

BLOCKCHAIN APPLICATIONS: HOW IT IS USED

To better apply blockchain in any undertaking, you must first understand what it is. A blockchain is a distributed database that everyone can get a copy of. Every person with a copy can add new records to this database but cannot change any record that is originally in there. This property makes a blockchain great to record data in a transparent way because everyone gets to see what's in it.

Applications

The most common application is in cryptocurrencies. When Bitcoin launched in 2008 it allowed people to directly transact with one another without having to trust third parties like banks. Since then, over 1600 different cryptocurrencies have been created.

Eliminating Odometer Fraud in Cars

By tampering with the odometer someone can make a car appear to be newer and less worn out, resulting in customers paying more than what the car is worth. The government tries to counter this by collecting the mileage of cars when they get a safety inspection but that's not enough. To solve this, we could replace regular odometers with smart ones that are connected to the internet and frequently write the cars mileage to a blockchain. This would create a secure and digital certificate for each car.

Since this process uses a blockchain, no one can tamper with the data, and everyone can access a vehicle's history. The technology is already being developed by Bosch's IoT lab and they are currently testing it on a fleet of 100 cars in Germany and Switzerland.

Besides odometers, you can also keep track of things like intellectual property or patents, or it can even function as a notary. A notary is someone who can confirm and verify signatures on legal documents. Blockchain eliminates the need for such a person.

Digital Voting

Right now, voting happens either on paper or on special computers that are running proprietary software. Voting on paper costs a lot of money and electronic voting has security issues. In recent years we've even seen countries move away from digital voting and adopting paper again because they fear that electronic votes can be tampered with and influenced by hackers. But instead of paper, we could use blockchains to cast and store votes.