

Explorers

Blockchain

Skill Overview: How it Works: Blockchain



Transcript

Since the days of clay tablets people have recorded the exchange of goods and services. As we evolved into the digital age recording these transactions has become much more complex, whether it's the exchange of money between two parties documenting how goods move through a supply chain or making contractual agreements. The growth of global commerce and trade has created a network of disparate ledger systems vulnerable to errors, fraud and misinterpretation.

Take the diamond industry for example, the journey of a diamond from mine to consumer covers a complex landscape of legal, regulatory, financial, manufacturing, and commercial practices. Current supply chains have to rely on intermediaries every step of the way from government officials to lawyers accountants, dealers, and banks. This adds time and cost, the diamond smuggling and fraud can hamper governments from collecting fair export taxes and consumers and retailers face the prospect of purchasing counterfeit or unethically mined stones. This is where hyper ledger blockchain technology comes in, it has the potential to eliminate these vulnerabilities with transparent transactions.

Blockchain offers all parties involved in a business network a secure and synchronized record of transactions, the blockchain ledger records every sequence of transactions from beginning to end whether it's hundreds of steps in a supply chain or a single online payment. As each transaction occurs it's put into a block, each block is connected to the one before and after. Groups of transactions are blocked together and a fingerprint of each block is added to the next thus creating an irreversible change. That's why blockchain is ideal for recording the mining, refining, and distribution of one of the most valuable goods in the world. It can trace a diamonds path from the mine to the hands of the consumer with exceptional security and transparency.

While blockchain works with all types of transactions there are three key features that make hyper ledger blockchain uniquely capable to handle the requirements of a regulated industry like diamonds: It's distributed, its permissioned, and it's secure. Since the ledger is distributed it works as a shared form of record-keeping, ensuring no one person or organization holds ownership of the system. As the diamond cycles through its supply chain, everyone involved during the process is permissioned to have a copy of every record and piece of data and no transaction can be added to the chain without consensus across the participants. This means no one person can add to or alter the blockchain without being permanently recorded, making it tamper resistant and highly secure, and eliminating the risk of fraud and error. No one, not even a system administrator can delete it.

In the case of diamonds, a blockchain ledger keeps a record of high resolution photos of each diamond and every touchpoint along its journey. It holds certificates of authenticity, real time records of every payment transaction as well as product details like cut, clarity, color carat and diamond serial numbers. At the end of the buying cycle there is a complete auditable and indisputable record of information.

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Blockchain technology gives us the ability to transform industries of all sorts from diamonds to flowers, monetary transactions, or even things like contracts, deeds, records and other public and private agreements. It frees up capital flows, speeds processes, lowers transaction costs and most importantly provides security and trust. We believe that blockchain will do for business what the internet did for communication, create new ways of working and leave more time for creativity and innovation.