

# Crypto Currency: Altcoins

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**Abstract-** The concept of Crypto Currency is an application of Cryptography, which is simply termed as secret code writing whereas Crypto-currency is termed as secret money transfer tool. A Crypto-currency is nothing but an electronic or we can say a digital tool built to cater as a medium or way for secure transactions. Plus, Altcoins commonly known as Alternative Coins is a group of such currencies or is simply called a blend. Bitcoin is one of the most popular type of Crypto-currency and is heavily used now by people. The other Crypto-currencies launched after the success of Bitcoins called as Altcoins. It is a type of decentralized currency which means no one has any kind of control over it. The Architecture of Altcoins is almost to same that of Bitcoins but with a few tweaks here and there.

**Index Terms-** Crypto Currency, Altcoins, Bitcoins, Architecture, Digital, Decentralized

## 1 INTRODUCTION

Altcoins are also called as Alternative Coins. These coins are basically Crypto-currencies other than the most commonly know Bitcoin. These are further divided among into few categories based on the industry they are used in. The Crypto-Currency is not so uncommon or unknown & is a well known application of Cryptography, which is simply termed as secret code writing where as Crypto-currency is termed as the secret money transfer tool by many users of the infamous currency transfer tool. A Crypto-currency is nothing but an electronic or we can say a digital tool built to cater or used as a medium or way for secure transactions among multiple individuals at the same time. Plus Altcoins commonly known as Alternative Coins is a type of Crypto-currency and is commonly referred as a group of such currencies or is simply called a blend.

Bitcoin is one of the most popular type of Crypto-currency and is heavily used now by people. The other Crypto- currencies launched after the success of Bitcoins called as Altcoins. While some countries are against its uses but some think it as a blessing and encourage its people to increase the use of Bitcoins at larger scale if possible. It is a decentralized currency which means no one has any kind of control over it in ways like number of units, supply much more as compared to centralised currencies. It is a type of hassle-free currency due to its digital presence. Plus, a latest ruling by Honourable Indian Supreme Court, has allowed the use of Crypto-currency in India, it is a big move and a lot of high net worth individuals will definitely gain from this. There are currently more than 5,000 crypto currencies around the World as of January 2020 with a larger number of non-public currencies i.e. only for personal use or

use by certain companies who hold the rights to them. These all the currencies mentioned above are

a group of currencies called Altcoins which is simply referred as Alternative coins to Bitcoins.



Fig (1)- Random Picture of some coins (Altcoins)

The Blockchain Technology here is simply can be called as a ledger of transaction by crypto currencies. After a transaction is complete, a physical ledger is handled by the centralised organisation & not by the participants or transactors. While in the case of the blockchain technology here, the distributed ledger is suppose to remain in every participant or transactors device. The copy is updated every time whenever a transaction is actioned upon. Whereas each participants or transactors device is called as node which eventually goes on to form a network of nodes.

It is a kind of unique technology because of the fact that every node authenticates each and every transaction that occur in the network. So, further when a new node joins any network the complete or we can say entire record of the transactions is downloaded on the systems. In case of Bitcoins this process of transactions downloading on the system may take 24 hours or more than that. While in case of other crypto currencies launched after the success of Bitcoins called as Altcoins are roughly more efficient and take less than 24 hours in the same scenario due to their specific use application.



Fig (2)- Image depicts Blockchain Technology

This whole authentication process discussed in the above paragraph is a part of the advanced cryptography which is world over or widely considered one of the most secured in and of itself. This further ensure two important or we can say major things i.e transparency and integrity of transactions which is purely based or is through mathematics and not trust. The type of the transactions varies from application to application of the set of applications present in the Blockchain technology.

## 2 OBJECTIVES

The proposed work aims at providing and acknowledging everyone with the full information about the Altcoins & there positives/negatives as well along with its applications. Some of the other partial objectives or aims which will be acted upon to be achieved are listed below:

- How and What are the purposes of Altcoins
- Explaining the Architecture

## 3 RELATED WORK

This section gives an overview of the already present literature about the Altcoins & its famous sibling the Bitcoins. The literature primarily focuses on the Bitcoin with a hint of Altcoins in it. Specifically the Bitcoin: A Cryptocurrency is one of the closest to which I can relate in terms of content.

This paper simply discusses about What is Cryptocurrency, How it is used for money transfer & more importantly it talks about What is actually Bitcoin & how it is used. This paper further describes the basic architecture of Bitcoin & talks about the most recommended & acceptable architecture around the world i.e. Client/Server & further highlights the Peer to Peer architecture for better communication of transactions. It also draws a little attention or we can say focus on the technology called Blockchain which is actually from where Bitcoin originated. Blockchain is the Technology which actually runs Bitcoin n first place[1].

The concept of Altcoins: A Cryptocurrency is a very important and the above literature review as per my thinking is sufficient for writing a survey paper for it and adding more to it can lead into a direction which can possibly become problematic in terms of many disputes that can arise at the later part. Altcoins With Lightning Network Support[13], Understanding the Different Types of Cryptocurrency[11], What Are Altcoins and Why Are There Over 5,000 of Them?[14] Can help relate to the basics, history & more information about the Altcoin. Whereas An Overview of Blockchain Technology: Architecture, Consensus, and Future Trends and also includes the threats related to the Bitcoin plus its applications, challenges and most importantly framework of architecture explore a different perspective of the Altcoins[3][7][9][10], A Brief Survey of Cryptocurrency Systems[4], Cryptocurrencies, smart contracts, and artificial intelligence[6] help in creating a good base for the Altcoin origin story & more information on emergence of Blockchain.

Further this Journal type article called as Blockchains from a Distributed Computing Perspective is not a technical manual, nor is it a broad survey of the literature (both widely available elsewhere). Instead, it attempts to explain block-chain research in terms of the many similarities, parallels, semi-reinventions, and lessons not learned from distributed computing. This further is intended mostly to appeal to blockchain novices, but perhaps it will provide some insights to those familiar with blockchain research but less familiar with its precursors[8].

The article named Altcoins[12] which primarily based on the concept shades a new light on it from a different angle and with a new perspective. The anonymity & market related parts of the Bitcoin is a very important aspect and opens up the different

angle specifically based on the Financial aspect of this which at the end contributes towards creation of the currency called Altcoins[2][15][5].

#### 4 TYPES

Altcoins have distinct categories/types and they keep evolving time to time with one or the other thing coming in. Basically, there are 3-4 types of Altcoins. Actually it would be better to call them as categories rather than types due to number of coins they contain. The types/categories of the Cryptocurrencies are as follows:

1. Mining Based- These coins have a process of mining which generates new altcoins by solving challenging problems/issues in order to unlock blocks. Ethereum is a type of mining altcoin and as if early 2020s a trend shows most of the altcoins are mining based.
2. Stable Coins- These coins built onto improve on Bitcoin by volatility reduction. In reality this is done by tying the values of the coins to current currencies. U.S. dollar, gold & the euro are popular for backing the altcoins. Libra by Facebook is so far the most stable coin, though it is yet to be released in the market.
3. Security Based Tokens- These are connected to business, they usually launch in an initial coin offering (ICO). They actually resemble traditional stocks & are often promise payouts or ownerships as dividends.
4. Utility Token- These coins or tokens usually provide a claim on service & are sometimes sold along with ICO as their part. An example of this type of coin is Filecoin which is offered in ICO. The Filecoins are created in design to be in order to do exchangeable for decentralized file storage spaces.

#### 5 ARCHITECTURE

The architecture of a Altcoin is as simple as that of a Bitcoin. While Altcoin is not a single coin but is a name given to all the alternate coins to Bitcoin. So, here we will discuss the architecture of one of the famous Altcoin i.e. Litecoin. Also, Litecoin is a Mining-Based coin type like Ethereum as described earlier.

The Litecoin also has a peer-to-peer data distribution network for transactions just like Bitcoin but with a small difference that it is faster. The peer-to-peer network is just like a gossip group

where everyone tell each other about the news or transaction and at last the message gets to everyone in the group or the network. It is better than Client-Server network in which one single head informs its juniors about the news. The only advantage of peer-to-peer network over client-server is that it does not have central point of control which at times might fail in longer run.

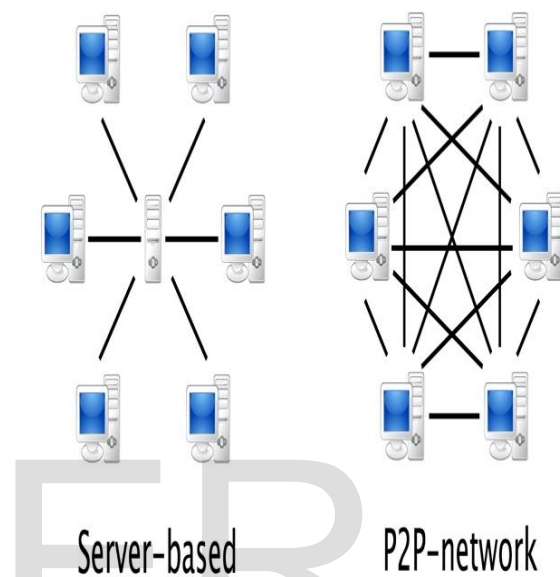


Fig (3)- Image depicts Client-Server Based & Peer-To-Peer Based Data Distribution Network

The term Litecoin network denotes the nodes which run the peer-to-peer protocol. In addition to peer-to-peer protocol, it uses Scrypt Algorithm for mining as compared to SHA-256 which used for mining Bitcoin and thus this increase its transaction speed too.



Fig (4)- Image depicts the Litecoin & Ethereum symbols respectively

### 5.1 LITECOIN TRANSACTION?

You can send Litecoins to people by transferring them from your wallet to the recipient's wallet. For example, if you want to send 0.8 L to Derek, you will paste Derek's wallet address into your app, type 0.8 L into the quantity text-field, click send! You could also have Derek with a QR code that you can scan, avoid typing the address. Also, a fee is sent to the miners who help & support the network. In lieu of a single transaction the fees is as small as the fraction of a Litecoin.

### 5.2 LITECOIN STORAGE?

The Litecoins are actually stored on the wallets in blockchain which makes it easier to access them from anywhere in the world. The best thing about this wallet is that no bank is involved in this process. So, no need of keeping a minimum balance, no transfer fee is applicable on wire transfers.

### 5.3 CAN WE BLOCK LITECOIN TRANSACTION?

During normal conditions, Litecoin transfers cannot be blocked. This is because of the fact that it uses an immutable blockchain to store transfers but also there is no central authority operating it. Though in theory it is possible for thousands of miners & nodes to collude to block or reverse transfer. Coinbase and Binance are some exchanges which store Litecoin but it is not advisable to store the coins here due to risk of thefts that becomes easier.

### 5.4 STORES THAT ACCEPT LITECOIN?

Organisation & Retailers which accept Litecoin are as follows:

- CheapAir
- NordVPN
- Private Internet Access (PIA) VPN
- OverStock
- Free Software Foundation

### 6 CONCLUSION

The Blockchain Technology is the one which actually operates the Altcoins alongside Bitcoin. Both are decentralised currencies for transactions, which are recorded as a public ledger i.e. they can be seen anyone but not accessed by anyone except involved parties. The main sole goal of Altcoins is to provide another or secondary means of transactions then the Bitcoin, basically Altcoins are improved versions of Bitcoin, for example Litecoin & Ethereum. Also, they provide privacy, security & anonymity along with transparency to all users. Although it has great prospects but still there are some technical challenges, plus limitations that need to be solved or addressed in-order to make it more reliable. To use it at a large scale we still need to generate a sense of acceptance for it among different big stakeholders which actually our paper aims on.

### REFERENCES

- [1] Gurusamy, Vairaprakash & Darshak, Akbari & Jay, & Pipaliya,. (2018). Bitcoin: A cryptocurrency.
- [2] Herrera-Joancomartí, J. (2014). Research and challenges on bitcoin anonymity. In Data Privacy Management, Autonomous Spontaneous Security, and Security Assurance (pp. 3-16). Springer, Cham.
- [3] Zheng, Z., Xie, S., Dai, H., Chen, X., & Wang, H. (2017, June). An overview of blockchain technology: Architecture, consensus, and future trends. In 2017 IEEE international congress on big data (BigData congress) (pp. 557-564). IEEE.
- [4] Mukhopadhyay, U., Skjellum, A., Hambolu, O., Oakley, J., Yu, L., & Brooks, R. (2016, December). A brief survey of cryptocurrency systems. In 2016 14th annual conference on privacy, security and trust (PST) (pp. 745-752). IEEE.
- [5] Howell, S. T., Niessner, M., & Yermack, D. (2018). Initial coin offerings: Financing growth with cryptocurrency token sales (No. w24774). National Bureau of Economic Research.
- [6] Omohundro, S. (2014). Cryptocurrencies, smart contracts, and artificial intelligence. AI matters, 1(2), 19-21.
- [7] Rahouti, M., Xiong, K., & Ghani, N. (2018). Bitcoin concepts, threats, and machine-learning security solutions. IEEE Access, 6, 67189-67205.

- [8] Herlihy, M. (2019). Blockchains from a distributed computing perspective. *Communications of the ACM*, 62(2), 78-85.
- [9] Monrat, A. A., Schelén, O., & Andersson, K. (2019). A survey of blockchain from the perspectives of applications, challenges, and opportunities. *IEEE Access*, 7, 117134-117151
- [10] Bhattacharya, R., White, M., & Beloff, N. (2017, July). A blockchain based peer-to-peer framework for exchanging leftover foreign currency. In *2017 Computing Conference* (pp. 1431-1435). IEEE.
- [11] Understanding the Different Types of Cryptocurrency (2020). Retrieved from <https://www.bitdegree.org/tutorials/types-of-cryptocurrency/>  
<https://www.kompulsa.com/how-litecoin-works-an-introduction-to-the-cryptocurrency/>
- [12] Jake Frankenfield (2020). Altcoins. Retrieved from <https://www.investopedia.com/terms/a/altcoin.asp>
- [13] Altcoins With Lightning Network Support. Retrieved from <https://cointelegraph.com/lightning-network-101/altcoins-with-lightning-network-support>
- [14] Jamie Redman. What Are Altcoins and Why Are There Over 5,000 of Them? Retrieved from <https://news.bitcoin.com/altcoins-why-over-5000/>
- [15] Altcoin Market Forms Crypto's Most Dangerous Pattern. Retrieved from <https://www.newsbtc.com/2020/03/06/altcoin-market-forms-cryptos-most-dangerous-pattern/>
- [16] How Litecoin Works: An Introduction To The Cryptography. Retrieved from

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