

CS 360/560: Data Visualization

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Fundamentals of visualization including data sources, representations, and graphical integrity. Visualization of scalars, vectors, and high-dimensional data. Visual perception and color theory. Applications from medical imaging, social media, sports, security and surveillance domains. PREREQ: CS 245.

Assignment 4 - Introduction to D3 - (50 points)

Due date: 2/21/2022 at 11:59pm

For this assignment, choose one of datasets that you have already used in the previous assignments and make the following charts in [D3](#). D3js is a very powerful visualization library that is used for many interactive visualizations online. The [D3 examples gallery](#) is a great starting point to learn.

Create a separate Vizhub for every visualization and post the links on your website. Submit a link to your website. Make sure to **name your Vizhub appropriately** (Bar chart in D3, Heatmap in D3, etc.)

Here are the specifications for this assignment:

To get a C (75):

- Create a **bar chart** with axes and uniformly placed marks on the x- and y-axes, and data labels on each bar for a single variable
- The x- and y-axes must have axis labels
- The chart must have a descriptive title
- The data must be loaded from a CSV file

To get a B (85):

- Complete the requirements for a C and
- Create a **scatter plot** with axes, marks for two variables, and labels for the x- and y-axis
- The chart must have a descriptive title
- Load the data from a CSV file

To get an A(95):

- Complete the requirements for a B and
- Create a **heatmap** or a **boxplot** for a single variable.
- Display at least 5 cities if you choose to implement the heatmap.
- *Hint:* Use built-in d3 functions for aggregation.
- Load the data from a CSV file

To get an A+ (100):

- Complete the requirements for an A and

- Create a histogram for an attribute that displays the distribution of that variable
- Load the data from a CSV file
- Incorporate interaction in the form of tooltips for any *one* of the visualizations

Extra credit:

- Create a bar chart (from a CSV file) that uses the log scale (2 points)
- Incorporate interaction in the form of tooltips for *all* the visualizations (5 points)

Notes:

- There are *many* d3 examples online. If you use parts of an example or refer to one for your assignment, please **make sure to mention that in the code very clearly**. You will get a 0 on the entire assignment, if you do not cite your references.
- Points will be deducted for **bad/wrong** chart design. Refer to Chapter 1 and/or check with us if you have any questions about your design.
- You will lose points if you do not **read data from a CSV file**.

Submitting the assignment

- For every visualization, post a link to your Vizhub sketch (mark it private, invite the TA and me as collaborators) and test it out before posting a link to it on your own website.

- Submit a link to your **website** on Canvas.
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