Project Proposal Part 1

Working Title:
InvestEd: Investment Education

Dataset:

Summary:
This dataset contains the historic data of a variety of Japanese stocks and options. We want to use this data to teach how different investment strategies differ on return and provide users a website that can analyze which investment strategies are the best.

Metadata:

1. Brief Description: Tokyo Stock Exchange (Proprietary Market Data)
2. URL: https://www.kaggle.com/competitions/jpx-tokyo-stock-exchange-prediction/data
   - stock_list.csv
   - stock_prices.csv (from supplemental_files folder)
3. Date Downloaded: April 4, 2022
4. Authorship: Japan Exchange Group
5. Exact name and version: Data for JPX Tokyo Stock Exchange Prediction Competition. This is the one and only version. If future versions were to be added, this would be version #1.
6. Terms of Use: "Competition use only."
7. How does this project justify the term of use?
   - Our team will enroll as a competing team for the competition that ends in October 2022.
   - This school project serves as our Exploratory Data Analysis process.
8. Citation: Japan Exchange Group. 2022, April, 4th. *Tokyo Stock Exchange*. Ver 1. *Accessed* April 4th, 2022. https://www.kaggle.com/competitions/jpx-tokyo-stock-exchange-prediction/data

Potential User Interactions with Data (Features):

1. Inspect pricing metrics (Low, High, Open, Close, and Volume) of individual stocks in the Tokyo Stock Exchange data for any given day and company (given the securities codes)
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.

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. These are our current tentative roles: Jack will be responsible for planning out the overall structure of the project and keeping us on track and on-time to submit assignments as well as participating in code-writing and review, Nguyen will be responsible for dealing with more dataset-related assignments, such as cleaning and shaping datasets, and team meeting scheduling. Miles will be responsible for writing and debugging code and dealing with efficiency of the code. Geoffrey will be responsible for website structure and design-related assignments and also debugging and code–writing.
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 :)