Data Visualization

Assignment 3

Special Note:

This is you final project and the goal is to demonstrate what you have learned from this course and how you will utilize visualization as a data analysis tool. I encourage you take this assignment as a small research project, and I will be more than happy to provide help and sponsorship for turning qualified projects into publications.

Option 1: Cartography — Visualizing Ecological Data of The Qinling Mountains

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Objectives

- The goal of this final project is to demonstrate what you have learned from this course
- Developing an interactive visualization for ecological data of Qinling Mountains by utilizing techniques we have covered in our lectures including:
  - Visual encoding
  - Interaction
  - Transition
  - Glyph
  - Isopleth, choropleth or cartogram
  - …

Deadline

The assignment is due at 11:59AM in Nov. 23, 2022, China Standard Time

Description

- Data: You will be given an updated version of dataset of ecological data of Qinling Mountains**,** Please refer to the README file in the data repository for details.
- Map: You will also be given a map of the area of Qinling Mountains, please refer to the README file in the data repository for details.
- Task:
  - Create an interactive visualization to portray the the Qinling ecological data over the map. Your visualization should portray all the attributes included in the data.
  - You visualization can be implemented by using any programming languages. Your visualization should feature visual encoding, interaction, transition and multi-views covered in class.
- **Submission**
  - You submission should include 2 parts:
    - Code:
      - Your code should be executable, and you are **required** to include a README file to describe how to run your code
    - Report
      - You should write a short report describing your analysis task, i.e. what do you want to learn and explore from the data; your design philosophy, i.e. why you want to develop your visualization in this specific way; and what you have learned from the data.
  - You should zip your Code and Report in a single file, named as ***A3_yourname.zip, e.g. A3_leliu.zip,*** and send the zip file to lel@nwpu.edu.cn. The subject of your email should be “DV_A3_yourname”, e.g. DV_A3_LeLiu

Option 2: Visualizing Your Own Data

Objectives

- Developing an interactive visualization for any data you are interested in by utilizing techniques we have covered in our lectures including:
  - Visual encoding
  - Interaction

- Transition
- Glyph
- ...

Deadline

The assignment is due at 11:59AM in Nov. 23, 2022, China Standard Time

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Description

- You will develop a visualization for exploring any data you are interested in. However, you must:
  - Prepare your data by yourself
  - Sending me a description of your data before 23:59PM in Nov. 5, describing:
    - What is your data?
    - What is your visual analytics task?
    - What you will implement in your visualization?
  - You may use any programming languages you would like to use, BUT your **visualization** MUST feature visual encoding, interaction, transition, or some other techniques you have learned from this class.
- **Submission**
  - You submission should include 2 parts:
    - Code:
      - Your code should be executable, and you are **required** to include a README file to describe how to run your code
    - Report
      - You should write a short report describing your analysis task, i.e. what do you want to learn and explore from the data; your design philosophy, i.e. why you want to develop your visualization in this specific way; and what you have learned from the data.
  - You should zip your Code and Report in a single file, named as ***A3_yourname.zip, e.g. A3_leliu.zip,*** and send the zip file to lel@nwpu.edu.cn. The subject of your email should be “DV_A3_yourname”, e.g. DV_A3_LeLiu