Assignment 3 Writeup

When we made our Streamlit application, we set out with the goal of creating an interactive tool for the user to explore trends within the stock market. To be compelling, the tool had to answer the question “what are some basic, consistent measures of a stock’s performance, and possible indications of its future value?” In order to achieve this, we curated our application with default data from popular tech companies, but also enabled the user to select their own stocks once they are familiar with the program. The interactive tutorial guides the user through a first example, identifying basic trends in the data, and pointing them towards resources where they can learn more. After completing this tutorial, the user can start to use the web application as a practical tool to make decisions about investment.

For our first figure, we wanted to present a novel and interesting encoding of information about a stock. This graphic encodes volume as the color of each data point, percent change (day to day) as the size of the marker, and has tooltips so that you can hover over a data point to display more information. This graphic drives user engagement, and enables curiosity by making the user think about things like outliers in the data over multiple dimensions. For the remainder of our graphics, we chose to have users interact by selecting checkboxes to add and subtract from the plots. These overlays increase the information density of our program and let the users customize their view of the data. We also had to make a few decisions based upon limitations of Streamlit. For example, we initially wanted to have a “Next” button that would generate the plots. However, we found out that there’s a bug (or feature?) in Streamlit where if you nest one button inside another, the site will reset when you press subsequent buttons. As a result, we had to make sure that there was always default data loaded prior to user interaction so the plots would render correctly.

As far as development was concerned, labor was split 50/50. We were lucky enough to be able to work together in the same room, so we had a perfect scenario with the ability to bounce ideas off of one another and share our progress. Initially, Bryce focused on working with the data and generating initial plots, while Adam focused on the development of the user facing aspects of the program in Streamlit. As time went on, our efforts converged towards integrating all of the graphics into the application, and making final revisions. Overall, we estimate our time working on the research, development, and deployment of the web application to 40-50 people-hours. The majority of our time was spent experimenting with the graphics we wanted to create, and planning out our web design. After we settled on specific graphics and a page layout, it was actually

very easy to integrate everything into the final product.