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Build A Web-based Financial Graph of Share Market

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Abstract:- **The study aims to inspect the stableness of interactive affinity between search interest of prices of the stock and evident stock market outcomes on worldwide equity market indices. This study represents and develops former exploration into financial graphs by registering the attributes and magnitudes of graph use and embarkment from representational impartiality. Such a paradox could also be derived through investor's behavior and degree of disclosure inclusion. The stock-specific network searches for the progression of data and equivalent index close values from different countries' stock exchanges are collected and analyzed. Previous investigations and studies suggest that graphs are appropriate decision support to tasks related to the understanding of statistical information. Moreover, observations show that different types of pictorial or graphical information can help or harm the accuracy of decision making of accountants and financial analysts. Empirical judgments show global search interests of prices of stock coordinates more with developing economies with lesser effects in south Asian stock exchanges apart from reinforced connections in western countries.**

Keywords – Stock prices, Search trends, Web mining

1. INTRODUCTION:

Over the years, human endeavors had experienced a series of growth and development attributed to information technology. Web portals are increasing in their everyday use, especially in the education sector. It is often seen that several sites are designed to provide access to information or other sites. In our project, we have designed a dynamic website related to stock market information.

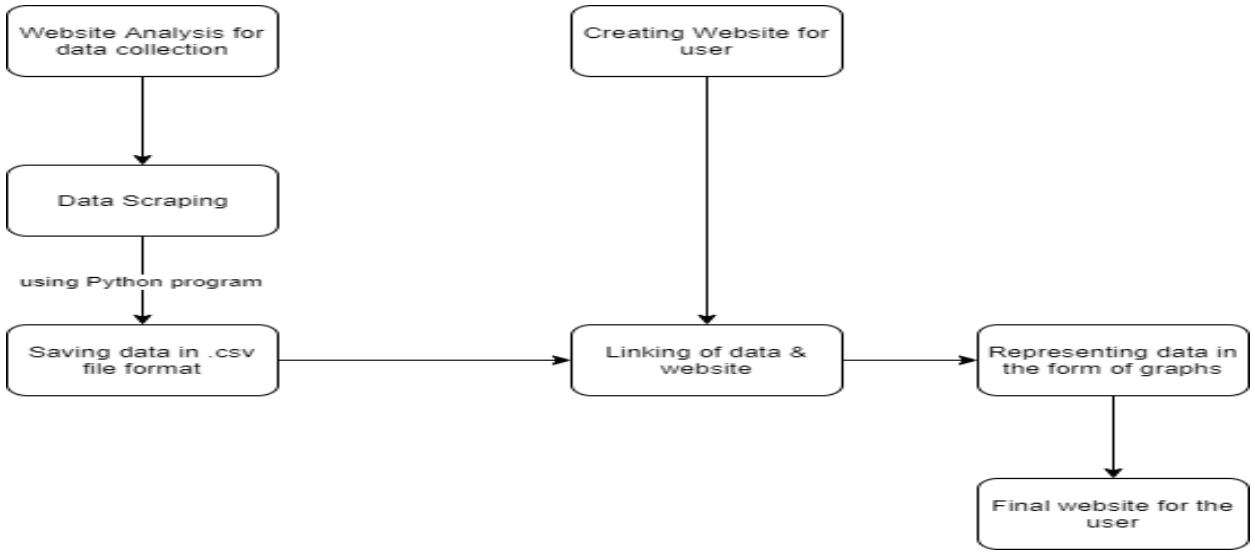
The Stock market process is precarious and is affected by many factors. Hence the Stock market prediction is a strain on business and finance. For the naive investors, it will provide an idea - What's trending in the market and what can be the appropriate time to get into or get out of the market? Considering the risk involved in stock market trading resulting from the volatility which is influenced by several factors across the globe, analyzing the behavior and short term or long-term potential of a company's stocks has been one area of interest of several Data Analysts from a long time now.

Small investors who want to buy shares in a company will make sure that they have done all the research possible to ensure that the stock pick they are interested in will see an increase in price over time. For this, they need to make sure that they look at as much information on the stock as possible. Stock charts/graphs will provide the investor with information on the stock's past trading prices and volumes.

Nowadays it has become very difficult for one, who is interested in investing in the company's stocks, how to know whether this is the right time for him/her to buy or sell the shares of the interested company. Our website will provide a general idea to all those investors in a much easier way.

2. PROPOSED WORK PLAN:

2.1 Block Diagram of overall system to be designed.



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2.2 System Design

A web-based application is any program accessed over a network that runs in a web browser and the browser supporting the programming language such as the combination of JavaScript, Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) are used for the creation of web-based applications. HTML is the communication standard used by the World Wide Web and a protocol that enables a web browser to retrieve text, graphics, sound and other information from a web server.CSS is a style sheet language used for describing the presentation(look) and formatting of a documents or web pages, including colors, layout, and fonts written in a markup language. Python programming language is used for web scraping. Web scraping is described as extracting and processing large amounts of data from the websites using programs or algorithms while using Python is a skill which can be used to extract the data into a useful form that can be imported and the main reason for preferring Python is Scrapy and Beautiful Soup, the most widely used and preferred frameworks; Python library is designed for fast and highly efficient data extraction.

We have used the Microsoft Visual Studio framework to design and integrate our whole project. Microsoft Visual Studio is an IDE used for developing computer programs for Microsoft Windows, it is also used for developing websites, web applications, web services, and mobile applications by using different Microsoft software development platforms such as Windows API, Windows Store and many more. Visual Studios is completely free and fully-featured IDE for students, also it is open-source and individual developers; also, it can produce both native codes and managed code.

2.3 System Implementations

The basic function of the developed application includes representation of stock market data into graphical format. Creating a graph is a simple approach for giving a brief idea of the current trends in the market. Constructing and analysing Stock Charts provide an easy-to-read graphical representation of a stock's price alteration over a definite interval of time. They sometimes called stock market graphs and are a component of Technical Analysis and are an essential component in stock trading.

Firstly, web scraping is performed to scrape the required data. We are using real-time stock market data for scraping and then store it into a CSV file format using Python libraries. Data is extracted from the web using Python's Beautiful Soup module. Beautiful Soup is an inbuilt package in Python that is used for parsing HTML and XML documents (including having distorted or abnormal mark-up, i.e. non-closed tags, so named after tag soup). It develops a parse tree for already parsed documents that can further be used to extract data from HTML file or document, which is useful in case of web scraping.

Secondly, the graph is a plot on our designed website from the CSV files containing the scraped data from the web. This task is done by using c3.js and Papa Parse libraries and their respective dependencies. C3 provides an easy way to construct D3-based charts by encapsulating the code that is required to generate the entire chart/graph. C3 library of JavaScript provides a wide range of APIs and Callbacks (Callback is a function in JavaScript that is executed after another program has finished its execution) to access the status of the chart at a particular time. By using this C3 library, we can update the chart/graph even after it is accomplished.

Another library that we have used in graph making is Papa Parse which is the fastest in-browser CSV (or delimited text) parser for JavaScript. Papa Parse is the world's first multi-threaded CSV parser used for the browser. It is reliable and easy to use. Papa-parse is an effective and convenient CSV parser that can handle files having size in gigabytes without crashing. It is capable of manipulating your CSV files in many ways. First off, the input. This component can read your data from anywhere, via a URL, from a raw string or even from your local storage. The output will be an array of rows, where each row is an array of table data, and it will be returned if the header flag is not set. Otherwise, an array of objects will be the product, where each object is a map comprising of the column name and its corresponding value for the row (e.g., {col1: value1, col2: value2}). The recent format is in the vicinity of a JSON file.

The homepage of our dynamically created website is shown below.

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3. CONCLUSION

It is very difficult for naive investors to understand what is trending in the share market and what is a good time for him/her to invest in company's stocks. Our system provides a brief introduction to various terms related to the stock market. The main feature of our dynamic website is to generate an approximate output in the form of graphs of various stocks that will give a general idea of a company's stock exchange in the previous years. The additional functionality that we embed into our project is by providing past case studies of various businessmen which will help the naive users to understand the market in a better way. We also provide a general comparison between values of current values of stock with some previous values to find out whether the market is in the favor of the investors or depreciating.

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