Working Title: Website of Simple Economic Trends

Site Summary
This site enables those interested in economic data like investors, and students to perform economic analysis and see economic trends using interactive graphics.

Summary of Datasets:
URL: https://finance.yahoo.com/quote/SPY?p=SPY&.tsrc=fin-srch
Date Downloaded: October 9th 2019
Authorship: Yahoo Finance
Dataset Name: SPDR S&P 500 ETF (SPY)
Time Period: Jan 29th, 1993 - Oct 9th, 2019
Terms and Usage: “You must not redistribute information displayed on or provided by Yahoo Finance.”*

URL: https://finance.yahoo.com/quote/GLD?p=GLD&.tsrc=fin-srch
Date Downloaded: October 9th 2019
Authorship: Yahoo Finance
Dataset Name: SPDR Gold Shares (GLD)
Time Period: Nov 18th, 2004 - Oct 9th, 2019
Terms and Usage: “You must not redistribute information displayed on or provided by Yahoo Finance.”*

URL: https://finance.yahoo.com/quote/BTC-USD/history?p=BTC-USD&.tsrc=fin-srch
Date Downloaded: October 9th 2019
Authorship: Yahoo Finance
Dataset Name: Bitcoin USD (BTC-USD)
Time Period: Jul 16th, 2010 - Oct 9th, 2019
Terms and Usage: “You must not redistribute information displayed on or provided by Yahoo Finance.”*

URL: https://finance.yahoo.com/quote/%5EIRX/history?p=^IRX&.tsrc=fin-srch
Date Downloaded: October 9th 2019
Authorship: Yahoo Finance
Dataset Name: 13 Week Treasury Bill (^IRX)
Time Period: Jan 3rd, 1960 - Oct 9th, 2019
Terms and Usage: “You must not redistribute information displayed on or provided by Yahoo Finance.”*

Summary of all Datasets:
All datasets come from Yahoo finance and are formatted in the same way. Each dataset contains the Date, Open Price, High Price, Low Price, Closing Price, Adjusted Closing Price, and Volume of their security. No technical documentation was provided by Yahoo Finance.

*However, because finance data is extremely difficult to find outside of Yahoo Finance, Iris permitted us to data from Yahoo Finance.

Audience and Goals:
Audience: Students, macroeconomists, and investors.

Student Goals: Observe and interact with the figures and visuals such that they can find evidence for theories presented within economics classes.

Macroeconomists Goals: Use statistical regressions available on the website graphs and figures to discover new trends in the market.

Investors: Streamline decision making to find currencies to invest in long term.

Requirements:

1. All data available on the site should be comparable to all other data, if applicable.
    a. There is a dropdown menu to select datasets.
    b. Can load multiple datasets.
    c. All figures update when dataset is chosen
2. Data should be graphed in interesting and appealing ways, with multiple options for graph types.
    a. First and foremost, data is displayable in simple graphs.
    b. Graphs and figures can be enlarged within the browser.
    c. Graphs have color options for the vision impaired, including colorblind and high-contrast options.
    d. Graphs should change between bar, line, and scatter.
3. Graphs should be accessible outside of the site (either through printing, downloading, or saving).
    a. All graphs are downloadable, with multiple file formats.
    b. When the user queries to print the page, it returns a print-friendly layout.
    c. When reopening a previously opened page, graphs should return to their formatted state when the user last used the page.
4. Data should be manipulatable in the browser.
    a. Graphs and figures should be either clickable or draggable.
    b. Users can add their own datasets to compare, as long as they follow a standard format.
5. User should be able to view simple trends in market data.
    a. Users can add simple linear, quadratic or cubic trendlines.
    b. Users can use regression models to predict future data.
6. Market data should be graphable against common economic assumptions and curves.
    a. Users can compare graphs with Solow's growth model, the classical model, and Keynesian model.
    b. Users can add custom functions within graphs.
7. Data should editable to include custom labels in figures.
    a. User can click on and edit the names of data in the graph, data in the legend,

axis titles, and graph titles.

8. Our assumptions and strategy for analysis of the data should be accessible to users.
    a. Technical documentation for the project is provided somewhere on each page.

Collaboration Plan:

1. User interface development
    a. All three of us will develop wireframes for the website and integrate the best aspects of each.
    b. John will do the brunt of the work in creating the HTML and CSS for the website, as Nathan and Louis already have experience in this area.
    c. Nathan and Louis will supervise John, while attempting to introduce simple JS applications for graphs and figures.
2. Database schema and data API
    a. Louis will input data into SQL until further instructions on how to extract data using function calls.
    b. Nathan and John will begin outlining the data calls necessary for the project.
    c. Once both are complete, all three of us will begin writing the functions to perform these calls.
3. Integration code
    a. Nathan figures out how to use Flask and explains to Louis and John.