CS360 Data Visualization Project Proposal

Title: Diabetes in the US
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Repo (temporary): https://github.com/EricLYao/diabetesdata
Website: https://gis.cdc.gov/grasp/diabetes/diabetesatlas-surveillance.html#

Background and Motivation:

Both my parents are pre-diabetic and so I wanted to do some more in depth research on it. I have a couple friends that are also Type 1 Diabetic. I also recently interviewed for a company that does CGM (continuous glucose monitoring) and I really liked their project goals and the people that I talked to who worked there.

Project Objectives:

1. Show the age distribution of the proportion of diabetics
2. Show the development of the proportion of diabetics throughout time
3. Show the proportion of diabetic people in the US (commonly unknown)
4. Display the proportion of diabetics in each state

Data:

All of my data in the form of CSV files can be obtained from here:
https://data.cdc.gov/browse?limitTo=datasets

Data Processing:

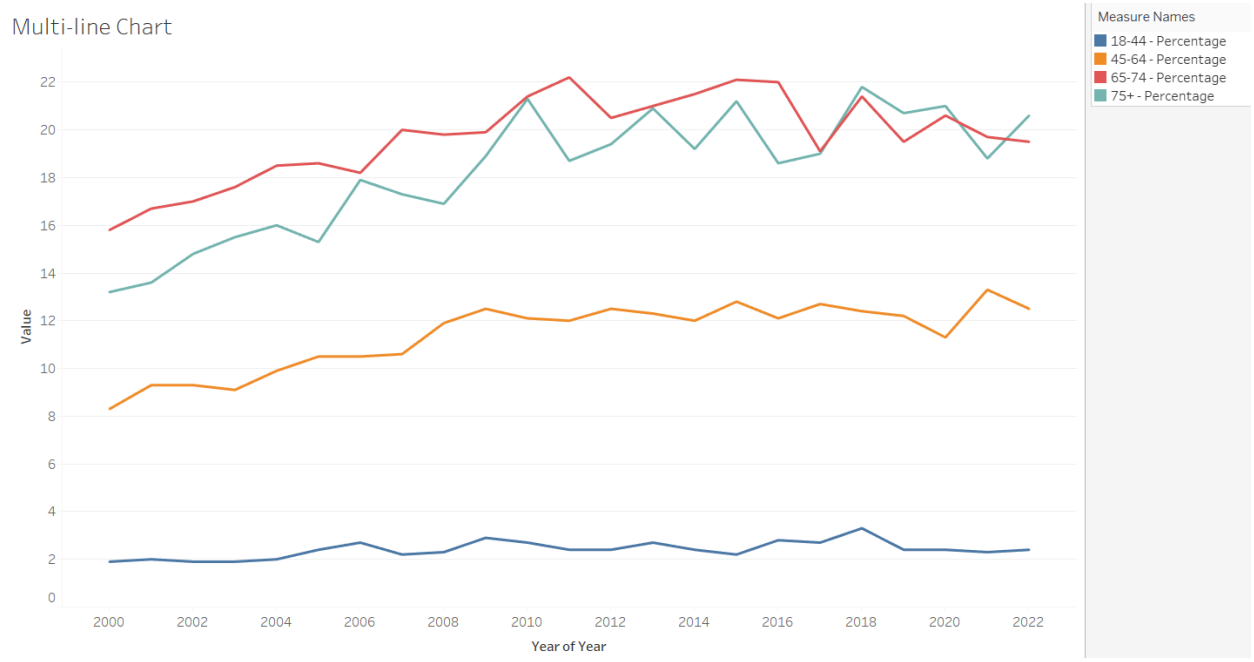
I will process it manually (mainly through google sheets or tableau). I want to get the age ranges, totals, geographical locations, and their corresponding values.

Visualization Design:

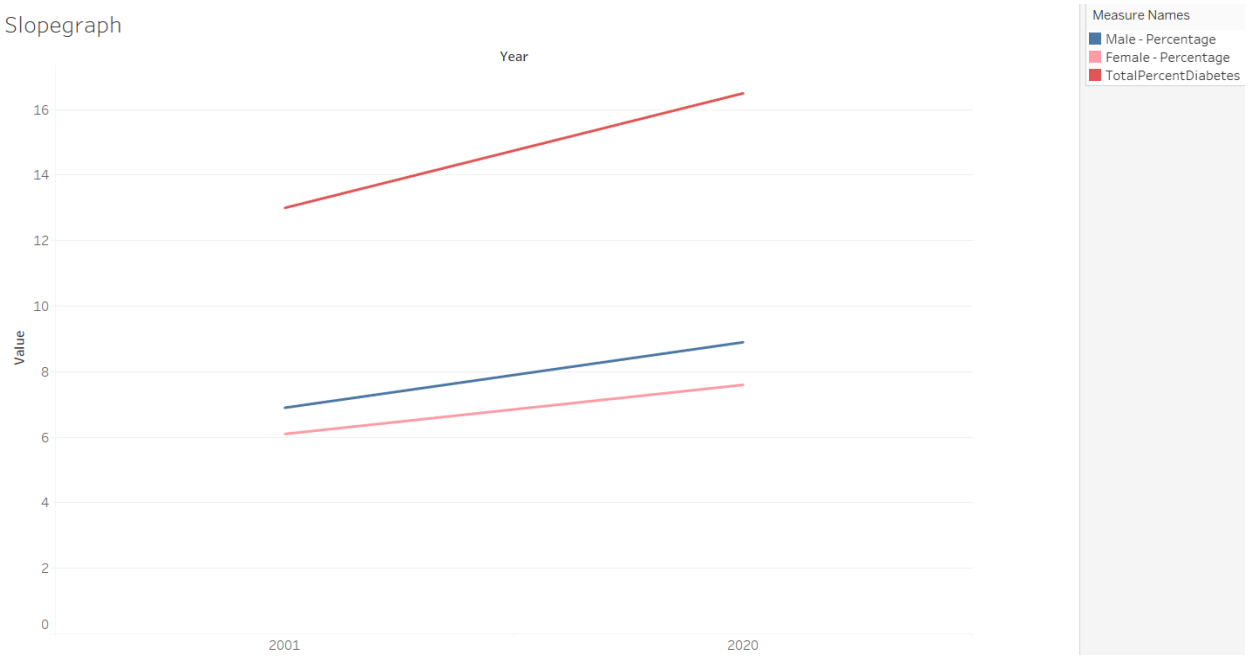
- Objective 1: comprehensive multi-line chart
  - X axis = years, Y axis = percent, each line = different age group
  - Must-Have Features:
    - Hovers to see specific data points
  - Optional Features:
    - Option to display each age group's specific line
- Objective 2: Slopegraph
  - Column = year, lines = total/male/female
  - Must-Have Features:
    - Ability to choose which years to compare
  - Optional Features:
    - Option to select which line to display

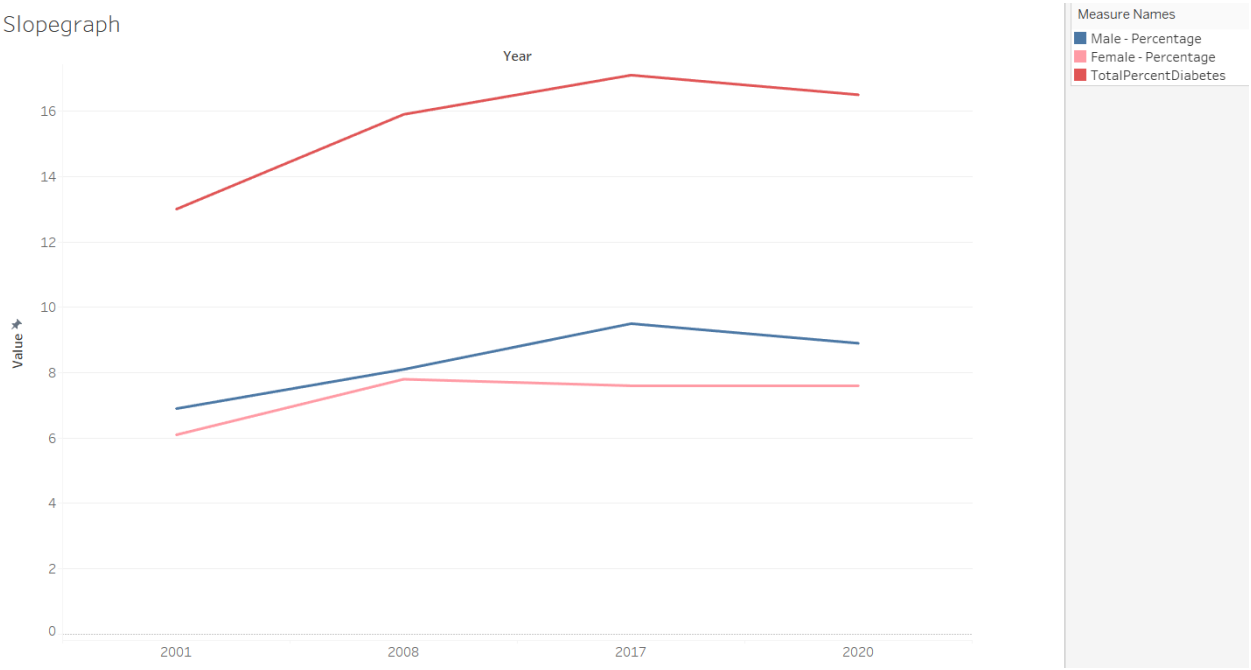
- Objective 3: Geographical Map
    - Display of each state and their proportion of total diabetics
    - Must-Have Features:
        - Hovers to see specific data points
        - Slider to see the map at different points in time
    - Optional Features:
        - Click to display a separate line chart for that specific state
- Objective 4: Line chart
    - X axis = years, Y axis = percent
    - Must-Have Features:
        - Hover to see specific data points
        - Dropdown menu to select state
    - Optional Features:
        - Have the map click automatically choose a state from the dropdown menu

Multi-Line Chart:

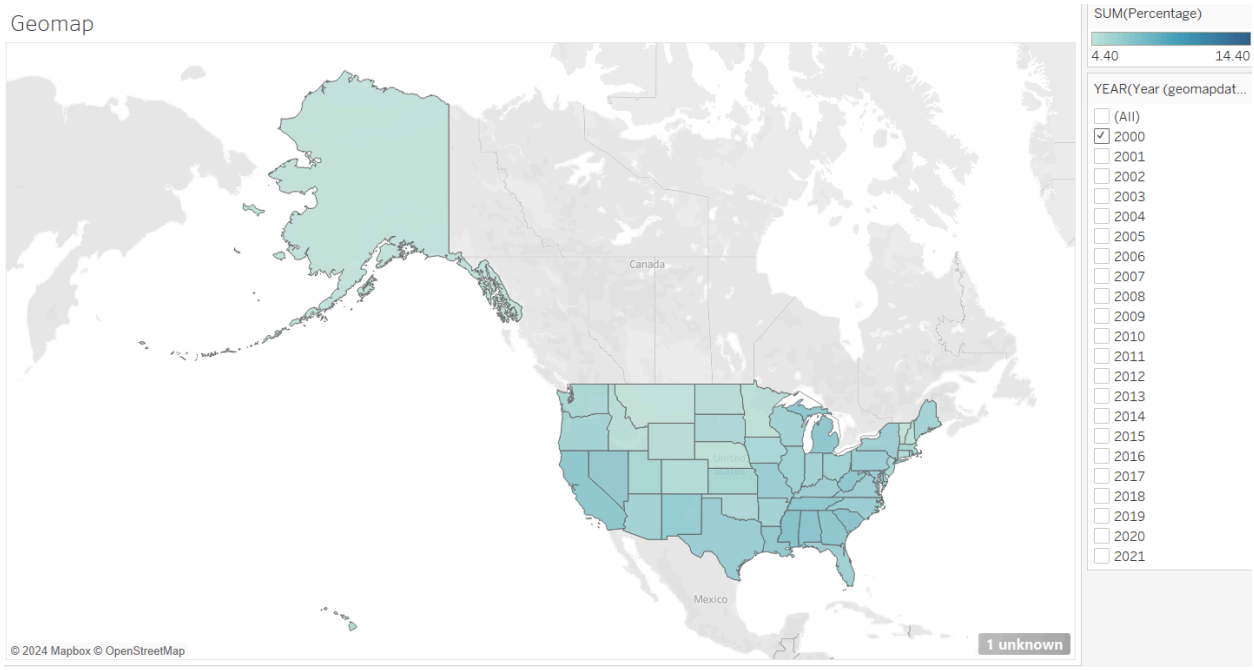


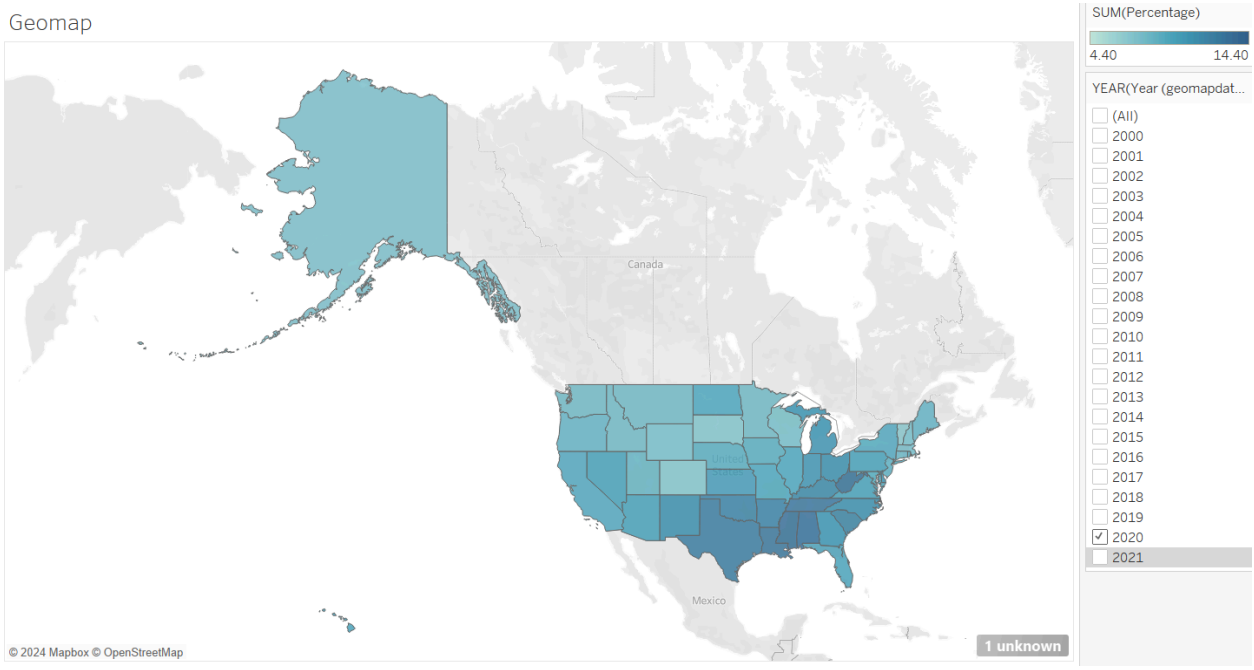
Slopegraph:


Slopegraph
Year
Value
16
14
12
10
8
6
4
2
0
2001
2020
Measure Names
Male - Percentage
Female - Percentage
TotalPercentDiabetes


Slopegraph
Year
Value
16
14
12
10
8
6
4
2
0
2001
2008
2017
2020
Measure Names
Male - Percentage
Female - Percentage
TotalPercentDiabetes

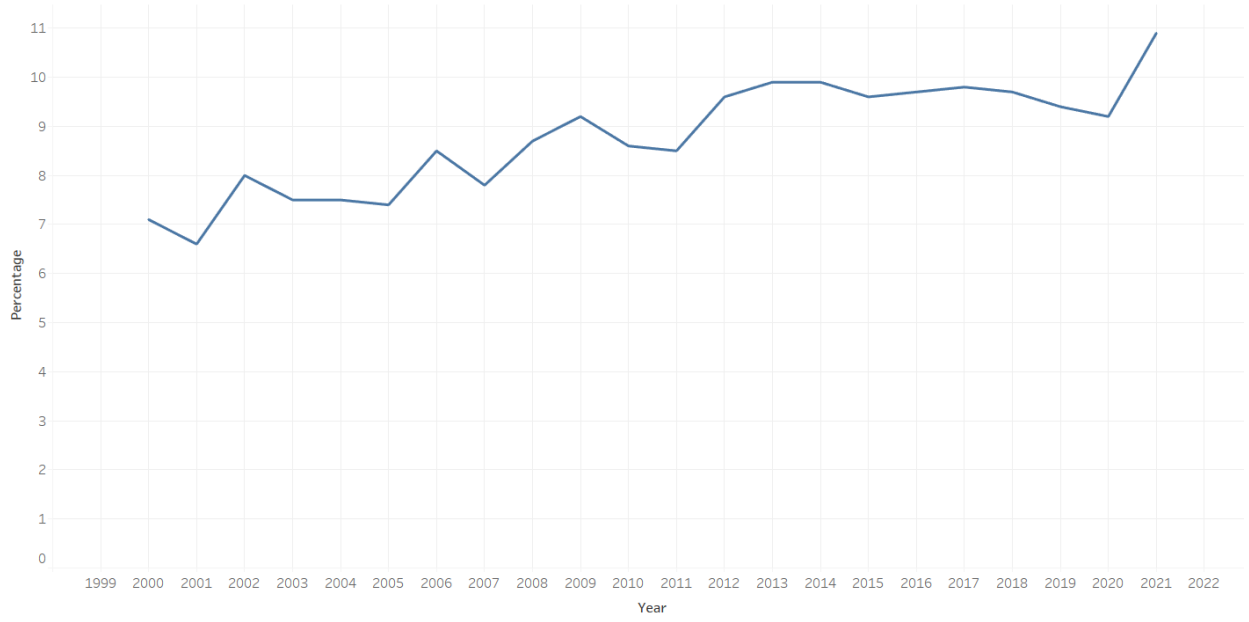
Geographical map:



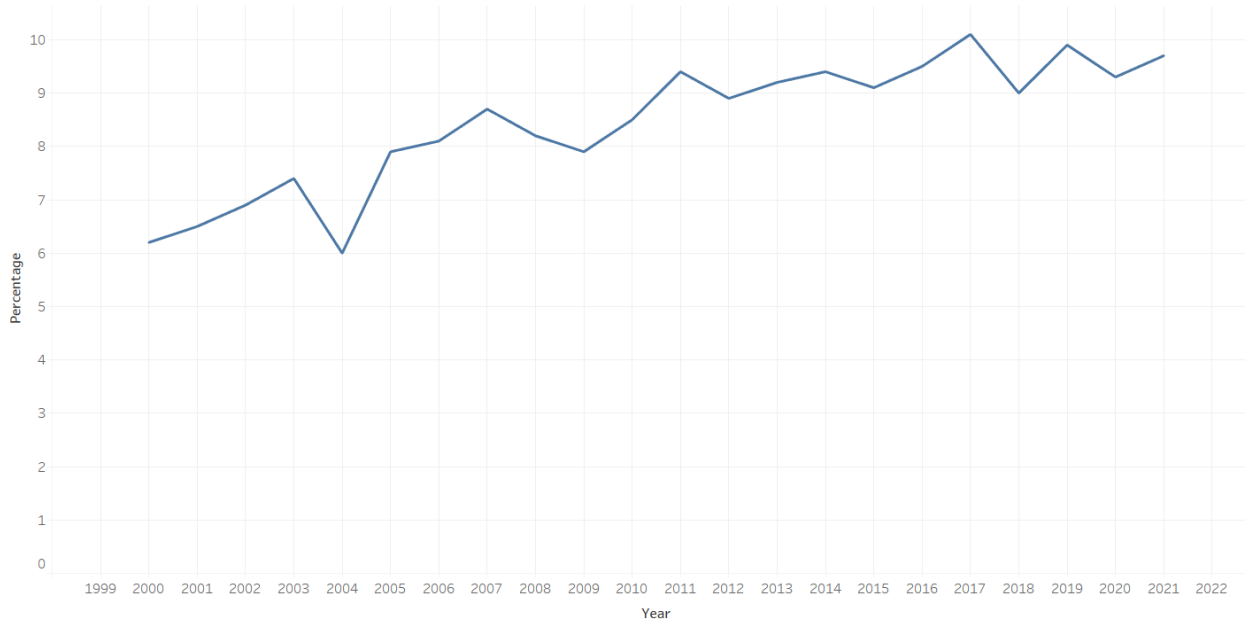


Line Charts:

California Line Chart



Illinois Line Chart



Project Schedule:

Date	Task
3/29/2024	Project Proposal Submission
4/1/2024	Finish data processing and get draft of website layout/look
4/5/2024	Revised proposal, Related work, and Website Finish choosing website and requirements for assignment Figure out how to use html and css to do what I want it to
4/11/2024	Must have basic graphs done No features is ok General layout ready to work on for each visualization
4/12/2024	Alpha Release
4/15/2024	Continue adding “must have” features Preferably before feedback from Alpha Release
4/24/2024	Beta Release
	Finish any “must have” features, add optionals
5/6/2024	Project Presentation
5/12/2024	Project Report Draft
5/15/2024	Final Submission