



Raza Rython

@razacodes

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Remember my tweet "Mint NFT's with Python"

Yes it's time!

As I promised y'all, I'm coming with content to start using Python in the web3 space.

BUT conceptual knowledge is also important.

So here's a (mega?) thread on what Web3 is.

Disclaimer, capturing everything about web3 in a thread is impossible. This is high level stuff and further reading is recommended.

So before we dive into web3 let's take a look at web1 and web2 is.

In simple terms, web1 is where the World Wide Web started.

The internet pages were very static and data was stored centrally on a server.

In the web1 era, users consumed more info than they created it.

Enter Web2

Web2 data is still stored centrally, however it's 'managed' differently. You see users started to create more data.

You know the whole rise of Social Web/Social Media and stuff.

Also internet pages had a lot more functionalities and looked nicer because of css and..sigh..javas..you know.

But that's not the point. Web2 gave users the ability to create and share information across the internet

So it was a step up from web1, but in this process a 'problem' arose.

You see a lot of parties benefitted from the users data, most prominently the social media companies.

Which seemed odd, because the data was not theirs to 'take'...right?

Technologically speaking they were able to access and use the data, because the data was stored centrally in a database owned by the social media platform.

So the information of my Facebook...or Meta page is stored in the database of Facebook.

When I create a post, its also stored in the database of Facebook.

Maybe by now you're asking why is this a problem.

Well besides the fact that they physically own my data, they can also manipulate it.

What do I mean?



Let's say I make a comment that is super inappropriate, like being racist.

A social media company could delete it.

Not a problem right. I think most people would agree that's not a bad thing.

BUT lets say my comment is more in a gray area OR it just doesn't support the view of company OR puts Facebo..Meta...whatever...in a tough space...then what?

Well the social media platform can decide to just delete my post.

Nothing I can really do about it.

"Oops sorry mister Raza, I don't know what happened but all your data is gone".

Obviously it more tricky than that, but that can happen, theoretically speaking ofcourse ;)

Enter Web3

So 2 issues

1. other people benefitting from my data
2. other people controlling my data, because my data is in central place owned by other people.

Web3 aims to solve through decentralization (also other ways, but i'm focusing on that part).

What does it mean? 🙄

So traditionally speaking, gosh Web2 is so 2010, the data lives on a server and when you fire up your browser and go to FB, the data is retrieved from the server and displayed in your browser (lets not get into client/server side, cached data, cookies and all that good stuff).

Not in web3.0. Your data lives on THE BLOCKCHAIN.

oooo.

Yes. In short, your data is written on the blockchain and the blockchain exists on multiple nodes instead of just one.

Wait...what is blockchain? I thought you were talking about web3!?

Allow me to explain 🙄

In simple terms, blockchain technology is a system of recording information. It's also referred to as a digital 'ledger'.

Traditionally speaking, a ledger is used in accounting to keep a record of all transactions a company or entity creates.

Blockchain aims to do the same.

It keeps a record of all the data written on the blockchain.

Let's compare to Web2. In Web2 your data lives on one node (one server) in a database on that node (centrally).

In web3 your data lives on the blockchain and your blockchain lives SIMULTANEOUSLY on multiple nodes.

In other words a blockchain lives on a decentralized network of computers.

In simple terms a bunch of computers together form a network.

And on each of these computers a full copy of the blockchain exists.

With every transaction, EACH node/computer updates the blockchain.

Ever heard that its virtually impossible to delete anything from a blockchain.

Well the emphasis is on virtually, because its impossible to delete data from aaaaall those nodes simultaneously.

Lets not get into what it would take to delete the data.

Understand that the data is synchronised continuously. You might think that it's quite intense to maintain such a 'digital ledger' or blockchain & ensuring that all the nodes are up to date

Yes

It's 1 of the limitations of blockchain.

Another thing you might think is where are all these computers!?

Who runs the network?

Well that's you and me. Anyone can join the network and introduce their compute as node.

You see this clearly solves that a single company or entity can't just delete your data.

Also data-ownership is more explicit, because nothing is ever deleted from the blockchain and anyone can read it, everyone knows whom's data is whom's.

Also because the data is not centrally owned, its a lot harder to benefit from data which is publicly available.

Not only that, because the data is public, transactions can be 'validated'.

A financial transaction, money from account X to account Y is publically recorded.

Now if you're great at money laundering, it becomes quite difficult to 'track' the money through 100s of bank accounts in web2, because all these databases are owned by different banks and maybe some of the data gets 'lost'. Not in web3.

Web3 you can see exactly where the data originates and track a transaction from beginning to end, because its all stored on the blockchain.

This form of decentralisation, creating trust, removing third parties etc. are huge benefits of web3.

Now this thread is already getting quite long and im just sharing here what im learning.  
Next up i will dive into crypto currency, nft's, etc.

Understanding all of this is important for us Python developers, because as developers we have to understand WHAT we want to do. Then we can apply or skills to code some Python and make the magic happen.

OK Stay tuned for episode 2 and after that we'll get our hands dirty by using Python to do some 'Web3 Stuff'.

ARE YOU EXCITED!? I know I am.

Please like share if this helped and as always...  
Now go and code some Python

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