A Research on Crypto-Tracker Browser Extension

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Abstract - **The topic that we have selected is called "Crypto-Tracker" which we have developed using CSS, HTML and JavaScript. It is a browser extension that shows the values of top 10 cryptocurrencies in real time. Every time when the extension is clicked, the values gets updated. The target browser for this application is 'Google Chrome'. The application is recognized by the browser with the help of "manifest.json" file. The application uses background script which does not affect any content of the webpage whenever it is used.**

Index Terms - **Cryptocurrency, Bitcoin, Encrypted, Currency, Bitpay, Exchange Rates, Principal Components Analysis, Blockchain.**

I.INTRODUCTION

Crypto - is a short term for "Cryptography" and Currency refers to "The money currently in use". Cryptocurrency is an electronic money, a computer technology which is used for hiding information or identities of an individual. In recent years, Cryptocurrencies retain to attract a variety of interest from investors, entrepreneurs, regulators and the overall public. There are public discussions of cryptocurrencies worldwide because of frequent changes in their prices time to time. Lot of people are investing in different cryptocurrencies these days and the return of investment definitely makes it worth. Cryptocurrencies and behavioural financial and economics. An enormous strand of the writing clarifies market wonders that neutralize the neo-traditional expectations, according to the point of view of unquantifiable danger, or vagueness., or ambiguity. Most commonly, ambiguity is related with the impossibility to appoint likelihood esteems to occasions that might possibly happen. In the case of cryptocurrencies, this sort of vulnerability might emerge for two reasons:(1) the innovation is somewhat muddled and obscure to unsophisticated merchants, and (2) the basic worth of digital currencies is indistinct. Critiques stress digital currencies are not absolved from cheats and outrages. For example- a few millions in Bitcoin from the Japanese stage Mt. Gox in 2014 and $50 million in Ether during the Decentralized

Autonomous Organization (DAO) assault in 2016 were taken. In addition, digital currency instalments, being generally unregulated, don't limit any buys, including those unlawful. Böhme et al. (2015) give outline information showing that, essentially in the start of the Bitcoin time, most exchanges were utilized for drug buys. Foley et al. (2019) gauge that around 46 % of Bitcoin exchanges are related with unlawful exercises, yet that the illicit portion of Bitcoin movement declined over the long haul with the development of more hazy digital forms of money. What's more, clients seem unprotected as instalments are regularly irreversible, and a wrong exchange can't be dropped, not normal for charge card instalments (Böhme et al. 2015) [1].

Acquiring data is critical to diminish vulnerability. The force of the web look for digital money related watchwords fundamentally influences digital money instability. While we remain to a great extent freethinker with respect to what individuals discover when they look for digital money related terms on the Internet, the occasions give us a sign of the sort of data that really matters for cryptographic money venture choices, and subsequently for evaluating. In vulnerability, when discovering pertinent data is uncomfortable, financial backers may turn to watching and mirroring other, apparently better educated, financial backers' choices, bringing about crowding (Trueman 1994; Devenow and Welch 1996), resolved in this exceptional issue by Haryanto et al. (2020). The advancement of the digital currency market adds to the elements of admittance to finance (Adhami et al. 2018). The approach of the blockchain innovation permitted enterprising groups to bring capital up in digital currencies and fat cash (which must be traded

into a cryptographic money) through the issuance of advanced tokens (Initial Coin Offerings, ICOs) and the improvement of 'keen agreements' (Giudici and Adhami 2019) [2].

Tokens give their purchasers a right to utilize certain administrations or results of the guarantor, or to share benefits, in which case they take after value. Unique crypto exchanges then serve the auxiliary market for tokens. The OECD (2019) spreads out

essential standards and common strides of an ICO. A significant qualification among tokens and digital currencies is however that there is a risk or some kind of responsibility behind the token, and this obligation decides its worth. Presently that this cryptoasset bears greater similitude with conventional resources, one would anticipate likewise the principle expectations of neoclassical money to work out. Indeed, in a new observational investigation of crypto-tokens, Howell et al. (2018) show the impacts of awry data on tokens exchanging: their liquidity and exchanging volume are decidedly connected with the data. The last is accomplished through intentional exposure of data (counting the working spending plan and their strategies), and quality flagging (for example data on earlier investment financing of the backer). Digital currencies, which underlie the ICO methodology, are professed to give considerably more fair and vote based admittance to capital just as more prominent proficiency, contrasted with fat cash, permitting shared exchanges and keeping away from the intermediation of banks (Nakamoto 2008; Karlstrøm 2014). This is regularly done through an ICO, and could be an important chance for private venture, which frequently experience a hole in subsidizing and miss skills to relate with proficient financial backers (Giudici and Paleari 2000). OECD (2019) additionally reports ICOs are a likely course for minimal expense finance for SMEs [3].

II. RELATED WORK

This section will discuss how the statistics of cryptocurrencies are evaluated in the past by other researchers. There are several web applications as well as android applications that are used widely to check the statistics of different cryptocurrencies for a period of time.

A pilot study has been conducted in March 2018 to collect data about different aspects of cryptocurrency.

The survey aimed to measure the spread of cryptocurrency use to have a clear picture from the practical view [4].

CoinMarketCap is the digital currency world's "go- to value checker as far back as anybody can recollect," as indicated by Bitcoin.com. There are various reasons why this site is the predominant power in the field of value tracker administrations. The site, which was established in 2013 is modestly straightforward, posting the best 100 cryptographic types of cash by market capitalization. For each computerized cash, there is data about its present market cap, value, 24-hour exchanging volume, the coursing supply, the rate change in esteem over the past 24 hours, and a seven-day value chart. For example, Binance Coin positioned as the tenth biggest digital money as of Jan. 28, 2021, with a market cap of $6.6 billion. It exchanged at $43 on that date with $523.6 million in exchanging volume. Generally 90% of its stockpile was available for use—155 million out of 172 million coins. Data on singular digital currencies likewise incorporates verifiable execution diagrams across different time periods, complete stock, and that's just the beginning. Especially valuable is the breakdown of exchanging sets, 24-hour volume, and the current cost across various trades. Investors can likewise analyze money costs on various trades simultaneously, permitting them to decide the most ideal alternative for one or the other purchasing or selling. Moreover, CoinMarketCap likewise records lesser-known advanced monetary forms (those past the best 100 computerized monetary forms).

Bitgur was launched in 2017 and is, as indicated by its site, associated with various distinctive exchanges. The site offers a valuable separating framework, which permits clients to channel cryptographic money results as per class type, year, and innovation. This implies that financial backers with a specific center, similar to items connected cryptographic forms of money, can calibrate their ventures. Bitgur likewise offers its own BTC expense expectation apparatus, an unpredictability list, and a watchlist work much the same as business administrations [5].

III. METHODOLOGY

This section discusses the project planning and workflow. The extension was developed with the help of mainly three files:

1. HTML: extension.html file which is used to design the front-end of the browser extension.
2. Javascript: Javascript file (extension.js) for back-end functionality of the application.
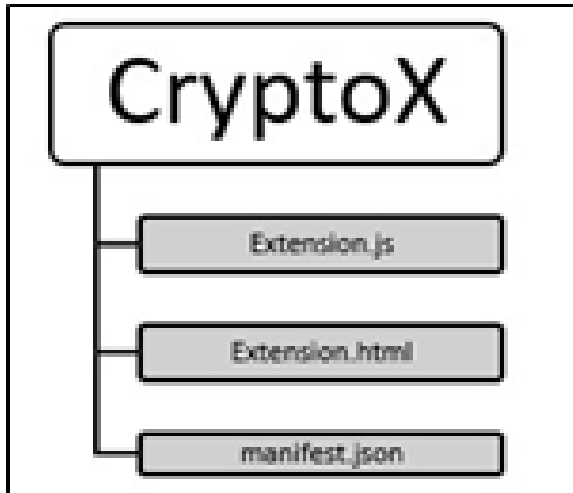3. manifest.json : A manifest file so that browser will be able to identify the extension.
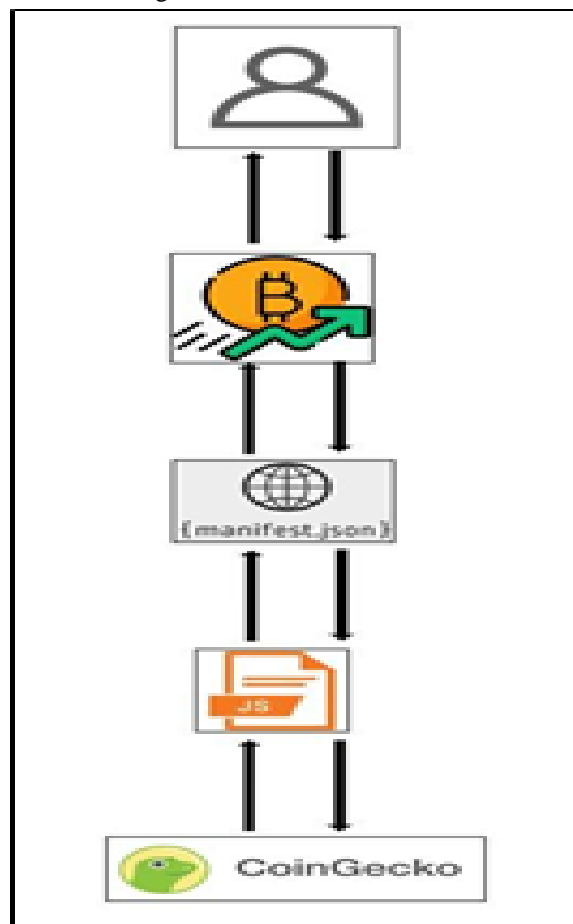

Figure 1: Structural Overview

Figure 2: Project Workflow

Google Chrome recognizes the extension with the help of manifest.json file that contains four parameters: name, version, description and manifest file version. Manifest file then calls 'extension.js' file that contains the main code of the application. Extension.js file fetches the values from the 'Coingecko' API and the values are sorted using 'for' loop until 10 iterations in order to display top 10 cryptocurrencies.

IV. RESULTS

This section discusses the result obtained after executing the application. The extension is tested and executed successfully on Chrome. The application shows rank, name, price, ATH (all time high) and change in currency value over 24 hours.

Bitcoin positioned at rank 1 as of July 29th, 2021 with the market capitalization of $751,630,065,952. Ethereum was positioned at rank 2 with a market cap of $272,426,658,704. Similarly, other currencies are sorted by market cap and Binance USD ranked at 10th position with a market cap of $12,229,149,171.

Figure 3: Top 10 Cryptocurrencies sorted by market cap

The cryptocurrencies are arranged from top to bottom according to market capitalization. The top cryptocurrency as mentioned is Bitcoin (BTC) and its

value in real time was $39642.00. All time high of Bitcoin in last 24 hours is $40840.00. There is decrease in currency value of BTC in last 24 hours by 2.59%.

VI. CONCLUSION AND FUTURE SCOPE

We can finally conclude that in this project we have successfully developed an extension for Google Chrome that displays the value of top 10 cryptocurrencies in real time. There are lots of crypto currency out there and tracking all of it is hectic with this extension we can have tabular form at one place making it easier to track prices. As the data is tabular form and consist of all time high, low and also real time data it is easier to plot graphs and deduce the future trends and also theories about the market. We can test our hypothesis with models and some machine learning code. We can build algorithm to predict the future trends, whether it will go up or down. crypto currency is in every ones mind and many have started investing and trading in crypto market with this extension it will be easier to track prices and hence improve profitability of individual as they do not have to go browsing for prices in different websites.

VII. ACKNOWLEDGEMENT

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