COLOMBIA POTENCIA DE LA VIDA

TIC

Módulo 1

"10 Real-World Smart Contract Use Cases"

TALENTO TECH
AZ | PROYECTOS EDUCATIVOS
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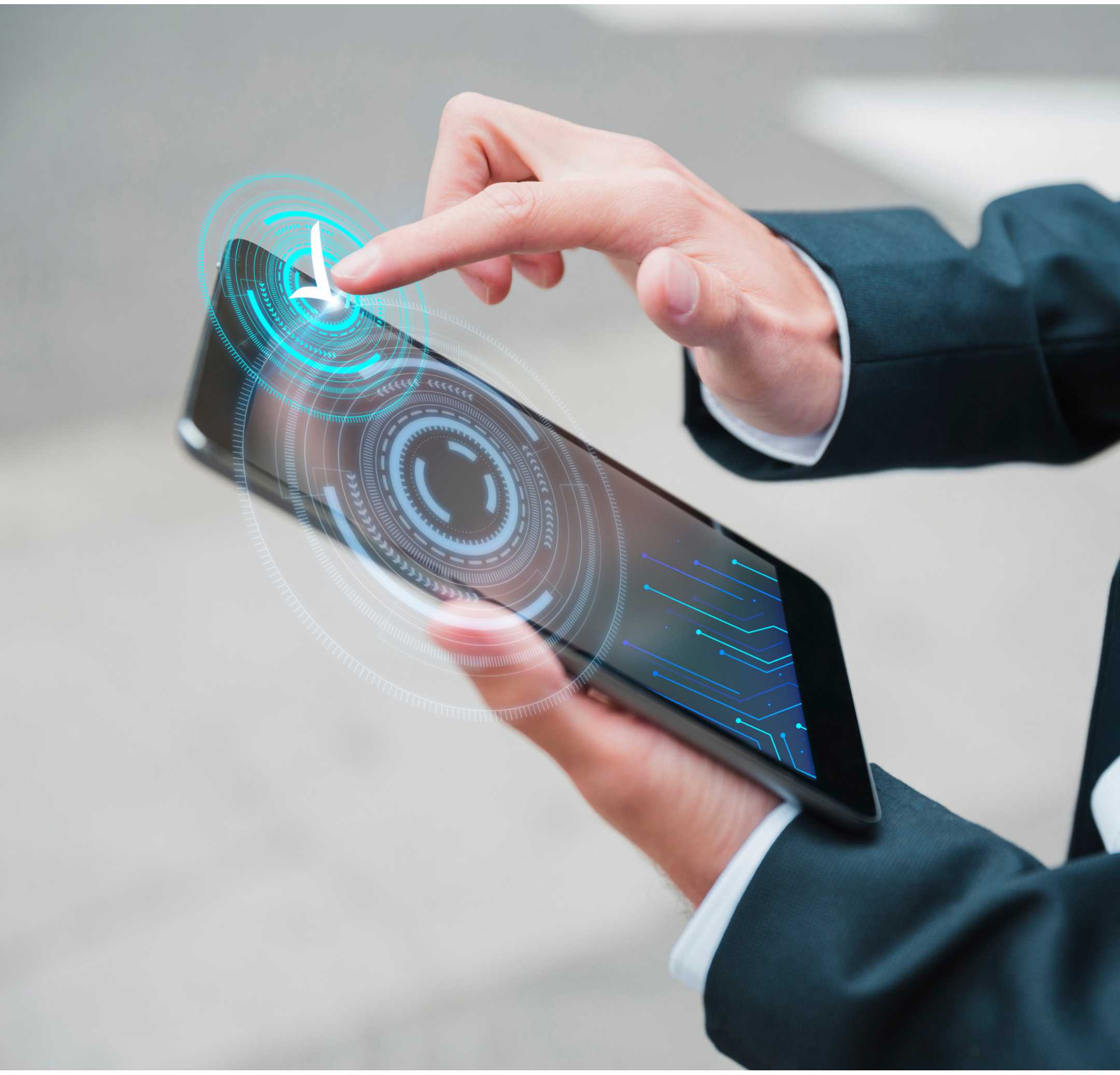

1. Smart Contracts:

Digital programs stored on blockchain networks that execute automatically when predetermined terms and conditions are met.

2. Blockchain Technology:

A decentralized and distributed ledger system that ensures secure, transparent, and tamper-proof recording of transactions.

3. Decentralized Finance (DeFi):

A financial system built on blockchain technology that aims to recreate and improve upon traditional financial systems, eliminating intermediaries.

4. Hedera Consensus Service:

A platform that leverages the Hedera network for secure and trusted data tracing and verification in applications like supply chain management.

5. Fractional Ownership:

A concept enabled by smart contracts, allowing the division of ownership of assets, such as real estate, into smaller, tradable units represented by tokens.

Reading comprehension #3: "10 Real-World Smart Contract Use Cases"

Real-World Smart Contract Use Cases

Smart contracts are digital programs stored on blockchain networks. When predetermined terms and conditions are met, these contracts are automatically executed. It's a straightforward concept with huge implications. The number of smart contract use cases grows daily as more people see the tremendous potential of smart contract technology.

Let's recall how traditional contracts work using a real-world example: When someone agrees to rent a property, a contract is created between the tenant and the landlord. This contract carefully defines the terms of the rental agreement between the two parties. For instance, the tenant must pay the rent on the first day of each month. While a standard contract can define terms like this, it can only be enforced by a third party.

If there's a dispute between the two parties, a governmental third party must get involved. In many cases, this third party will also play a role in the creation of the contract. Fortunately, distributed ledger technology means intermediaries are no longer needed to oversee contracts. Using smart contracts is a gamechanger for many industries.

Smart contracts were introduced in the 1990s by cryptographer Nick Szabo. He referred to "a set of promises, specified in digital form, including protocols within which the parties perform on these promises."

Why are smart contracts useful?

From simple transactions to complex endeavors, these self-executing contracts remove the middlemen and create independence. No matter the industry or scenario, the middlemen always want a cut. With an automated smart contract, you do not need to trust or pay middlemen because they are not needed. This streamlines the process and can make smart contracts cost-effective.

The entire system is essentially trustless. You do not need to trust any other parties, such as brokers or lawyers, to enforce or carry out the transaction. This means smart contracts are fast and disruption-free. Blockchain technology powering smart contracts creates immutable data that nobody can change. Encrypted data adds a layer of security to the transaction.

IfVarious industries are beginning to recognize the versatility of smart contract technology. When it comes to real-world examples, particularly with property ownership and financial services, the sky's the limit. Smart contracts run on a public ledger. The transactions are visible to everyone on the network, creating a sense of transparency. You also cannot change or delete transactions on a distributed ledger.

Smart contracts can run simple transactions, but blockchain technology also works well for detailed transactions with exchanges involving multiple parties. You can leverage a coding language like Solidity to craft transactions on the Ethereum Virtual Machine, Hedera and other platforms. After creating a smart contract, you can use it repeatedly and connect it to other transactions.

Real smart contract use cases

Now you understand how smart contracts work, let's look at some smart contract examples from the real world.

Clinical trials

Data sharing between institutions is vital to effective clinical trials. With the support of smart contracts, professionals can seamlessly share data across the industry. Blockchain technology can also help with the authentication of the data to ensure it is accurate. This is a gamechanger for those trying to launch wide-reaching clinical trials. Smart contracts have many uses in the healthcare industry.

Music industry

Emerging music artists depend on streaming income as they get started in the industry. Smart contract applications can make royalty payments easier. For instance, these contracts can include which percentage of the royalty income goes to the record label and the artist. These payments can happen instantly, which is a major win for all parties involved. Tune.fm, for example, is a tokenized music economy that helps artists get paid directly for every second streamed using JAM tokens. Artists can mint NFTs for exclusive content and sell them directly to fans for JAM tokens.

Supply chain management

As self-enforcing contracts, smart contracts can operate autonomously without the need for any intermediaries or third parties. If you designed a smart contract for an end-to-end supply chain, this would require no daily management or auditing. Any deliveries received outside the schedule could trigger pre-agreed escalation measures to ensure a smooth operation.

Datahash, formerly Entrust, is Australia’s first full-service agricultural supply chain platform. It is working to thwart the $3 billion-a-year market in fraudulent wine. The platform relies on Hedera Consensus Service to trace its data in a trusted way.

Property ownership

You can use smart contract technology to offer fractional ownership of real estate. Rather than one person owning a property, you can segment ownership so people can buy tokens of the property. When someone owns a token, they co-own a percentage of the property. This makes it easy for anyone to jump on the property market and make micro-investments.

Mortgages

The mortgage industry needs a massive overhaul. It’s currently bloated with costly third parties and time-consuming processes. Smart contracts can ensure that lenders and loan seekers agree to clear terms and conditions, such as proof-of-funds and payment planning. This emerging technology can validate mortgage transactions without the need for any lawyers or other third parties.

Retail

Smart contracts can help to streamline administrative processes that are often a burden to brick-and-mortar retailers. Retailers can create smart contracts to enable fast payments to contractors. Another possibility: Digitize payroll administration and track it in real-time. Retailers also can place unique blockchain identifiers on inventory units to create visibility across supply chains.

In this sector, Dropp enables micropayments for small value transactions in both cryptocurrency and dollars. Merchants save money and grow their business, and consumers get convenient access to products and services.

Digital identity

From reputational data to digital assets, you can store components on a smart contract to form a digital identity. When smart contracts are connected to various online services, the counterparties can learn about the individuals without revealing their identities. Smart contracts could contain credit scores that lenders can use to measure potential risk.

For example, MyEarth ID is a decentralized Identity Management System that allows users to control their digital identity data and securely verify it with third parties.

Recording financial data

Smart contracts can help to facilitate accurate and transparent data collection. When it comes to recording financial data, smart contracts can radically reduce costs for auditing and ensure compliance. These smart contracts can execute set financial rules without the need for any intervention. This can streamline administrative workflows and save accountants time.

At another intersection of smart contracts and finance, AllianceBlock is building a protocol to bridge decentralized finance (DeFi) and traditional financial services (TradFi). AllianceBlock's AllianceBridge is a validator network leveraging the Hedera Consensus Service.

Voting in elections

Smart contracts could create a secure environment for voting, reducing the risk of potential voter manipulation. Each vote using a smart contract is ledger-protected. Due to the encryption, these are incredibly hard to decode. Smart contracts could also increase voter turnout. With an online system powered by smart contracts, there is no need to travel to a polling station.

Insurance sector

The insurance world is full of disputes. With this in mind, smart contracts have an important role to play in automating policies and services in the insurance industry. This can help to reduce insurer costs and result in lower premiums. With automated claims payment processes powered by smart contract technology, policy-holders can get paid faster than through current manual processes.

The bottom line

Are you interested in using smart contracts for your organization? There has never been a better time to explore the potential of smart contracts. The only limit is your imagination. With Hedera, you can build decentralized applications and protocols that scale with smart contracts.