Visualize the Crypto Data of BTC and Eth

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Abstract

The rapid growth and pervasive adoption of crypto currencies, particularly Bitcoin (BTC) and Ethereum (ETH), have transformed the financial landscape and attracted the attention of investors, traders, and financial institutions. As crypto currencies continue to mature and acquire prominence in the global economy, the demand for accessible and user-friendly visualization tools increases. This project will utilize data visualization of the history of crypto currencies to enable novice and experienced users to analyze market trends and make informed decisions more intuitively.

1. Introduction

The project intends to meet this need by analyzing historical data on two prominent crypto currencies, Bitcoin and Ethereum, and comparing their recent transaction prices, volumes, and general trends [2]. Utilizing cutting-edge data visualization technologies, the project will provide valuable insights into the performance of these crypto currencies and enable users to recognize patterns and trends that can inform their investment strategies.

The visualization will include a line chart of virtual currency prices, representing the historical price movements of Bitcoin and Ethereum in a plain and concise manner [3]. Users will be able to evaluate the relative performance of these crypto currencies and identify periods of growth, decline, and stability using the chart. In addition, a stack area depiction of transaction percentage will be created to provide an all-encompassing view of Bitcoin and Ethereum trading volume over time. This visualization will enable users to comprehend the market dynamics and trading activity surrounding these crypto currencies, as well as identify periods of increased market liquidity and interest.

By providing these user-friendly visual tools, the project hopes to contribute to the growing body of knowledge surrounding crypto currencies and aid investors, traders, and other stakeholders in the crypto currencies space in making informed decisions [4]. The project's ultimate goal is to improve users' access to and comprehension of crypto currencies market trends, enabling them to make more informed decisions in the swiftly evolving world of digital assets.

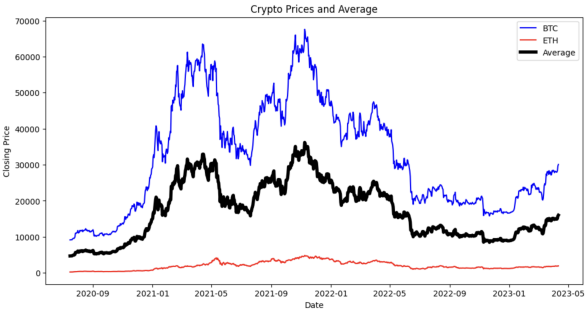

Figure 1. Crypto Prices and Average.

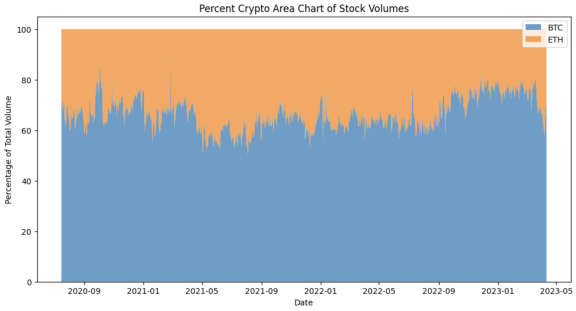

Figure 2. Percent Crypto Area Chart of Crypto Volumes

2. Design and Implementation

2.1 Collection and Preprocessing of Data For the purpose of analyzing Bitcoin and Ethereum's historical trends, the initiative will collect information from reputable sources such as crypto currencies exchanges and financial databases [1]. For both crypto currencies, the data will include transaction prices, volumes, and dates. To ensure the accuracy of the visualizations, the collected data will be preprocessed to eradicate inconsistencies, missing values, and outliers.

2.2 Line Graph Displaying Historical Prices The design of a line chart depicting the historical price movements of Bitcoin and Ethereum. The x-axis will represent time, while

the y-axis will represent crypto currencies prices. The chart will exhibit two lines, one for each crypto currencies, each with a distinct color and label.

2.3 Stacked Area Chart of Volume Traded The development of a piled area chart depicting the trading volume of Bitcoin and Ethereum over time. Time will be represented by the x-axis, while trading volume will be represented by the y-axis. The chart will depict two discrete areas, one for each crypto currencies, each with its own color and label.

2.4 Implementation Python and various libraries will be used for data acquisition, analysis, and visualization on this project. To ensure interactive and responsive data visualizations, popular libraries such as Matplotlib and Plotly will be used to generate the visualizations.

3. Demonstration Plan

To ensure the accuracy and dependability of the visualizations, the project will endure rigorous testing. To evaluate the responsiveness of the charts, distinct data sets and timeframes will be utilized. In addition, user feedback will be collected to assess the efficacy of the visualizations in communicating information and identifying trends. This feedback will be used to refine the project's design and implementation.

4. Timeline

- By Apr 15: Complete data collection and preprocessing for Bitcoin and Ethereum.
- By Apr 21: Design and implement the line chart for historical price movements.
- By Apr 24: Design and implement the stacked area chart for trading volume.
- By Apr 27: Perform initial testing of the visualizations.
- By May 02: Gather user feedback and make necessary adjustments to the design and implementation.
- By May 05: Conduct further testing with different data sets and timeframes to ensure responsiveness and accuracy.
- By May 08: Refine the user interface and visualization tools based on user feedback.
- By May 14: Prepare documentation and project report for submission.

References

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[2] Nils. Advanced crypto currency market data analysis with python, Jan 2022. 1

[3] Roman Orac. Cryptocurrency analysis with python-buy and hold, Aug 2021. 1

[4] Qin Sun. Data visualilization assignment3. 1