to Posit's app server https://www.shinyapps.io/.
  - Therefore, we recommend utilizing non-sensitive data for your dashboard.
  - If you would prefer not to post your group's dashboard here, please reach out to Prof McConville or Preceptor Vu.

**Data**

We encourage you to use a data source that interests you and your group members for your project. If you are looking for data sources, here are a few good places to look:

- Data is Plural
- Cambridge, MA data
- Harvard Open Data Project
- Data.gov
- TidyTuesday
- Opportunity Insights

**Tips for getting started**

Once you have chosen a data source, the next step is to plan out your dashboard.

- Explore the data to get a sense of the variables and relationships between variables that you find most interesting/important.
- Make some static plots that you think convey key messages/findings from the data. Use these as a jumping off point for curating the reactive graphs/maps you will put on your dashboard.
- Create some wrangled data tables; this can help you identify what data would be useful to display to a user in a tabular format. Think about how you intend for users to interact with a data table.
- If you are working as a group, one suggestion for getting started: do the initial data exploration individually and then meet to discuss what each person learned. You may have each discovered different angles on the data to incorporate into the dashboard!
- Then as we discussed in Lecture, create an ugly, basic dashboard that has the main types of interactivity/reactivity that you want.
- Slowly add customizations or more advanced reactivity.

## Timeline

- 3/8: Receive project instructions, group assignment, and invite to your group's GitHub repo.
  - Please use your assigned Stat 108 GitHub repo for this project.
- 3/30 (noon): Post a working draft of your dashboard to https://www.shinyapps.io/
  - Working draft must:
    * Make use of at least one real-world dataset.
    * Have at least one user input.
    * Have at least one reactive graph (or map) and at least one reactive table.
    * Have relevant text so that your peers can navigate around the dashboard independently.
  - Only one group member needs to post the group's app to shinyapps.io.
- 3/30 (noon): Post the link to the group's dashboard to this spreadsheet.
- 3/30 - 4/1: Peer/TF feedback period
  - Each person will provide feedback on the dashboards of **two** groups.
  - More guidance on providing feedback will be given in lecture that week.
  - Section time that week will be devoted to feedback activities.
- 4/5 10pm: Link for the final version of dashboard should be added to this spreadsheet and PDF of your data scientist's statement should be submitted on Gradescope.

## Rubric for the Dashboard

Data:

- Data sources are appropriately cited.
- Relevant meta-data is included in a clear and concise manner.
- Data are appropriately wrangled.

Graphs:

- The geom, aesthetic, and scale choices in the graphs are appropriate.
- The graphs thoughtfully incorporate useful context that adds both memorability and clarity to the graph.
  - This includes labels and titles but also other more nuanced forms of context.
- The graphs are designed to make important comparisons easy.
- The graphs are accessible.

Tables:

- The tables provide useful summary information about the data.
  - They should not just be tabular versions of the information given in the graphs.
- The tables are easy to navigate and have thoughtful features.

Layout/Writing:

- The dashboard can be used to answer questions with data.
- The dashboard is easy to navigate.
  - There is a natural path for the user to follow when navigating the dashboard.
  - The layout of the dashboard encourages users to approach the app's features in a sensible order.
- The fonts chosen are consistent and easy to read. The font size varies appropriately.
- Color palettes are consistent across the dashboard and are accessible.
- There are no errors in spelling, punctuation, or grammar.
- The appropriate amount of text is provided on the dashboard.
- The writing is appropriate for the intended audience.

Code:

- Source code is accurate, clear, and consistently follows a style guide.

Feedback:

- The appropriateness and extent of thoughtful feedback given to the dashboards of two other groups.
- The incorporation of peer/TF feedback.

## Rubric for the Data Scientist's Statement

- Clearly and appropriately addresses all of the provided requirements.
- There are no errors in spelling, punctuation, or grammar.