Project Proposal for Disruptive_FA

Jonathan Li
Max Liu
Spencer Ho

Disruptive_FA will be a software tool to break down investing decisions for users as an acting financial advisory program. The core of Disruptive_FA will be automated DCF calculations and graphic stock information analysis to fit the investing criteria of our users. The data used in our program will be dynamically pulled from online sources such as NASDAQ and Yahoo Finance. Here is a typical page we will pull data from:
http://www.nasdaq.com/symbol/aapl/financials

We aim to create an interface that takes user inputs to generate and present stock analysis, graphics, and investing suggestions. While there are other DCF calculators on the market, the results are written in financial jargon and can be difficult to interpret for the everyday person. Disruptive_FA presents the results in a user friendly way.

Infrastructure and Outline:

Our code will be broken down into three major components: data pulling, data analysis/representation, and user interface. Data pulling from sources such as NASDAQ will be accomplished with BeautifulSoup and SQLite3. Data analysis will be accomplished algorithmically in Python and representation handled by the Python library matplotlib. Finally, our user interface will use a combination of our own html formatting and Django.

Data:

Our data will be the financial statements of publicly listed stocks (income statement, balance sheet, cash flow). Additionally, we will collect stock descriptions from websites in order to create searchable tags for each individual stock.

Algorithms:

Our analysis of the data will be based primarily on a DCF model along with a public comparables model. Assumptions that need to be made for the models will be based partly on extracted data and partly on user input.

Final Product:

Users will be able create an investor profile based on a brief questionnaire before entering into the core user interface. The user will now be able to type in a ticker symbol such as AAPL and the program will generate a value of either “Buy”, “Hold”, or “Sell”, based on our DCF calculations and other metrics drawn from the financial data. At this point the user will also be able to view a list of similar companies determined by our program along with graphical representations of our data. The DCF calculations will also change based on a user’s risk tolerance.

Additional Features of Product:

The implications for our product go beyond just searching individual companies. Our product can be used to generate asset portfolios. If our product proves to be successful, this could revolutionize the Financial Analyst industry.

Timeline:

Week 3: Project proposal
Week 4: Project presentations, early data pulling work, Django and GUI research
Week 5: Finish data pulling infrastructure, experiment with Django and possible GUI products
Week 6: Begin work on data analysis/representation and building final UI
Week 7: Continue work on data analysis/representation and final UI
Week 8: Finish programming and begin debugging
Week 9: Final debugging and finalize completed product
Week 10: Present project