

COMPUTER GURU — by Don Benjamin

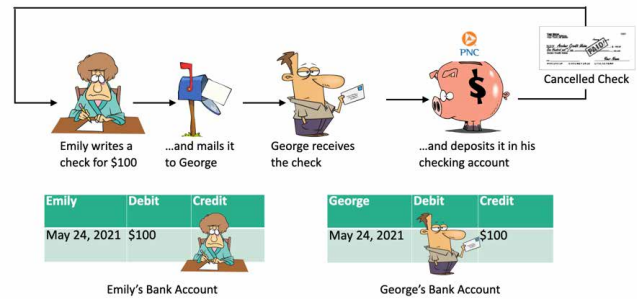
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Bitcoin

Bitcoin is one of many cryptocurrencies that don't depend on banks to serve as clearinghouses. So should you pay for stuff with Bitcoin? In this edition of Guru, we'll dip our big toe into the world of cryptocurrency.

Before we explain Bitcoin, we need to review what happens when you pay someone with a check or credit card, both of which are non-cash transactions.

In the picture to the right, Emily mails George a check for \$100. George takes the check to his bank and gives it to the teller with a deposit slip. The bank then transfers \$100 from Emily's checking account to George's. Emily receives her cancelled check as a receipt, and the bank sends Emily and George a "ledger" (bank statement) each month that lists their transactions.



Banks serve as clearinghouses for transactions by check.

Neither Emily nor George physically handles the cash.

Instead, the bank “clears” the check, debits the buyer’s account, and credits the seller’s.

It’s worked well all these years, but there are some downsides. For example, Emily may not have \$100 in her account, the check can be lost in the mail, or need a few days to clear. And checks can be forged.

On the other hand, Bitcoin transfers funds directly from the buyer’s Bitcoin account¹ to the seller’s without the need for a bank to clear the exchange (see picture below).

But where is the record of the transaction? There’s no cancelled check or bank statement.

Instead, the Bitcoin system places the transaction details into multiple, identical online ledgers, called “blockchains,” managed by a consortium of blockchain managers.

Because there are multiple copies of these blockchains, if anyone tries to manipulate an entry to divert funds, the corresponding blocks in other blockchains won’t agree, and management consortium will correct the error. Moreover, the blocks are openly available to Bitcoin users so that they can confirm their transactions.

There’s one more feature of cryptocurrency—**anonymity.**

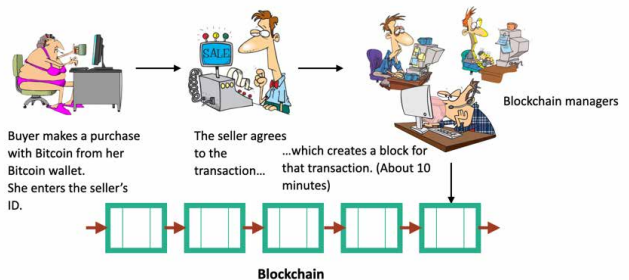
The buyer and seller may never know each other—they only know each other’s IDs, which they’ll see in the blockchain ledger. This privacy is why scammers often demand ransom payments in Bitcoin.

The downsides include the enormous computing effort by the blockchain managers to maintain the blockchains (called “mining”) and the unstable value of cryptocurrencies, which aren’t managed like the dollar.

Now, I’ll admit this is a superficial view of the blockchain concept that forms the backbone of Bitcoin and other cryptocurrencies.

I have no reason to use Bitcoin, and many reasons not to. Cryptocurrency may have a place in our economy, but not to pay for my recent Amazon purchase of bathroom tissue (which you may have gift-wrapped if you’d prefer.)

If you have questions for the technology lab, visit the PSRC website at <https://www.princetonsenior.org/technology-lab/>, fill out a request form, and we’ll be in touch.



¹ Both the buyer and seller must subscribe to one of many Bitcoin account services, which issues account IDs and passwords.