

Final Project Proposal

(due March 10th 7:00p.m)

This document outlines the guidelines for the project proposal. You can start working on the project once your proposal is accepted and graded by your TA on gradescope. The entire final project is worth 25% of your final grade and the proposal takes account for **5%**. There is no late-submission on the proposal.

Submission Guideline

Download this google doc, fill the table and submit it in **PDF** format on Gradescope.

If you need some inspirations please feel free to take a look at:

[Showcase of Information is Beautiful Awards](#)

Project Proposal

	Description
Project Topic	S&P 500 Stock Prices
Dataset Description	<p>Provide 1) the list of attributes and 2) a single item in the dataset as an example.</p> <p>Source: yahoo finance</p> <p><u>Prices Table:</u></p> <p>Symbol DateTime (intervals of 5 mins) (EST) Open - opening price of interval High - high price in interval Low - low price in interval Close - closing price of interval Volume - total volume in interval</p> <p>Ex: (APPL, 03/10/23 - 14:20:00, 105.27 106.3, 104.50, 105.33, 33,250)</p> <p><u>Company Info Table:</u></p>

	Symbol Company Name Headquarters-State Market Cap Industry Ex: (APPL, Apple Inc, CA, 2.5T, Technology)
Dataset Link	https://pypi.org/project/yfinance/
Why you chose this particular dataset. What kind of story you aim to deliver (e.g "Sales analysis of company xyz")	I want to tell the story of the stock market's price action from multiple angles.
1 plot with 0 Key and 2 values	i) Question you are asking from this graph. Does market cap affect annual growth (%) for this past year? ii) Columns you are going to use Market CAP, Close iii) Type of graph Scatterplot
1 plot with 1 key and 1 value	i) Question you are asking from this graph. What do the total market caps for different industries look like? ii) Columns you are going to use Industry, Market Cap iii) Type of graph

	Bar chart
1 plot with 2 keys and 1 value	<p>i) Question you are asking from this graph.</p> <p>What does the volume look like for different industries over time?</p> <p>ii) Columns you are going to use</p> <p>DateTime, Industry, Volume</p> <p>iii) Type of graph</p> <p>Streamgraph</p>
1 geometric visualization	<p>i) Question you are asking from this graph.</p> <p>What does the growth of different stocks look like over a select time period weighted by their market cap.</p> <p>ii) Columns you are going to use</p> <p>Symbol, Industry, Close, Market Cap</p> <p>iii) Type of graph</p> <p>Box Chart</p>
1 visualization from - box plot, node-link diagram, adjacency matrix	<p>i) Question you are asking from this graph.</p> <p>How are Different stock's price actions correlated with each other?</p> <p>ii) Columns you are going to use</p> <p>Industry, Market Cap, Symbol, close</p> <p>iii) Type of graph</p> <p>Node-link diagram</p>
1 interactivity using Buttons	<p>Describe in which visualization you plan to add the button-related interactivity</p> <p>For the box chart i will add a button to change the time</p>

	period of the change in price: 1d, 1wk, 1mo, 3m, 6m, 1y, 5y.
1 interactivity using Tooltips (Display data on hover).	Describe in which visualization you plan to add a tooltip. For the Scatterplot I will have a hover tooltip show up on individual points showing their company name, market cap, and price difference.
1 interactivity using Animation.	Describe 1) what type of animation you plan to add and 2) in which visualization you plan to add. I plan to add an animation to the bar chart to show the change in market cap of industries over time.
1 interactivity not learned in class	Describe 1) what type of animation you plan to add and 2) in which visualization you plan to add. I will add a slider to the box chart to change the day that the data is showing.
Any creative form of plot you want to try for the five you selected above? (e.g. pictogram)	Hint) You can refer to the storytelling lecture slides. Note) This is going to be for extra credit. For the network graph I will show the company logo as a picture of the node.

NOTE: The latest approval had the geometric viz as a map of market cap by state. I decided to use my original idea for thes geometric viz as it fits better with the theme of my project, where a state map does not. Although not technically a “geometric” graph, it encodes attributes through its position (sector), area (market cap), and hue (% change).