

Bitcoin and cryptocurrency for n00bs

January 8 2018, by Dr Kate Raynes-Goldie



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Everyone is talking about it, but no one actually understands it. Read this and impress your friends by explaining bitcoin.

In a restaurant the other night, I overheard an older couple talking about how their son had made a whole bunch of money with this "new fake online currency".

They were, of course, talking about bitcoin. Bitcoin is indeed an online currency, but it is very far from fake. At the time of writing, one bitcoin was worth over AU\$20,000.

Bitcoin and [blockchain](#) (the technology behind it) was also the subject of a full-day event as part of the recent [West Tech Fest](#) in Perth.

The reason technology folk are all excited about bitcoin is that it is seen as a way to privately and securely exchange currency through the internet (although, like every technology, bitcoin [is not perfect](#), and [researchers are already finding holes](#)).

Cryptocurrency?

Bitcoin is a form of [cryptocurrency](#), which basically means it's a type of money or medium of exchange that uses [cryptography](#) to ensure the security of transactions.

While there are now many different types (you may have also heard of [Ethereum](#)), bitcoin was the first and is still the most well known type of cryptocurrency.

What bitcoin isn't

The most obvious entry point to understanding bitcoin is to first start with why bitcoin is different. Or in other words, what bitcoin isn't.

Bitcoin isn't like conventional currency in four key ways. First, it isn't issued by the government. Second, it doesn't have any physical

instrument. Bitcoin is entirely digital and only exists online. Third, it doesn't require a bank.

And fourth—and perhaps the most important difference between bitcoin and conventional currency—is the ledger. Ah, and what's a ledger you ask? Think about your bank statement—it's a type of ledger. On it, you see a list of transactions—the money going into and out of your account. The bank controls the ledger, and only you and the bank are able to see those transactions.

In the case of bitcoin, [the ledger is public, and because it is distributed, it is controlled by no one](#). But while the ledger is public, the entries are anonymised. Perth-based [Ian Love](#), CEO of Australia's first digital asset management company, [Blockchain Assets](#), describes this as "[transparency with anonymity](#)".

Bitcoin mining for fun and profit

Another term you may have heard is 'bitcoin mining', which is another way of obtaining bitcoin rather than purchasing it with regular money.

To understand how mining works, we again need to think about the distributed nature of bitcoin's ledger.

Another way of getting your head around a distributed ledger is by thinking about the internet itself, which was designed as a decentralised, distributed network of computers that no one person or group controls. (This, unfortunately, is under threat as [net neutrality laws are being dismantled in the US](#), but that's a story for another day.)

The work of maintaining bitcoin still needs to be done, but since no one person or group (like a bank) controls it, the work is distributed. This is what bitcoin mining is—[it's adding transactions to the ledger](#) or the

[blockchain](#). Anyone can do it with their computer, and you're rewarded for giving your computing time through bitcoin.

In this way then, just as [the values of traditional currencies were once linked to gold](#), the value of bitcoin can in a sense be seen as linked to electricity.

The Geocities era of blockchain

Remember the early days of the internet, when no one could have really predicted Facebook or cloud computing? That's the time we're in for [bitcoin](#) and blockchain. And if you consider that blockchain allows for the trading of all sorts of things, not just [currency](#), the possibilities are almost endless.

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