tP04: Stonks

by **redesigned-telegram** - Pd 1
Roster: Henry Liu(PM), Clement Chan, Yevgeniy Gorbachev, David Xiedeng

Work Division

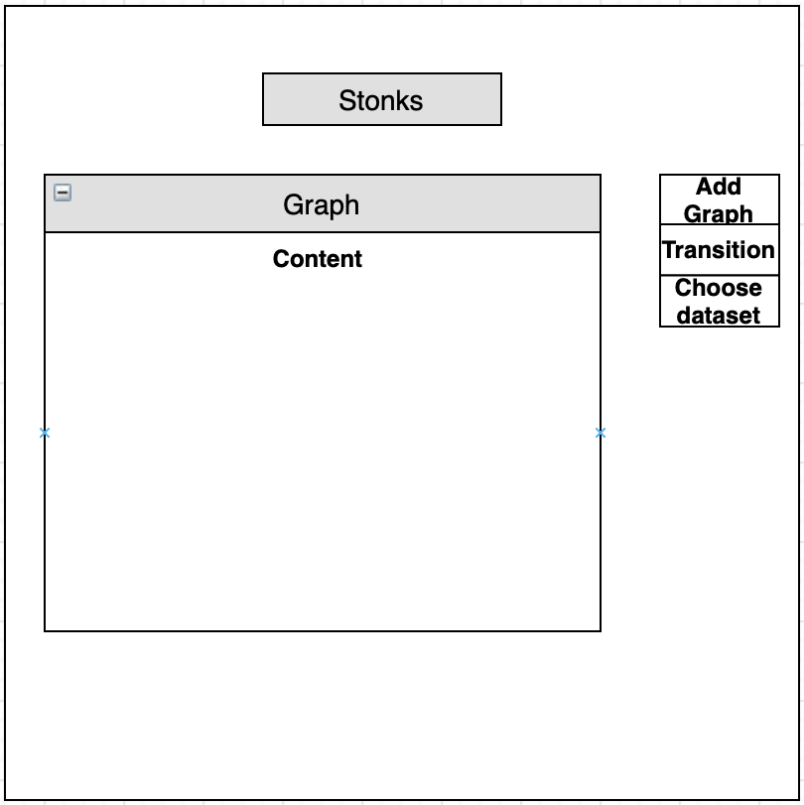
- Henry Liu (PM):
    - Host project and maintain devlog
    - Plan deadlines
    - Delegate tasks
- Clement Chan
    - Handle requests for data
    - Sanitize and format data
    - Set up flask routes
- Yevgeniy Gorbachev
    - Frontend
        - Graphing animation
- David Xiedeng
    - Create Buttons
    - Bootstrap to beautify app

Website Purpose:

The purpose of this site is to understand the effect of COVID-19 on other aspects, namely the economic aspects. We'll chart the change in exchange rates of various affected nations, with regards to the change in corona virus infection rates over time. We'll start with the USD as the baseline for comparison, and allow the user to add to the graph more data over time.

Exchange rates. Use relative USD, make it selectable.
Document the effect of corona (ie: cases, deaths, major outbreaks, etc.)
Display in graph:
https://commons.wikimedia.org/wiki/File:BlankMap-World.svg
Auto create legend
*

#1: Site Map
https://drive.google.com/file/d/1eT8R_US8YZOrqG_8xTka7xL8M4LSWkJF/view?usp=sharing



Features:

- User can add/remove cells containing graphs and maximize an individual cell
    - (EXTRA): On hovering over removal button, cell transitions to a red color
- Each graph cell will have options for data content and time interval
    - Graph currency Yuan/Euro/USD conversion and COVID cases/deaths
    - Extra button for period of time near corona
- A cell is a box containing the graphs and relevant parameters

Requirements:

- Backend serves frontend data from specific datasets over a time interval
    - Currency exchange rates -
    - Euro USD
        - https://www.macrotrends.net/2548/euro-dollar-exchange-rate-historical-chart
    - Covid-19 stats

Site Pages:

Home page:

- Buttons:
    - Add graph (cell)
    - Smooth transition
    - Select datasets
    - Optionally animate leading edge as a separate bar graph

Frontend framework:

We plan on using Bootstrap since that is what most people in our group have experience with.

#2: Component Map

Frontend	Relationship	Backend
Add Graph	**Fetches data**	**CSV file, D3**
Transition	**Fetches data**	**CSV file, D3**
Choose Dataset	**Fetches data**	**CSV file**
Animate leading edge	**Fetches data**	**CSV file, D3**

Functions:

1. **addCountryName(name)**
    a. **Will be used for processing data**
2. **addDate(date):**
    a. **Will be used for processing data**
3. **printGraph**
    a. **Will print the graph**

#3: Database Layout Diagram

Data stored:

- Exchange rates
- Corona cases, deaths,

currency

base(string)	date(int)	USD(int)	EUR(int)	GBP(int)	JPY(int)	CNY(int)
USD	08-09-2019	1	0.9	0.7	107	6.5
JPY	09-09-2019	0.00918	0.0084	0.007	1	0.06

data

Country ID(int)	date(string)	confirmed(int)	deaths(int)	recovered(int)
2	08-09-2019	1000	0	400
45	09-09-2019	2000	100	600

countries

name(string)	id(int)
Turkey	174
Uganda	176

Data Used:
API for Exchange Rates of global currencies, allows search rates of past dates
https://docs.google.com/document/d/1BDjby5I0kwVJHwZqG5sdHL-vToQsQI_oxhmlBbA87bM/edit

(https://exchangeratesapi.io/)

Data for confirmed, recovered and deaths up to date
https://github.com/datasets/covid-19/blob/master/data/countries-aggregated.csv

Worldwide data:
https://github.com/datasets/covid-19/blob/master/data/worldwide-aggregated.csv

Minimum Viable Product

- Display animated line graph showing exchange rates and deaths,