Socially Responsible Investing (SRI)

***Samarth Yadav*(sy72960n@pace.edu), *Harshal Patil*(hp55851n@pace.edu),*Jephthe Louis-Jacques*(jl83643p@pace.edu), *Kush Shah*(ks76678n@pace.edu), *Farhan Pasha Mohammed*(fm15657n@pace.edu), *Naga Sai Kiran Nimmakayala*(nn48960n@pace.edu).**

Seidenberg School of Computer Science and Information Systems
Pace University
New York, USA.

Abstract:

Trading on the stock market is increasingly commonplace all around the world. Investing in and trading on the stock market can help the country's company and economy. Many stock traders or investors have a reasonable perspective about money lost owing to a lack of background knowledge. Several scholars have proposed a daily and long-term stock market prediction approach. However, other elements such as environmental, social, and governmental issues can cause significant market volatility. Investing in firms and funds that have beneficial social consequences is known as socially responsible investing. In recent years, socially responsible investing has grown in popularity. Investors and clients are demanding more openness about how their money is invested on a daily basis. Investors should remember that socially responsible investments are still investments, and they should consider the possibility of profit while making decisions. The world of investing may be scary, especially for those who are new to it. You want to diversify your portfolio while minimizing risk, but you're not sure where to begin. It's a typical concern, but one that can be alleviated by investing in socially responsible companies.

Keywords: Socially Responsible, Environmental, Stocks, Social Rating, Price.

I. INTRODUCTION

Technical analysis, which employs various indicators and patterns, is used to make trading decisions in financial markets. A variety of technical indicators can be used to create profitable trading rules to battle inflation and build wealth while minimizing risk, one must develop a reliable and intelligent method for selecting outstanding investment instruments. Investment professionals frequently evaluate socially responsible investing via the lens of environmental, social, and governance (ESG) considerations. Environmental, social, and governance (ESG) are three significant considerations for some investors to consider. Those investors search out companies with strong management and a focus on sustainability and community improvement. To solve the problem of keeping their investment safe for free, by providing real-time data and an analysis of the company's revenue in previous years and

whether the company is currently profitable in the current year, which is directly related to its stock price and whether it will fall or rise in the future, prompting the customer whether their investment is safe or not.

II. LITERATURE REVIEW

Whether you call it ESG, Socially responsible investing (SRI), impact investing, or responsible investing. After going through many documents and research papers and historical data we have found out that company growth and its stock prices are also dependent on its social and governmental factors. There are many financial websites that provide stock market data, data analysis company growth and many other features. These websites were missing one important feature, that is whether a company is socially responsible or not. An investor is concerned about the company that they are investing in. They want to know every little detail as possible , because these small factors determine their current position in the market and good portfolio.

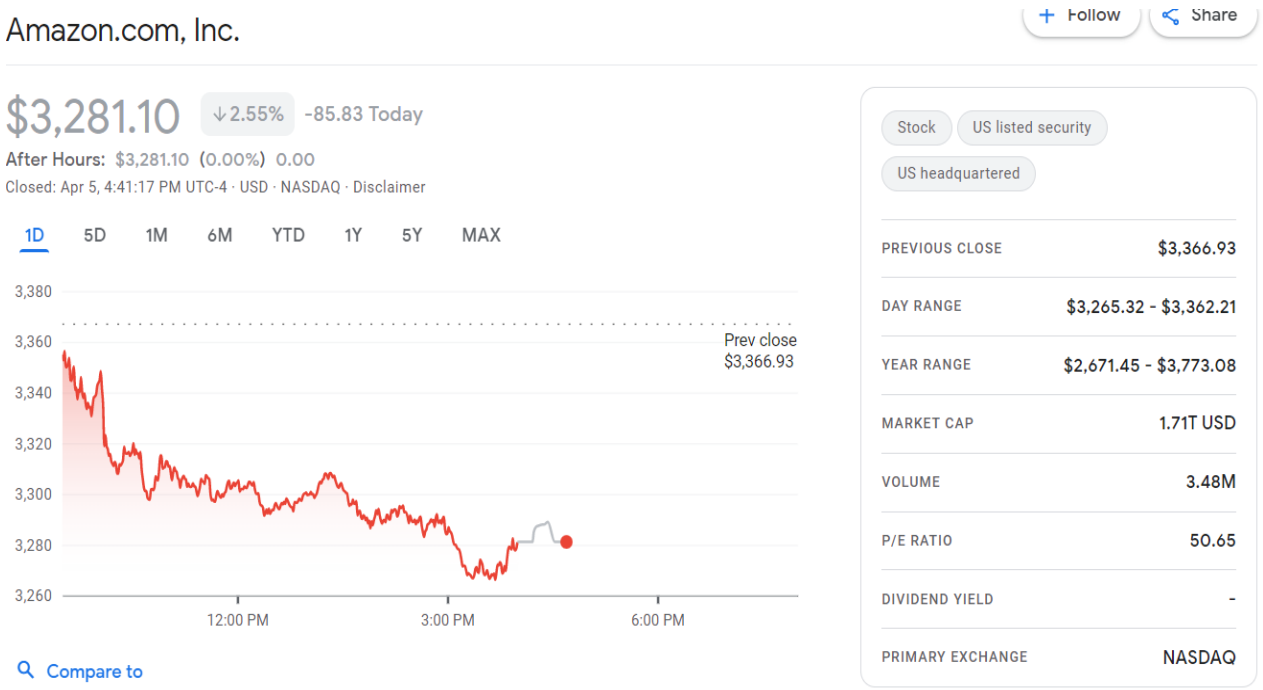

Figure 1. Google Finance .

Here in the above picture, we can see the amazon stock prices and other details using google finance but google finance doesn't provide the details about environmental, social and governance score about the company and whether your investment will be safe or not and upon that will there be any returns on your investment.

III. Methodology

- YFinance api
- Python
- Django
- Bootstrap

I. Yfinance:

Yfinance is an open-source library that allows us to access the financial data available on Yahoo Finance i.e., it is a python package that enables us to fetch historical market data from Yahoo Finance API. It becomes possible for all the Python developers to get data with the help of yfinance. We can download historical stock data from yfinance. It offers high granularity of data including highly refined data, all the way down to 5-minute, 3 minute and even 1 minute data. YFinance not only downloads the Stock Price data it also allows us to download all the financial data of a company since its listing in the stock market. This library is well suited for Financial Data Analysis.

Yfinance functions which can be used to retrieve the company's data:

- msft.history(period="max") : We are using this function to get historical information about the company.
- msft.financials: We are using this function to get the latest financial information.
- msft.sustainability: This function provides us with the ESG (economic, social and governance) scores
- msft.news: We will leverage this call for next semester

We are not able to get a real time date but limited to the previous business day for stock price. For other forms of data we are pulling, you can get the last 60 days. Some methods are fragile and we noticed this with the msft.news call. Yfinance mainly makes API calls to Yahoo Finance to gather its data, but it does occasionally employ HTML scraping and pandas tables scraping to unofficially gather the information off the Yahoo Finance website for some of its methods. As such, the functionality of some of its methods is at the mercy of Yahoo not changing the layout or design of some of their pages. In fact, yfinance is widely known to already have a few issues.

Screenshot of the calls used in the code. When the home page of the site is loaded, a request is made to populate the home view with the information we pull from the library.

II. Django:

Django is a high-level Python web framework that enables rapid development of secure and maintainable websites. Since the YFinance library is used in Python, it made the most sense to use a web framework that was also written in Python which allows for easier integration. Our SRI home page shows a list of companies and then a user can click on the company name to see more info. From there, the API is consumed in Django by using Yahoo Finance to get some stock data about the company and display it on the page. We have used the yahoo-finance package multiple times in Python to fetch the necessary data.

Django is a good framework to learn and leverage the model-view-template logic. This makes manipulating data and updating it on a webpage very easy. This web framework will also allow for streamlined scaling and the integration of the database for next semester, phase 2. It is convenient to spin up a DB to read and write from. It's more user- friendly to use Django and a Python library than leveraging Angular or React. The entire project leverages Django, from the front-end elements to the server calls.

- Views - these are used to call the YFinance functions that make the Yahoo Finance calls
- URLs - when new views need to be updated with new data, requests for these new views need to be routed to the right URLs
- Templates - the html, css and js needed to render the new views

III. Bootstrap

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains HTML, CSS and JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components. While Django provides the web framework for creating the site, we want it to look very clean and professional. We've leveraged Bootstrap in Django. Since Bootstrap is a front-end framework, it completely consists of CSS & JavaScript files. These files are considered static on the server-side. Bootstrap allowed us to easily add styling to the website and is easy to integrate.

IV. SYSTEM ARCHITECTURE

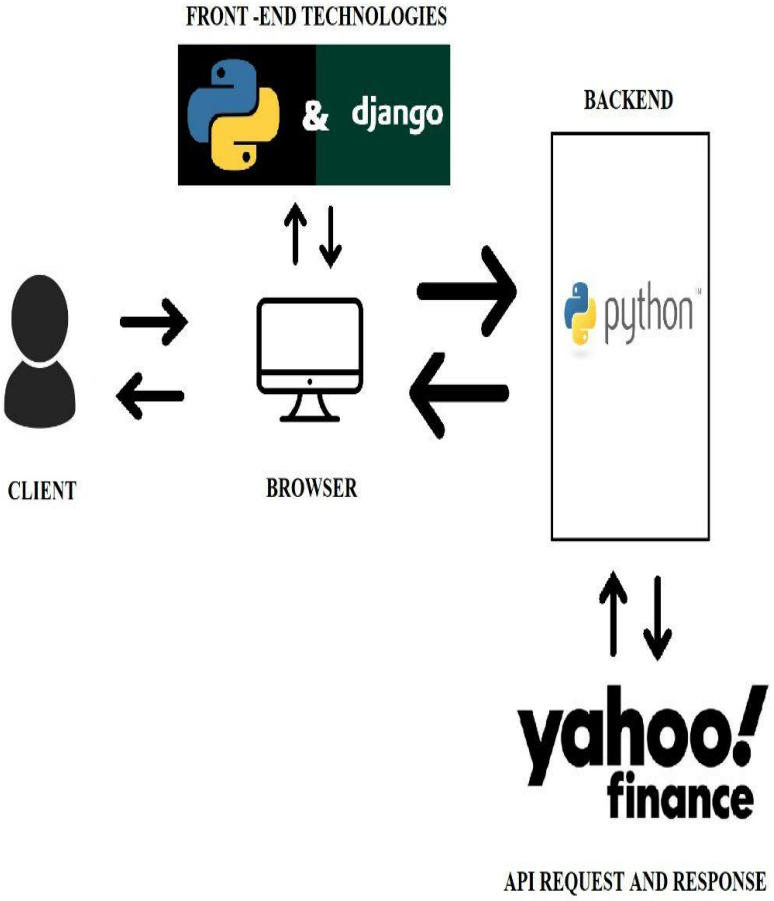

figure 2. system architecture

SRI System architecture here depicts user interaction with the system, and the system's overall working and backend functionality. Our Socially Responsible investing website is available using browsers; the front end of the project was developed using Django and python which allows us to have a user-friendly interface while being able to deploy backend data seamlessly. YFinance API is used to fetch financial and stock market data, we can access this API using a key which can be obtained from Yfinance official website. Once we obtain the key we can access the data from the backend.YFinance sends a lot of data , but we are performing filtration in the backend and using only ESG data and other critical data, which is vital for it to pull requests.

V. RESULTS AND DISCUSSION

There has been an upturn in the Stock market, billions and Trillions of dollars are invested every year in companies for purchasing stocks. Investors have to go through a lot of historical data analysis before investing in a company. We cannot predict whether an investment made will be safe or not. Socially responsible investing website will provide more insights and provide ratings if a company is investing in the right cause, like environmental protection, social cause and for good governance. After analysing multiple investing platforms and going through multiple research papers, we have found that the value of the stock depends upon its social factors. Most of the platforms out there provide financial data about the company but they are missing one important feature that is ESG rating. Investors go through each and every factor to minimize their losses.

SRI website is designed in such a manner which is the last missing piece of the puzzle for investors. SRI makes your investment safe and it will provide a social rating or social score of a company which will guide the investor whether the company is socially responsible. SRI is an investing strategy that aims to generate both social change and financial returns for an investor and provide data about companies making a positive, sustainable or social impact.

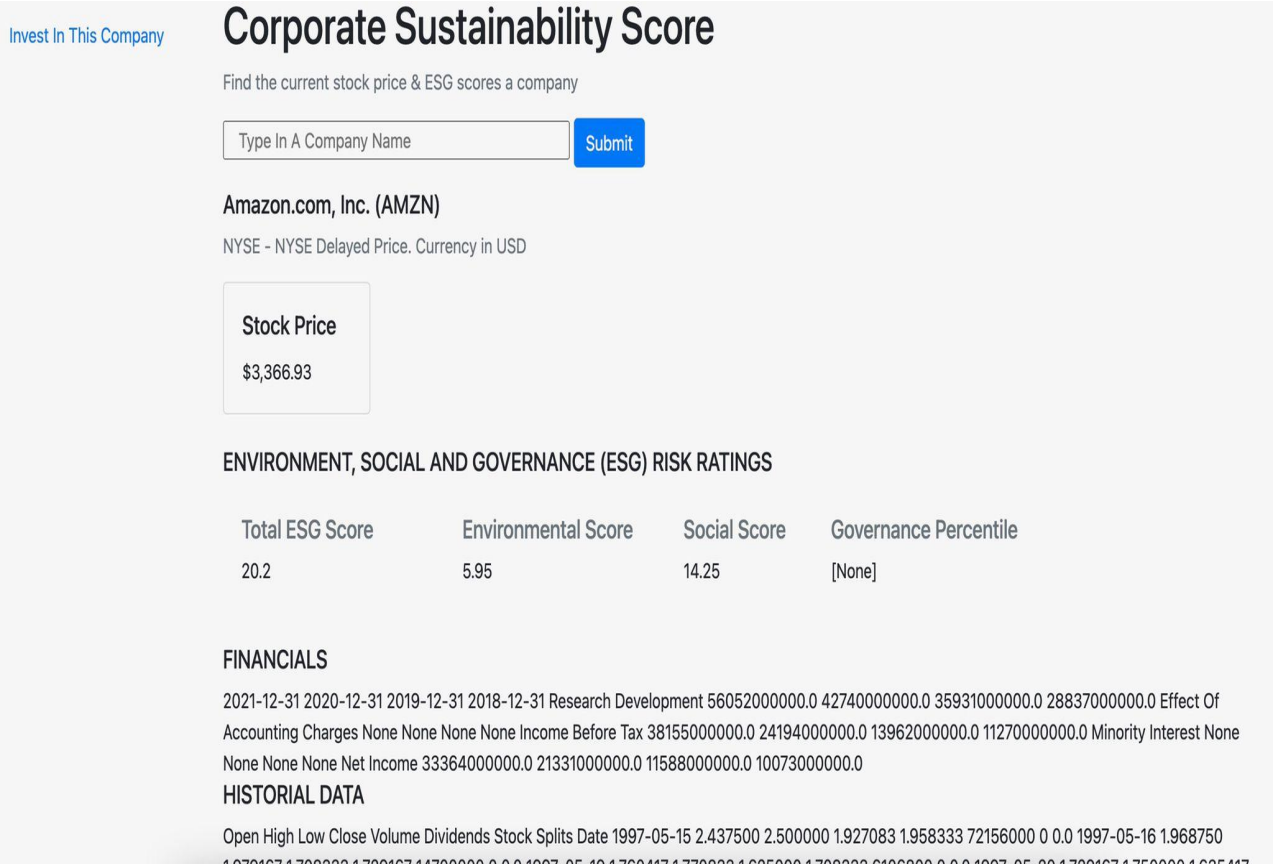

figure 3. SRI Website for Pace University Project

VI. CONCLUSION

Whenever the SRI website is fully established and operational, it will provide users with the most up-to-date stock information in order to help them invest their hard-earned money in the market. Beneficiaries and investors all over the world are clamoring for more information about how their money is invested. Other factors, including materiality and regulation, are propelling the expansion of responsible investment. A user can look up and search for different firms and stocks; if he chooses one, the company will have a positive ESG rating if it is socially responsible. Within the website, a visitor can compare ESG scores from various companies. If the user wants to invest in a certain company, he will be sent to a third-party investing site.

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