

# 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	Analysis on how stock trading has changed over the decades
Dataset Description	<p>Provide 1) the list of attributes and 2) a single item in the dataset as an example.</p> <ol style="list-style-type: none"><li>1. Date, Open, High, Low, Close, Volume, day, weekday, week, year</li><li>2. 1993-01-29  05:00:00+00:00, 25.236144449768503, 25.236144449768503, 25.11059149230697, 25.21820831298828, 1003200, 29, 4, 4, 1993</li></ol>
Dataset Link	<a href="https://www.kaggle.com/datasets/gkitchen/s-and-p-500-spy">https://www.kaggle.com/datasets/gkitchen/s-and-p-500-spy</a>

Why you chose this particular dataset. What kind of story you aim to deliver (e.g “Sales analysis of company xyz”)	Hint) You can refer to the storytelling lecture slides. I want to show how stock trading has changed since the early 90's highlighting how the stock has changed as a whole, who participates, and letting users try a basic trading strategy.
1 plot with 0 Key and 2 values	<p>i) Question you are asking from this graph. How has the price of the S&amp;P 500 grown since the 90's</p> <p>ii) Columns you are going to use Open, Close</p> <p>iii) Type of graph Scatter plot / Line Chart</p>
1 plot with 1 key and 1 value	<p>i) Question you are asking from this graph. Do traders overall trade on certain days over others?</p> <p>ii) Columns you are going to use Weekday, sum of volume (grouped by weekday)</p> <p>iii) Type of graph Bar chart</p>
1 plot with 2 keys and 1 value	<p>i) Question you are asking from this graph. Has there been unusual trading volume during certain weeks of the year</p> <p>ii) Columns you are going to use X-axis: year, y-axis: week, value: volume(grouped by week/year)</p> <p>iii) Type of graph heatmap/matrix</p>
1 geometric visualization	<p>i) Question you are asking from this graph. How often do representatives make trades per state?</p>

	<p>ii) Columns you are going to use Adding new dataset w/ cols Senator, state, values in choropleth will be sum of trade_amount_max</p> <p>iii) Type of graph choropleth</p>
1 visualization from - box plot, node-link diagram, adjacency matrix	<p>i) Question you are asking from this graph. Does the average daily range for SPY change over time</p> <p>ii) Columns you are going to use Open, High, Low, Close, Date</p> <p>iii) Type of graph Boxplot</p>
1 interactivity using Buttons	<p>Describe in which visualization you plan to add the button-related interactivity I would add it to the scatter plot. The idea is that there are 2 = basic trading strategies (buy at open, sell at close &amp; buy at close, sell at open) So there will be 2 buttons. There will be an option for the user to choose a date in order to look at the previous data, and then choose a trading strategy in order to see if it was profitable for that date.</p>
1 interactivity using Tooltips (Display data on hover).	<p>Describe in which visualization you plan to add a tooltip. I want to add a tooltip in the matrix in order to more easily show the volume data presented</p>
1 interactivity using Animation.	<p>Describe 1) what type of animation you plan to add and 2) in which visualization you plan to add. I would like to zoom/pan between two dates (e.g 2/1/2001 - 2/28/2001) in order to more clearly show the data. I would add this to the scatter plot.</p>

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 would like to add brushing to my boxplot in order to highlight certain points from the selected plots.
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. I will attempt a pictogram, unsure of which viz to apply it to for now

These are the changes I've made since my Project Proposal:

Buttons: The purpose of my buttons now is to change between visualizations.

Box Plot Viz: I had proposed to create boxplots of daily ranges, but given the data size and how the stock price varies, it made more sense to plot yearly ranges.

Tooltips: I created tooltips for both the Heatmap and Scatter plot.