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~ Internet Censorship and Bitcoin ~

Why Twitter can ban you, but Bitcoin never will

What are the technical differences between centralized platforms and decentralized networks?

Let's dive in 👇

Over the past few years we've seen a lot of controversial figures get banned from popular websites like @Twitter, @YouTube, @Facebook, and @Instagram.

Let's review the technical details of how these sites work and see why banning people is so easy on websites, then compare that to a decentralized network to see the difference.

Let's look at the centralized platform @Twitter as our first example.

When your phone opens the Twitter app, or you type "twitter.com" into your web browser, your device sends an electrical signal out to the Internet saying:

"Give me the data at twitter.com".

This request for information gets transmitted through the Internet (need a separate thread on how that works 😂), but it eventually ends up at one of Twitter's Servers.

A Server is just a fancy name for a computer that's connected to the Internet and specialized to run websites.
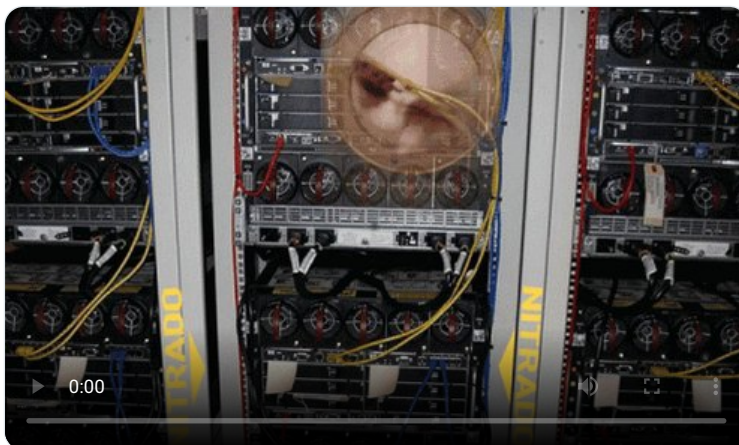

This Server then runs some code (checks your username, compiles your timeline of cat pictures, figures out what your new notifications are, etc), and then sends all that data back to you

Here's a nice diagram of the process

In this picture we see how 3 separate users (called "Clients") all go through the Internet to connect to the same central Server.

This is known as the "Client-Server" model and is how just about every website is run today
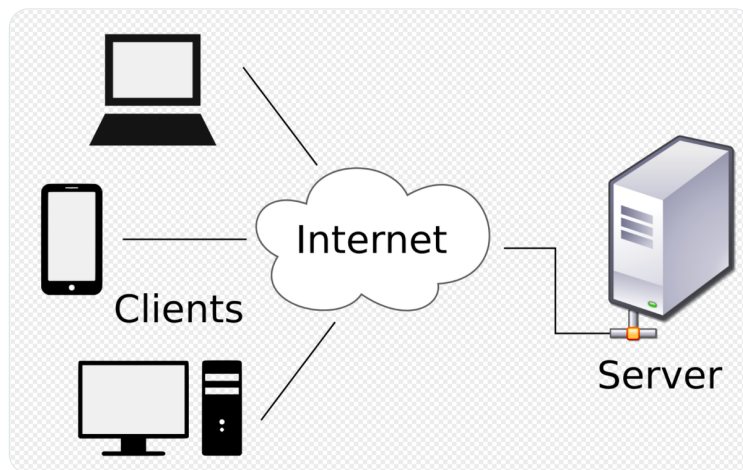
So the Server responds and now you have a wonderful timeline of cats, but oh no, your favorite tweeter has been banned!

What happened?

The key here is that Twitter 100% controls all the twitter.com servers, so they have full control over who sees what data

So what's different about Bitcoin?

What's all this talk about "Decentralization"?

Let's dive into how the Bitcoin network does things...

Bitcoin kinda has Servers too, but we call them "Nodes", and anybody can run one.

In fact there are thousands of Bitcoin Nodes continuously running all over the world.

Some publicly share their location (IP Address), while other stay private (using Tor).

In fact, YOU, right now, with a modern laptop and decent Internet connection can download the Bitcoin code and run your own Node

It only takes a day or two for your computer to get caught up with history of all transactions (blockchain), and become an active Node in the network

But if there is no central Bitcoin Server, then what happens when somebody wants to send a Bitcoin transaction?

How do they know where to send it?

Well here's the magic - they just need to find ONE of the nodes to send it to

The Bitcoin Node software is designed to find and connect to other Bitcoin Nodes around the world

When a transaction makes it to one of the Nodes, this Node will forward it to all its friends (peers), who will forward it to all their peers and eventually the whole network has it
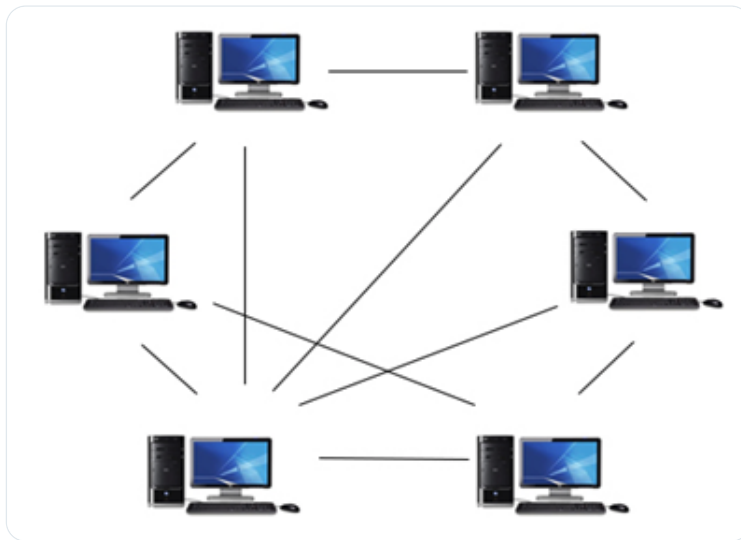
Since there is no Central Server - this makes Censorship really really hard, if not impossible.

How would ban somebody from using Bitcoin?

0:00 HOW?
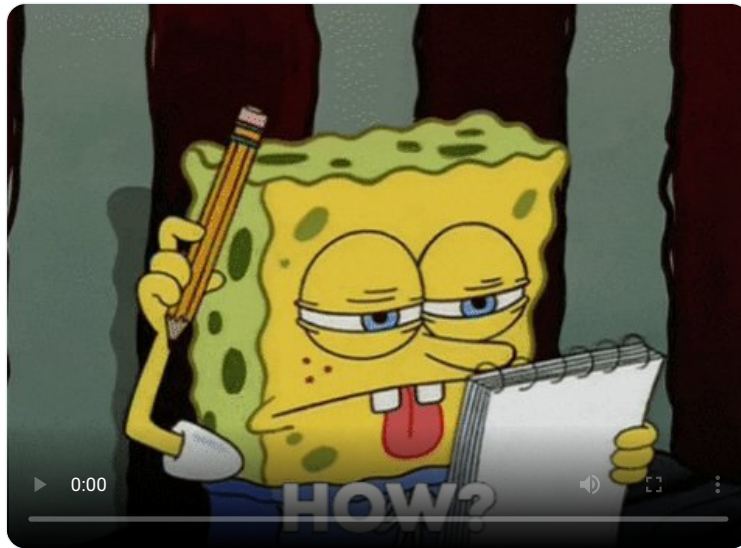
You can ensure you'll never be blocked from the Bitcoin network by just running your own Bitcoin Node

But even if you don't run your own Node - banning anybody from Bitcoin is basically infeasible....

To ban someone, you'd have to somehow contact and convince the majority of the many thousands of nodes all around the world to all change their software

Some of these Nodes haven't upgraded their software in years

Some are on the Dark Web

And most wouldn't listen to you anyway

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So in summary, it's really easy to get banned from a website, platform, or service that uses the centralized Client-Server model.

But it's basically impossible to get banned from a truly decentralized peer-to-peer network like Bitcoin

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