Michael Link
R Shiny App Development
Project 1

A Flood of FEMA Claims

- **Project Submission -**
  - GitHub Submission Date/Time:
    - *04/26/19 10:10 PM*
  - GitHub Repository:
    - *https://github.com/Data-Science-Link/A_Flood_of_FEMA_FACTS*
  - Shiny App URL:
    - *https://data-science-link.shinyapps.io/fema_flood_claims/*
  - Documentation and Presentation URL:
    - https://github.com/Data-Science-Link/A_Flood_of_FEMA_FACTS/tree/master/documentation
  - Online Classroom Submission Date/Time:
    - *04/26/19 11:45 PM*
  - Evidence of Version Control (git log --oneline):

```
(base) michaels-mbp:fema_claims_new michaellink$ git log --oneline
c2971be (HEAD -> master, origin/master, origin/HEAD) final text tweaks
63a2b13 Working version of shiny app with data tables included
39151f3 Have a working quote unquote  and complete shiny app. Best version yet
ad6426a updated graphs aon the OUR STORY PAGE
eacaaef polished off shiny app and got state accumulation to be based upon floo
d zones
c6cd990 updated to create a dataframe for coutny accumulation. About to try and
 incorporate this into shiny app.
eca76fb commiting before attempting to change state names to full state names
4c9184d updated shiny app to have geom_area based on flood zone and state.
00d7c5f added descriptive text to shiny app and updated accumulation plot to be
 symbolized by state
29488bf adding git ignore file so I can put large csv in folder and not have Gi
t git angry at me.
d8b20da Adding working version of shiny app that was pushed to cloud. Also orga
nized R scripts into new files. And compiled all data into a readable .Rdata fi
le for app
83c8aca Adding the base.R file which is used for data cleaning, manipulation, a
nd prototyping vsuals
5fcb793 first commit
```

- **Purpose -**
  - Problem Statement:
    - *FEMA, the agency tasked with preparing our nation for floods and issuing flood insurance, is faced with an unsustainable financial future. FEMA's borrowing authority has twice been increased by the federal government by over 10 billion dollars in response to the devastating hurricanes. Their borrowing authority was exceeded in recent years necessitating Congress to forgive the agency of 16 billion dollars. Storms of the last 15 years (Katrina, Harvey, Sandy, etc.) have come with a large price tag. If these storms are here to stay, FEMA's flood insurance program cannot stay afloat.*
  - Target Audience:
    - *FEMA National Flood Insurance Program Managers*
    - *The Senate*
    - *Congress*
  - Objective:
    - *Analyze the tsunami of insurance claim data to inform federal agents of the spatial and temporal trends in U.S. flood claims. With this information, federal agents can effectively identify which parts of the country are disproportionately responsible for financial leaks. This dashboard is the first step towards plugging the holes in our sinking financial ship.*
  - Business Value of Objective:
    - *Administering a flood mitigation program for a nation of 328 million people is daunting. Changing the direction of such a large ship is not only difficult but costly. If FEMA were to make major program changes without consulting this data and dashboard, they would likely apply changes to the whole country. After consulting this dashboard, they can assess their financial future and can rapidly determine which states do and don't require correction.*

- **Tools and Methods -**
  - Tools and Methods Employed:
    - *Dplyr, Ggplot2, Plotly, For loops, Shiny Dashboard Customization, Shiny Widgets*
  - User Experience Considerations:
    - *Aesthetics, Intuitive Tab Names, Descriptive Text, Interactable Data, Ability for user to "come to their own conclusions."*
  - Widget Applications:
    - *Slider (Date Range), Radio Button Filter (States, Counties, Flood Zones, Census Regions, Census Divisions, Regression Analysis), Select Box (States)*

- **Outcome -**
  - Problem Statement and Objective:
    - *TBD by Audience/Grader*
  - Satisfaction of Objective:
    - *TBD by Audience/Grader*
  - Value to Target Audience:
    - *TBD by Audience/Grader*

- **Presentation -**
  - Presentation Elements:
    - *TBD by Audience/Grader*
  - Presentation Location:
    - *TBD by Audience/Grader*