

THE CRYPTO LAB

Basic Introduction to Blockchain Technology

BY

TobeyNG
ANJORIN OLUWATOBILOBA

LESSON ONE

COURSE INTRODUCTION

Hey, This is ANJORIN TOBI C.E.O TOBEY GLOBAL SYNERGY LIMITED. You can as well call me TOBEY. (See me feeling myself). Not to waste our precious time, lets dive into this interesting topic which we have been wanting to hear. “CRYPTOCURRENCYYYYYYY”. I won't really go in-depth but trust me if you have never heard of cryptocurrency before or probably you have been reading eBook and still not understanding, trust me this ebook is simplified and well drafted out to suit your understanding.

Don't let me bore you with the paparazzi intro and let`s get started

This course is designed to give you an introduction to and understanding of Bitcoin, cryptocurrency and blockchain technology.

There are many different aspects related to this industry like:

- Security
- How to ensure that your cryptocurrency is safely stored
- Having a plan and understanding where this is going
- Preparing yourself
- Looking at the legal side of things
- Implications
- And more...

All of these topics are touched on in this course to give you a complete understanding of cryptocurrency.

This course is created and designed specifically so it's easy to digest and understand. Personally, I really don't enjoy hour-long videos and mass amounts of content because it's just very difficult to focus, especially in this world where all our attention and our time is demanded by so many things.

There are a number of different modules inside this course, so please you take your time with this course. Go through all the modules individually and preferably in the order they are listed in.

Do not blindly buy any cryptocurrency or do anything before you've gone through the entire course. In saying that, of course, please understand that I am not a financial advisor.

- I'm NOT giving you any investment advice.
- Cryptocurrency is highly risky and volatile.

- Everything inside this course is merely meant to educate you.
- It's my personal opinion and my experience.

I'm here to share with you and to help you understand this amazing new technology and also, if you potentially want it, to get started with investing and trading cryptocurrencies.

DISCLAIMER: Before you take any action based on the information in this course, you should always consult your financial planner and proceed 100% at your own risk. Don't just take my word for it...Don't take anybody's word for it on the Internet

Someone you see on YouTube, or a website, something you read, don't blindly follow that advice. Always do your own research.

Even after you have consulted a financial advisor or a planner and you decide to go ahead with it, always make sure that you only invest money that you can afford to lose.

Cryptocurrency is highly risky. I could say that a million times it's that important.

It could literally go to zero, so the money you put in, don't have it as money you need for the rent, or money you need for your kid's college fund, or to pay the mortgage, or bills, don't use money planned for your retirement...

Don't invest money you cannot afford to lose.

It has to be totally discretionary money, so for example, money you could literally set on fire, and it would not affect your life.

That's how you have to treat the money you could potentially invest in cryptocurrency. If you're only comfortable investing \$50 and putting that into cryptocurrency, that's all you should put in.

Don't put in more than you can afford to lose.

Of course, a lot of these things will be covered in future modules, so please go through the entire course...

Do it at your own pace.

Whether you want to go through the whole course in one day or whether you want to take a month and do one video a day, that's perfectly okay.

Everyone has different learning strategies.

Everyone has different amounts of time available.

There's no set amount of time. You have this course. You have access to it. There's absolutely no rush to go and complete it today or tomorrow.

Take your time, really absorb it, make notes, and learn the stuff because, personally, I believe this is the future and, whether you like it or not, you'll be exposed to it. It's better to learn how it all works right now at your own pace than be forced to be confronted with it in the future not understanding it fully.

We also have a support help desk which is great ...

- If you have any questions you have about the course
- If you're not sure how something works
- If you're having any technical issues

If you've already gone through the LESSON and you have questions about something you're not quite sure about or you don't fully understand, just get in touch with the support help desk, and we'll help you out. Text us on WhatsApp +2348169387885

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LESSON TWO:

UNDERSTANDING BLOCKCHAIN TECHNOLOGY

This lesson is all about blockchain and blockchain technology.

Exactly what is blockchain?

Maybe you've heard this phrase thrown around, or maybe you've heard about Bitcoin, and how it runs on blockchain technology, and you're wondering...

"What is Blockchain Technology?"

Let me explain it to you in simple terms without getting too technical or specific. Afterwards if you really want to understand the ins and outs of how blockchain technology works and explore it in more detail, I encourage you to go and read up more about it outside of this course.

Blockchain is like a car in the sense that you don't need to know how the car's engine parts are configured and how they work together in order to be able to drive the car.

In that same way, you don't need to know exactly how blockchain technology works to be able to use (and transact in) cryptocurrencies, but of course the more you know, the more useful it is. It might help you later on in your investing process, or at some point when you're working with cryptocurrency and blockchain technology.

What Is Blockchain?

Blockchain is a technology that allegedly was invented in 2008 or 2009 by a figure called Satoshi Nakamoto. Nobody really knows who he is and what his real name is.

A blockchain is a continuously growing list of records called blocks, linked together securely using cryptography.

- Each block contains a cryptographic hash of the last block.
- Each consecutive block is linked to the previous one.
- Each block contains a timestamp of exactly when the transaction took place.
- Each block contains transaction data within that block.

Depending on the cryptocurrency in question, the block size may differ, and the time to create the block may differ.

With blockchain and cryptocurrency, these blocks are created through a consensus mechanism that validates the transaction in each block. Examples of consensus mechanisms are mining (Proof of Work) or staking (Proof of Stake). I'll go into depth about the differences between proof of work and proof of stake in another lesson, but essentially these two models allow for the block creation in a blockchain.

In layman's terms: A blockchain is like a giant Google spreadsheet. Blockchain doesn't actually run on Google and it isn't a spreadsheet, but it is an open distributed ledger and you'll likely hear the term "Distributed Ledger Technology", which is what this is referring to.

Inside this ledger, it records transactions between two parties in a verifiable way. One of the benefits of blockchain and this ledger technology is that it's permanent. It cannot be altered. Once a transaction's made, once a block has been created, nobody can go back in time and edit that block after the fact.

This is very, very good for transparency. So with a blockchain, anyone is able to go back and see transactions at any point in the history of that blockchain. That's great because it's open and publicly visible. It reduces the ability for shady things to happen because if one person, an individual or a group, has full control over data, over a server with a specific amount of records, those records can be deleted or edited. This means a lot of sneaky stuff can go on behind the scenes.

This is one of the really big benefits of cryptocurrency:

- It is NOT controlled by a central party.
- It is literally on hundreds if not thousands of computers all around the world.
- Each of these computers connected to the blockchain (known as nodes) has a copy of the blockchain on it.

That's why it cannot be altered, because it's spread out all around the world.

No single person or single entity has access to those records, which means it cannot be altered or edited after the fact, and it is publicly visible.

Besides the fact that blockchain technology is good for recording transactions like payments and currency transactions, it could potentially be good for any sort of data recording, event registration, or medical record.

There are so many use cases for blockchain technology where there is a need for recording transactions and storing transactions that are publicly available, not editable, and that can't be changed or hidden.

Blockchain technology is great to ensure full transparency and removes the need for trust because there cannot be lies. All the data is visible and available for everyone to see.

For example, in today's society we have third parties to help us with the issue of trust and transparency. People like judges, lawyers and accountants help us determine whether something is fair or not and whether something happened in a specific way or not...

With blockchain technology, it eliminates the need for third party verification or interference. If something is recorded within a blockchain, there's no need for a court case or for a lawyer or for a judge, because that information is on the blockchain, and it is indisputable. It's either there or it's not there.

Imagine the potential with that...

As an example, take legal contracts. The whole purpose of lawyers is to create contracts to ensure a transaction or a deal is upheld by both ends of the party.

Imagine getting to future stages with Bitcoin technology and blockchain technology, where real world assets get tokenized (meaning that real world assets turn into tokens that can be traded on the blockchain).

Your house could consist of tokens on the blockchain, and your money could consist of tokens on the blockchain.

So... If you wanted to sell your house at some point in future under these circumstances that could potentially happen on the blockchain.

Here's how it could go down:

- The address of the house and the owner of the house could potentially be registered on the blockchain. That's an asset that belongs to you.
- A potential buyer has money in the form of cryptocurrency.
- A deal is made between the two parties where buyer and seller agree upon a price in cryptocurrency, and that amount worth of cryptocurrency gets transferred to a smart contract by the buyer.
- The house tokens get transferred to that smart contract by the seller.
- The smart contract, once it receives both terms of the deal, (both the asset, the underlying property, and the money), can make the swap between the two parties.

There's no need for lawyers. There's no need for different contracts drawn up, because it is all there in the blockchain.

It works through code and technology.

So it's efficient. It's much faster. It's safer. It's more transparent.

There are so many benefits...

I'm talking here about my own examples, my own understanding of it, and trying to explain how amazing this could be.

For example, on blockchain technology, imagine that everyone's identity is on the blockchain.

These days we all have government forms of ID. We have passports, driver's licenses, ID documents, birth certificates, ...

What If There Was a Really Secure Way and System of Having Your Data on a Blockchain?

And how about if it was purely accessible by you?

It isn't publicly accessible, but it is on the blockchain, and you can choose when you want to reveal it, for example when you go traveling and you need to reveal it at an airport.

It might potentially work on a fingerprint or a retina scan, where then you can just access your information on the blockchain, share it with a specific party that needs access to it, for example, the airport authorities to be able to let you out of the country, and it's all right there.

Your passport, your driver's license, your marriage certificate, your birth certificate...

How easy would that make it for us?

Of course, there are pros and cons of privacy, but all that information is already with a government, or with a central entity.

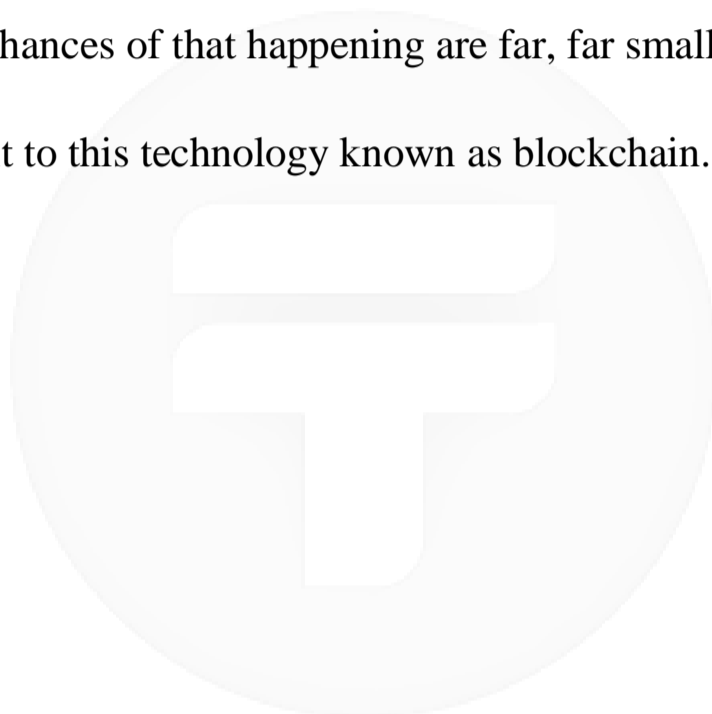
Actually if you think about it, it would actually be much safer to have it on a blockchain, because it is cryptographically secured. This means it's almost impossible for it to get hacked.

Right now your information is sitting on centralized databases that are not very secure.

Not too long ago, a huge company called Equifax got hacked. All their data, tens of millions of records got leaked to hackers, and who knows what's happening with that information?

If it's on a blockchain, the chances of that happening are far, far smaller, if not impossible.

There's an incredible benefit to this technology known as blockchain.



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I hope in this lesson I was able to introduce you to the concept of blockchain technology, and illustrate why it's potentially so good, and how it can go about disrupting enormous amounts of industries.

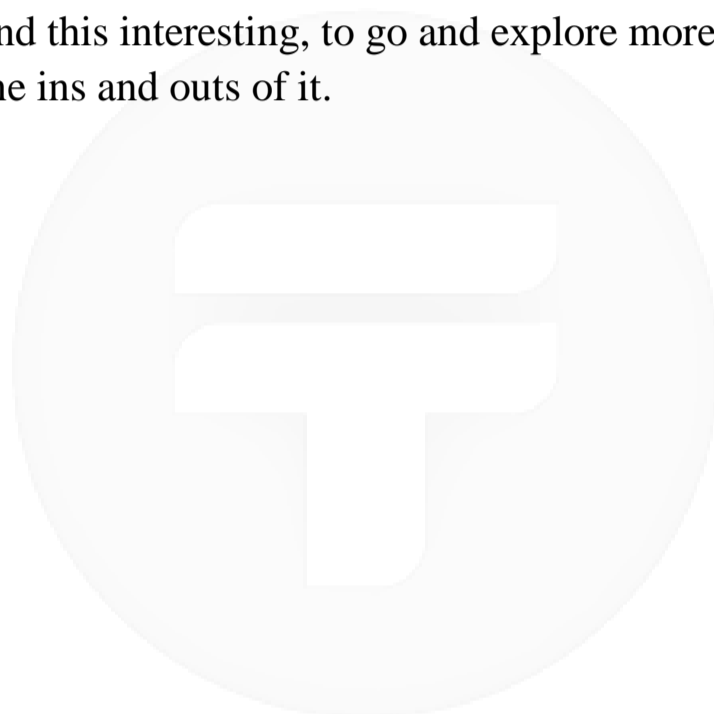
Because it's better...

It's safer...

It's faster...

It's more secure.

I encourage you, if you found this interesting, to go and explore more about blockchain technology, to read about the ins and outs of it.



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LESSON THREE

CRYPTOCURRENCY (BITCOIN AND ALTCOINS)

This lesson is about different types of cryptocurrencies, namely Bitcoin and alternate coins or “altcoins”.

If you're new to the cryptocurrency world, this is important to understand because you're going to be hearing a lot about altcoins. At this point in time there are over 1700 different cryptocurrencies in existence.

There is only one Bitcoin.

Bitcoin was considered the original cryptocurrency. It has the biggest name, the biggest branding, the biggest recognition in terms of cryptocurrency.

If you go to a random person, maybe friends or family, maybe someone you don't know, and you start talking about altcoins, people might look at you funny. But if you say Bitcoin, chances are they've heard about Bitcoin.

So let's dive into Bitcoin first...

Bitcoin

Bitcoin was the first digital currency considered a store of value, maybe a digital gold. Even at this point in time, but especially when it started out, there was this idea that Bitcoin could potentially replace fiat currency, that it could replace the dollar and become the world's new reserve currency.

There are a lot of features and benefits behind Bitcoin...

- Security
- Bitcoin is on a distributed ledger
- It's immutable
- The currency is transparent and public

These are benefits that the current fiat money supply doesn't have.

For example, fiat money is controlled by a central bank.

- It's not transparent

- We don't know how much there is in circulation
- It can be printed at will and without limit

This cannot happen with Bitcoin, and as such it might actually be a better form of monetary currency. Whether that will ever happen, I'm not sure...

But, right now Bitcoin has the largest market cap...

It's the most recognized and personally I believe it's something institutions will invest in when they park their money in cryptocurrency. They're more likely to park it in Bitcoin because it's known and has withstood the test of time for almost 10 years.

Bitcoin hasn't been hacked yet though a lot of people have attempted it.

It has a lot of good things going for it and it's like gold. It might not necessarily become the world's currency because it might be difficult to deal with. Even though there are upgrades coming and they're working on protocols to make it more feasible, it's just really difficult to pay in Bitcoin right now, and the fees are high.

So...

The same thing is true with gold. It's hard to pay with a physical brick of gold because it's not practical.

Still, a lot of people keep gold and it holds its value. The idea with Bitcoin is that it could be the same, but a virtual version.

You might not end up using Bitcoin for day-to-day payments to buy coffee, but it might be a place where you park a percentage of your wealth and hope it will grow over time

So it's just a store of value, or a digital gold – that's Bitcoin.

Now we have the alternate coins, or altcoins for short...

Altcoins

Most alternate coins are based on block chain technology.

There are a few exceptions but I'm not going to cover that here. That'll be something like IOTA, which uses a different version. It doesn't use blockchain at all but uses Tangle. That's not important right now.

There are perhaps 1700 alternate coins at this point in time.

An altcoin uses blockchain technology but it is not Bitcoin and it does not necessarily have the purpose of wanting to become a currency. Even though the name is cryptocurrency, it doesn't necessarily mean it needs to become an actual currency. It doesn't need to be a US dollar, a euro, a pound, a yen.

So these cryptocurrencies have different use cases.

Just expanding a little bit on alternate coins, and here are just some of the various different types of use cases of cryptocurrency.

And this is the beauty of block chain technology. It has so much functionality. It's so much more than just a currency or means of payment.

Blockchain is a new form of technology that makes a lot of current technology obsolete. It's more efficient, more secure, and more transparent. It's just a better way of getting things done.

I think over the coming years and decades, we're going to start seeing blockchain technology replace a lot of current technology simply because it works better.



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LESSON FOUR

PRIVATE AND PUBLIC KEY

This lesson is about private and public keys.

The concept of private and public keys is actually a pretty easy topic to understand, but it's very important you know the difference between them.

With cryptocurrency, when you have an address or an ability to access a wallet or your cryptocurrency, you have two things...

- Public key
- Private key

In simple terms, a public key is like your home address. It's something that anyone could know without causing issues for you.

Now, although you don't want to give your home address to just anyone because you never know what their intentions are, ultimately it wouldn't really matter.

That said, you'd probably limit it to people you want to do business with or that you don't mind knowing where you live. Or maybe if it's a work address that everyone can know like a wallet for cryptocurrency that you're accepting donations to or something like that then it's no problem.

Your private keys are like the literal keys to that property.

If someone knows your home address, but they don't have your keys, it's going to be much harder for them to get in, unless they're going to do something criminal and break in. But if they don't have the keys, they're still locked out, even if they know where you live.

If they have your keys, however, they can access your house or access your cryptocurrency and they can take whatever they want.

From your public key, your wallet address is derived as a hashed version. The public key is usually a longer string of characters. The address, just to make it more convenient and easier to use, is usually just a shortened version: a hashed version of this public key.

Your wallet address is something you can give to people to send you cryptocurrency. If you want to receive cryptocurrency, offer a service or you want to accept a donation, you can give them the hashed version of your public key (a.k.a. your wallet address).

When someone has your wallet address or public key they cannot access or steal your cryptocurrency.

If you've given them this public key or the shortened version of your address, they can send you some crypto but once it's sent, they cannot get it back and they cannot access your wallet.

Your private key, on the other hand, is something that only you should control.

Your private key allows you to access your cryptocurrency. It allows you to send that cryptocurrency to anywhere in the world, and it's something you shouldn't share with anyone, in the same way you wouldn't give your house key to anyone else except someone you really, really trust.

With your house, even if you give someone a key and they steal something, you can probably go to the police and you're probably insured.

With cryptocurrency, though, if someone accesses your wallet and sends that crypto somewhere else, you cannot get it back. Once it's gone, it's gone.

Make sure your private key is 100% secure. We'll touch on securing your private key in the lesson about safety and security and how to store private keys.

Never store your private key online and make sure only you have access to it.

Keep a backup somewhere in a safe location, because if you forget your private key or you don't have access to it anymore, and your backup phrase goes astray, once your crypto's locked, it's gone forever. It will still be there on the blockchain, but you won't be able to access it and you can't reset the password to get your private key. So treat it very carefully.

In summary:

Your public key is used to generate your address where you can receive crypto. You can share your public key with anyone you wish without them being able to access your crypto (just like you can share your bank account number with anyone, even though you still want to be selective with it).

Your private key is just for you. Don't share it with anyone.

LESSON FIVE

COMMON SENSE AND COMMON SCAM IN CRYPTOCURRENCY

Crypto is new. It is unregulated although regulations are slowly starting to come in.

Because it's a new technology online, there are plenty of people willing to take advantage of your ignorance and desire to get rich quick. There are predators and scammers, and outright criminals who will happily relieve you of your crypto. Be very careful. Common sense goes a long way.

Email Scams

- Emails are one of the main ways that it's very easy to get scammed.
- Do not click links in emails.

An email can be faked and made to look like it's actually coming from a particular individual when it's actually coming from somewhere else entirely.

Email lists and services can be hacked...

Maybe you participated in an ICO and perhaps that ICO server's email list got hacked. The hackers got access to the list, and they mailed from that ICO's address telling you to click on a link. Don't fall for it.

Remember, even if you are participating in an ICO, usually they never ask you to click through in that email. They will tell you to go to their website, log in with a secure account then you will get access to a contribution address, or a pool.

Do not simply click on links or images in emails because someone is telling you to do so. It's very risky. You could also get viruses or malware on your computer by clicking on those links. Be very careful.

Instead of clicking links, find the official website. Go to that website and type in the website address yourself. Don't go and click on a random button and think that is a website.

There are lots of scams going on there. I know this sucks, but unfortunately people are taking advantage by email.

Golden rule: do not click on links in emails.



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Malware

Malware is not just from emails. It could be from visiting sites.

Maybe you're reading some news sites, or maybe you're on Reddit. You click on a random website. By visiting this site, you pick up a virus or malware on your computer. That malware could be used to hack your accounts or steal your Crypto.

The solution for this is to carry out any crypto-related activity in terms of buying, selling, logging into exchanges or wallets on a dedicated laptop as we addressed in the Safety and Security lesson.

Have a dedicated computer just for cryptocurrency that's not connected to the Internet except when you need to work on it. Don't use it for any other purpose, it's purely for crypto.

By doing this, you reduce the amount of websites and potential malware you get exposed to and consequently minimize your risk of getting hacked and getting malware on your computer.

As I said a bit earlier, if something is too good to be true, it usually is.

If someone's telling you that you can be an overnight millionaire, it's probably a scam.

If someone's telling you you'll be guaranteed money by participating in a certain ICO, it's usually a scam.

Don't Disclose Your Holdings

Don't go around telling people how much crypto you have, or that you have any crypto at all.

Maybe you have a little bit, a couple coins here and there.

Don't go around telling people you own \$10,000 or \$100,000, or \$10,000,000 worth of crypto because it makes you a target.

We've already seen stories of people being kidnapped after going around bragging about the wealth they have in cryptocurrency.

Don't tell your friends, don't tell your family.

It's the same with money. You don't want to go telling people how much you have in your bank account or your wallet right now. Do the same with crypto. Keep that stuff private, keep it to yourself, and don't share how much crypto you have.

Be Careful With Search Engines

Another common mistake I see people making is using search engines like Google or Bing to find their favorite exchange.

Do not use search engines.

Type in the URL of the exchange directly so if you want to find the Coinbase exchange, go to your web browser and type in www.coinbase.com.

Do not Google Coinbase because search engines can be manipulated.

The display ads might take you to a different website. They might show results that look like Coinbase but are actually a scammer's website. When you go there and you enter your details, you could lose all your cryptocurrency.

For example, if you go to Google and you type in "EOS website", you can see ads that have nothing to do with EOS...

Maybe you go ahead and click it. Maybe it's a scammer displaying an ad that could result in you getting malware or getting hacked.

Do not use search engines to try and find your ICO websites or your exchanges. Find the official website.

If you're looking for a specific cryptocurrency website, go to www.coinmarketcap.com and click on the type of website or the type of crypto you want the website for...

For example, click on Cardano.

Like for every cryptocurrency listed on Coin Market Cap, you will see the website options...

Click this to go to cardano.org, the official Cardano website. Do not use search engines.

Shilling

Shilling happens a lot in cryptocurrency.

The definition of shill is a person engaged in covert advertising.

The shill attempts to spread a buzz by personally endorsing the product in public forums with the pretense of sincerity when in fact he's being paid for his services.

This happens a lot in cryptocurrency with people writing in forums, or spreading fake news on social media about their experience with a specific coin.

These people are often either being paid to promote a coin or they hold a lot of the coin and they want it to go up. They keep talking about it, sometimes in a non-transparent, unethical way that might not even be incorrect.



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Don't believe everything you read.

There's so much fake news going on and this can be done very professionally in campaigns that are spread around the world, even in traditional media and on TV.

Not everything that you see is true. This is common sense, but take everything with a grain of salt.

When you hear something about a rumor, for example, China bans cryptocurrency, it might be completely fake news even though the market reacts to it. You don't really know.

Remember too that search engines can be manipulated, people can run fake ads.

Search engine optimization can get articles ranking and have websites showing up in the search results that shouldn't be there in order to spread a specific agenda.

Things that appear on the home pages of aggregate news sites and prominently on social media sites can actually be actively promoted to be there. They might not be there as a natural result.

Be very careful with accepting anything that you read as the truth.

Always do your own research.

Do not randomly react to an article without verifying it for yourself from multiple sources.

Be Careful With Your Private Key

Lastly, never enter your private key anywhere.

If someone has your private key, they have access to your cryptocurrency.

There are lots of websites made to look like real exchanges or real ICO sites that get you to enter your private key. As soon as you do that, your crypto is gone. They'll go and take it, transfer it out of your wallet, and you will never see that crypto again.

Guard your private key like it's the key to your house, and the key to your bank account.

Do not enter your private key anywhere.

Do not give it to anyone.

If a website asks you for your private key, do not enter it.

If an application asks you for your private key, if your friend asks you, if an email asks you to enter your private key somewhere, do not do this without making sure you should enter it.

When in doubt, do not enter your private key.

A Classic TWITTER Scam

This was a common scam for a while.

It's still going on, but it has now been exposed.

Vitalik Buterin, creator of Ethereum, used the name Vitalik Buterin on Twitter but he changed it to Not Giving Away ETH Buter.

Why did he do this?

In a common scam, people would make a Twitter account, use his exact same profile picture and call it something like Vitalik Buterinn with 2 n's.

If you glance at it you might think it's the real account. Even the blue tick meaning it's verified doesn't mean anything because hackers and scammers can get verified fake accounts.

When Vitalik posted something from his real account, the scammer would enter as the first comment on that post. Keep in mind that this scammer's account looks identical to the real account...

The scammer would say something like:

"Send 0.1 Ethereum to this Ether address and I will send you back 0.5. We are hosting a charity and we're giving away 1,000 Ethereum."

So that's why Vitalik Buterin changed his Twitter handle to Not Giving Away ETH Buterin.

It's amazing how many people fell for this thinking Vitalik was literally giving away 1,000 Ethereum by people having to send 0.1, and him sending back 0.5!

If it sounds too good to be true, it usually is. No one's going to give you free money or free crypto.

If someone told you, "Just send me \$1,000 and I'm gonna send you \$5,000 back," would you do that?

Obviously not, because nobody will send you \$5,000 back.

Common sense goes a long way with cryptocurrency.

Stay Alert

There will always be ingenious new methods to defraud you of your cryptocurrency.

Remain on the lookout for scams.

Anything that looks fishy, stay away from it.

Don't click on links.

Don't click on search engine results if you're looking to buy and sell cryptocurrency, visit exchanges, or for any ICO business.

Use your common sense.

Be careful with this and you will greatly reduce your risk of being hacked or getting malware, or being negatively effected in any way by scammers and criminals.

I hope you enjoyed this content. If yes, and you'd love to know more and start trading as an expert, do well by reaching out to us and lets guide you on your crypto journey.

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Whatsapp: 08169387885

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