CSE 5544 Homework 1/4 (15/60 pts):

Visual construction for deconstruction

Assigned 1/17 Due 1/31 9:00 pm

Project Description

In this assignment, you will use publicly available visualization tools to construct some basic visualizations of some data. In the process, you will become more familiar with the range of visualization options available and how to accomplish what you want in your final project.

Part One: Tool Review

Write a two paragraphs review of two different freely available visualization or programming tools from the following list:

- D3 | observable
- Python | MatPlotLib
- Vtk | paraview
- Slicer
- Matlab
- Tableau Public
- Prefuse
- Processing
- OpenGL or WebGL

You may review a tool not on this list, with prior approval from the instructor. Your tool reviews are intended to help you assess whether these tools would be a suitable development platform for your final project. Your reviews should address capabilities, data types supported, visualization types supported, interface or API, and capability for customization. Turn in a written copy of your reviews in class. After you have turned in your reviews, post another copy to the class discussion board (so that your classmates can benefit from your discoveries).

Part Two: Visualizations

Create four visualizations using the data provided below.

- https://osu.instructure.com/courses/138586/pages/resources
- Eye-tracking data we recently collected of pathologists' observing cancer images: https://docs.google.com/spreadsheets/d/1PlUVRGmUwNYKddBzyLGo-IwGlgqb8mWPWwWoWFIcfqk/edit?usp=sharing
    - TrialID: trial

    - Username: there are 11 meaning experts p1-p11.
    - Image_id: there are 60 from c1-c60
    - imgW | imgH: the size of the cancer tissue scan
    - GazeEventDuration: for how long the viewer look at that location of (CFixationPointX, CFixationPointY) at the zoom level of imageZoomR.
    - (ignore all other data columns for simplicity. If you are interested, please let the TAs know. We will explain what other columns represent.)
- Your own dataset (must get the instructor's approval).

Your four visualizations should explore two different sets of design options or parameters using each of two tools. Your two images using the tool should look substantially different and should use interesting techniques (ie. simple line graphs, bar charts, and maps are boring and will not be considered complete for this project. Check the site http:). For this exercise, the goal is to create visualizations that are far apart in design space (). For that reason, they need not satisfy design or task goals. If you choose, one of your visualizations may be the best images while you learn to use these tools. Your visualization report should include an image for each visualization with an explanatory caption. Your caption should explain what the visualization shows, as well as relevant techniques and paramenters used.

You can see the visualization techniques invented in the past: https://visimagenavigator.github.io/.

To submit: use carmen | package your code if any or describe the steps if you use an existing tool without coding.