

Project Proposal Part 1

Working Title:

InvestEd: Investment Education

Dataset:

Summary:

We are using the NASDAQ and S&P 500 stock data that are publicly available through Yahoo Finance. This data set is available on Kaggle through an user who used the Yahoo Finance API to put together this data.

Metadata:

1. Brief Description: General US stock market data
2. URL: <https://www.kaggle.com/datasets/paultimothymooney/stock-market-data>
 - nasdaq folder
 - sp500 folder
3. Date Downloaded: April 11, 2022
4. Authorship: Paul Mooney
5. Exact name and version: Stock Market Data (NASDAQ, NYSE, S&P500). Version 57.
6. Terms of Use: "All the data provided by Yahoo Finance is free. Yahoo Finance API is the API that Yahoo provides to fetch financial information."
7. Citation: Mooney, Paul. 2022, April, 11th. *Stock Market Data (NASDAQ, NYSE, S&P500)*. Ver 57. Accessed April 11th, 2022.
<https://www.kaggle.com/competitions/jpx-tokyo-stock-exchange-prediction/data>.
8. Usability: To make this data usable and under the size limit, we are subsetting only into the prices of stock since the last 1-2 years back. We are also subsetting into a number of the companies instead of all of them.

Potential User Interactions with Data (Features):

1. Inspect pricing metrics (Low, High, Open, Close, and Volume) of individual stocks in the data
2. Inspect a market sector and view the return on investment (ROI) of the sector as a whole in a particular time period
3. Pick individual stocks for a virtual portfolio and view their ROI in a particular time period
4. Choose one from the pre-coded investment strategies and compare ROI across strategies
5. Customize an investment strategy and compare ROI with pre-coded strategies

TEAM CONTRACT

Team Goals:

- Practice working as a team using the Agile framework
- Write modular software that matches together into a bigger framework
- Develop a software which all members of the team care about, some sort of practical usefulness
- Develop experience seeing a large-scale project from start to finish

Goals Statement: Together, we employ Agile and professional frameworks to develop software that our members are passionate about through modular software development.

Team Strengths:

Jack:

- Building a overarching plan for development
- Error checking code
- Collaborating with team members

Miles:

- Code organization
- Debugging
- Reevaluating code to increase efficiency

Geoffrey:

- Writing organized code
- Debugging code
- Quick learner of new technologies

Nguyen:

- Passionate about pseudo-code. I believe in thorough planning before coding.
- Experienced with Pandas and data cleaning.
- Efficient in long-coding sessions.
- Thorough communication. Every voice should be heard.

Team Roles:

1. Nguyen: In charge of theories about the stock market, data wrangling, and the overall development process

2. Jack: In charge of writing code and looking for data
3. Geoffrey: In charge of website structure, design-related assignments, and also debugging and code-writing
4. Miles: In charge of writing code, evaluating and improving efficiencies, and writing tests

How We Plan to Capitalize on Our Strengths:

Our team members share significant resemblances of each other. This gives us a rotational advantage, meaning any member can cover for another in times of conflict. Though not set in stone, we agreed on a modular work environment to keep our team pushing forward on all fronts simultaneously. We will have weekly meeting(s) to plan our development process, when we agree on the general structure of the software in production, then divide the work into modules that each team member will work on separately.

CONTRACT AGREEMENT (Rules-ish)

1. We recognize the importance of outlining the development process together as a team before working on individual functions separately. Out of the 9 hours expected of students on group work per week, we commit to 2-3 hours of planning together. However, we will be flexible as our responsibilities change throughout the term.
2. Since we are still at the initial stages of our project process, our roles are subject to change if we can find more efficient role assignments, and we also like the idea of having more flexible roles so that our team is more coherent.
3. We utilize 2 chat platforms, Slack and iMess for uninterrupted communication.
4. We will ensure communication stays respectful by involving every member consistently during group meetings. We also will aim for compromises when disagreements arise and value each group member's opinions equally.
5. For non-communicative members, we will reach out during class time during the week. If things go south, we will communicate with Anya.
6. We have a designated slack channel and text group chat for communication and google drive folder for sharing files.
7. We plan on using majority rules as a last resort if we still can't reach a consensus. We will also keep an open-mind when making decisions and consider each idea instead of shooting down certain ideas right away.
8. We will divide up work evenly based on individual strengths. If one of us is struggling, then we will be sure to reach out to accept and provide assistance when needed.
9. Everyone should be able to pick an area of their interests when we divide the work. This does not necessarily require the member to be the best person in said area. We acknowledge and appreciate that sometimes, people want to step out of their comfort zone to learn.

10. Since it could be difficult to accurately distribute the amount of work for each group member, satisfactory participation would be doing your own share of the work, but also helping out other group members who are struggling with their work if you finish your own assignment early.
11. The first step our team will take when a member isn't living up to expectations is reaching out and offering help. We are all motivated members, and we recognize that problems like this are bound to happen in every team.
12. For technical conflicts, if it is impossible or unlikely for us to reach an agreement, we will reach out to Anya to be our mediator. For more "petty" conflicts, the majority rules or even rock, paper, and scissors can work :)