

Graphing Real-Time Stock Prices

Objective

Shaishav, Palaash:

The goal of this project is to get real-time stock price info from the web and graph it out using python. It will do this for several technology sector stocks. The reason behind this project is to do something unique. Games are interesting to program, however, they sometimes lack personal relevance/interest for us. Stocks are something of interest to both of us, and therefore, this holds value for us.

Furthermore, this would also allow us to experiment with newer libraries and go beyond what was taught in class. We will be working with the following libraries: Matplotlib (Charting), BeautifulSoup (Web scraping), and Pygame, Tkinter, or something similar for a graphical interface depending on how much time we have remaining.

We envision this project to give the user the ability to pick which stock they want to view, with certain suggestions presented to them when the program runs. When they choose a stock, an object would be created containing information about that specific stock. This object will be placed into an array with other objects (Stocks) which the user has previously searched. (Financials, price, chart, company worth, etc). We will try to stick close to this blueprint, however, it may change a bit depending on my time and how much we can learn from the program. This project will require us to do lots of self-learning, but I think that's what makes it more interesting.

The full proposal, UML, & Flowchart shared with you on Google Drive.

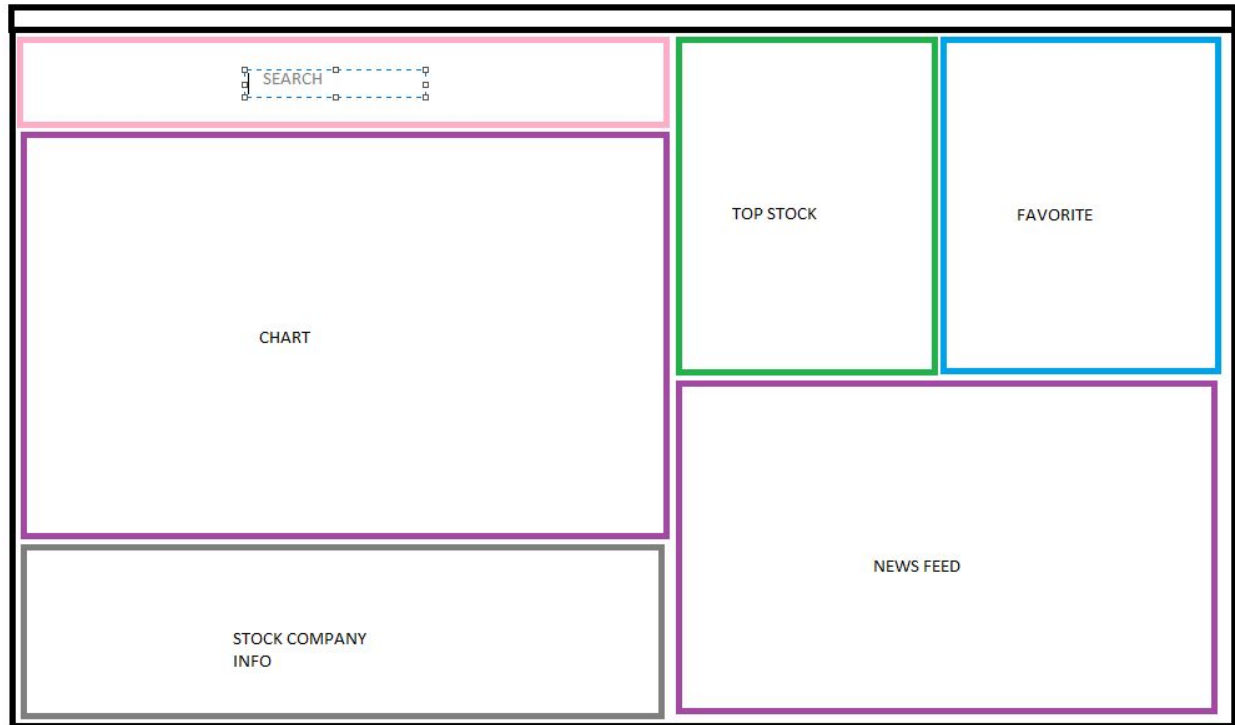
Flowchart & UML

Submitted on Google Classroom

- Note: The Flowchart and UML table are only outlining the major components of the program. They program might vary slightly in regards to the methods and attributes of an object.

Work Splitting

Concept:



Potential Classes -

- ❑ Frame class (Giant class that aggregates all other classes)
 - ❑ Engine class
 - ❑ Stock class
 - ❑ Graph class (includes live time graph)
 - ❑ Top Stocks class (child class of stock class; creates all the important stocks)
 - ❑ News feed class
 - ❑ Search bar class
 - ❑ Favourite stocks class

Background tasks:

- Using BeautifulSoup to extract data from sites YahooFinance for LiveData
 - Constantly extract to csv file or take data directly to python
- (Stock Price & Financials) & Finviz (Financials and News of companies) into a CSV file and/or Pandas dataframe
- Using data from CSV files to make graph
 - Making it live graph, so constantly reading .csv file
- Manage user favourites....

Files:

- **Main.py** : Run Engine
- **Engine.py** : Glue everything together
- **stock class.py** : Hold information about stock.... Will fetch information about that specific stock and write to csv file
- **Chart.py** : read csv file and make a graph
- **stockInfo.csv** :
- **newsInfo.csv**
- **Window.py**: Will have all the classes placed on it.... Will take an input of stock search
- **News.py**: Falls under stock class as this news is related to the stock selected by the user
- **Search.py**: Take input and create a stock class for that search...
- **Top Stocks**: Fetch the top stocks for that day and write to csv file... will be a section on the window

Palaash

Shaishav

Task Division -

Web scraping & writing to csv-

- **Stock info** (name, market cap, all the technical stuff to easily display) (**Doesn't need to be constantly refreshed**)
 - [https://finviz.com/quote.ashx?t={0}".format\(ticker\)](https://finviz.com/quote.ashx?t={0})
- **Stock news**
 - <https://finviz.com/quote.ashx?t=AAPL>
 - [https://finviz.com/quote.ashx?t={0}".format\(ticker\)](https://finviz.com/quote.ashx?t={0})
- **Stock Price**
 - [https://ca.finance.yahoo.com/quote/{0}".format\(ticker\)](https://ca.finance.yahoo.com/quote/{0})
- **Top Stocks**
 - <https://finviz.com/>

GUI -

- **Newsfeed**
- **Search bar**
- **Chart**
- **Company Info**
- **Top Stocks GUI**
- **Favourites**

Extra features if we have time:

- Click stock in top stocks / Favourite to get a chart.
- Display news for a specific stock
- Chart settings (daily, monthly, yearly charts)

- Scraped from finviz
- Scrollbar

Github

- Master branch
 - Clean code
 - Bug-free
 - Production-ready
- Development branch
 - Where we develop
 - Both of us work inside this branch to create

<https://www.quora.com/How-does-a-group-of-people-work-on-single-project-using-git-and-github>