

Title:

Stock Prediction with Emotions

Summary:

Our team aims to design a website that provides both the prediction for the stock market and the relationship between companies and people's sentiments towards them. Users can register and receive updates about the stock or companies they follow.

Description:

We will create a website that predicts possible trends in the stock market for users based on the past trend of the stock market. Moreover, we are also interested in seeing the relationship between the change in a company's stock market and people's most recent sentiments towards the company. Many website applications have functionalities such as predictions on future trends, yet we are adding one more fun functionality which is the relationship between stock trends and people's sentiments. Hence we will focus on building these two main functions on our website. Furthermore, users can register on our website and subscribe to the updates of the companies or stocks they follow.

Usefulness:

In a traditional way, stock market theories mainly rely on the assumption that individual investors tend to make decisions in a completely rational and objective manner while taking time to obtain all appropriate information. It is true that people may have synthesized and evaluated all available information. However, one cannot separate himself from emotional and cognitive errors when involving every step during the investment.

Therefore, we want to develop a stock price prediction website based on investors' emotions towards different companies. For the data part, we will first define a list of emotional words (types include anger, fear, joy, sadness, surprise, etc.) and a list of target companies. After that, we will get people's real-time searches for companies and emotional keywords through Google Trend. We then use weights in the analysis of data and predict the stock price trends for each company. On the website, users are able to register and get our daily updated stock price information, and they can also subscribe to and unsubscribe from companies to based on their interests. In addition, there are no existing websites or apps having functions like this, and that's why we plan to create the emotion-based product.

Realness: The database would store information about the public emotions towards various companies to predict the trend of their stock prices. We will scrape the most recent day or week emotions data from Google Trend by searching keywords "company name" + "emotional word". Then we can legally get corresponding csv files and keep updating daily for stock price prediction.

Functionality:

CRUD:

Create: Users can create their accounts on the website.

Read: Users can query and read about the latest predictions of the companies' stock prices, as well as the most common sentiments people have towards the companies. Users can also search for the companies they are interested in, add the companies to their personal favorite list, and receive notifications if the stock price is predicted to experience a significant increase/decrease.

Update: Users can update their profile of the account. The prediction of stock prices will be updated daily based on people's sentiments on the previous day.

Delete: Users can delete companies from their favorites if they are no longer interested in them. If they don't want to use the website anymore, they can also delete their profile and terminate the account. They will be able to unsubscribe if they don't like to receive notifications.

Other functions:

Login: Users are able to login to our website after creating an account.

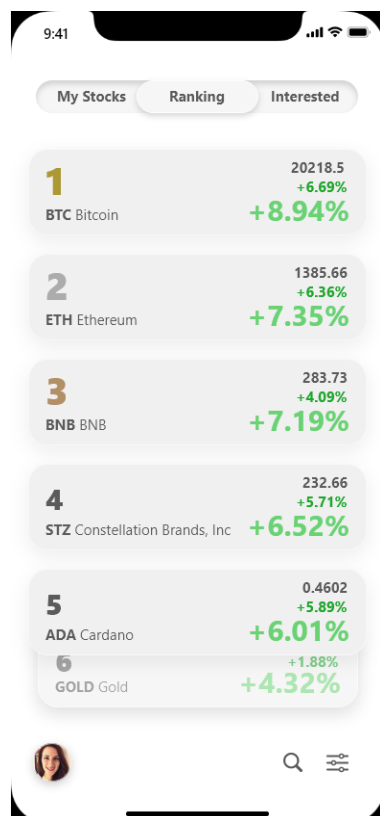
Stocks(CompanyID, CompanyName, Date, StockPrice, GrowthRate)

Users(UserId, AccountID, FirstName, LastName, ContactInformation)

LoginInfo(AccountName, Password)

Emotions(PeopleID, Emotions, Level)

UI mockup:



Project work distribution:

Our team will distribute the work equally but based on each person's experience and preference. We will meet weekly in person to share updates, discuss problems we met during the previous week, and determine our next step to maintain our project progress.

Yiqing Huang: come up with schemas of tables in the database and how they interact or connect with each other

Yiran Wang: implementation of the UI and create connections with backend and update changes on the front-end

Yilun Chen: responsible for the art design of website UI and help with code implementation on the front-end, including figuring out modeling to predict the stock market trend

Ziyang Zheng: focus on implementing the backend including user input