

Bitcoin Block Chain Scripts, Use Cases Of Bitcoin Blockchain Scripting Language In Micropayment

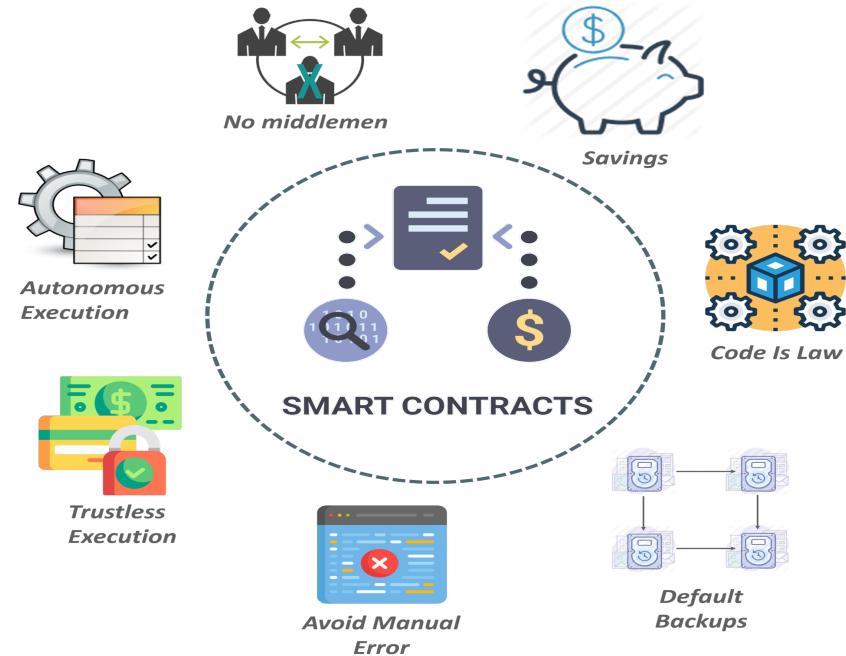
Madhu Parvathaneni

Introduction

Bitcoin blockchain scripts enable users to create smart contracts on the blockchain.

One of the use cases of blockchain scripting is in micropayments.

Micropayments are small transactions that are usually less than \$1.



Bitcoin Scripting Language

Bitcoin scripting language is a simple stack-based programming language.

It is used to create conditions for spending bitcoins.

Scripting language uses transaction inputs and outputs as its main variables.

```
new PublicKey('03e3818b65bcc73a7d64064106a859cc1a5a728c4345ff0b641209fba0d90de6e9'),  
new PublicKey('021f2f6e1e50cb6a953935c3601284925decd3fd21bc445712576873fb8c6ebc18'),  
  
var redeemScript = Script.buildMultisigOut(pubkeys, 2);  
var script = redeemScript.toScriptHashout();  
assert(script.toString() === 'OP_HASH160 20 0x620a6eeaf538ec9eb89b6ae83f2ed8ef98566a03  
  
var address = Address.fromString('1NaTVwX00UJaxDQajoa9MqHz4uTxtgKf4');  
var script = Script.buildPublicKeyHashOut(address);  
assert(script.toString() === 'OP_DUP OP_HASH160 20 0xecae7d09294  
var threshold = 2;  
var script = Script.buildMultisigOut(pubkeys, threshold);  
assert(script.toString() === 'OP_2 33 0x022df8750480ad5b26950b25c7ba79d3e37d75f640f8e5d9  
+ ' 33 0x03e3818b65bcc73a7d64064106a859cc1a5a728c4345ff0b641209fba0d90de6e9'  
+ ' 33 0x021f2f6e1e50cb6a953935c3601284925decd3fd21bc445712576873fb8c6ebc18 OP_3
```

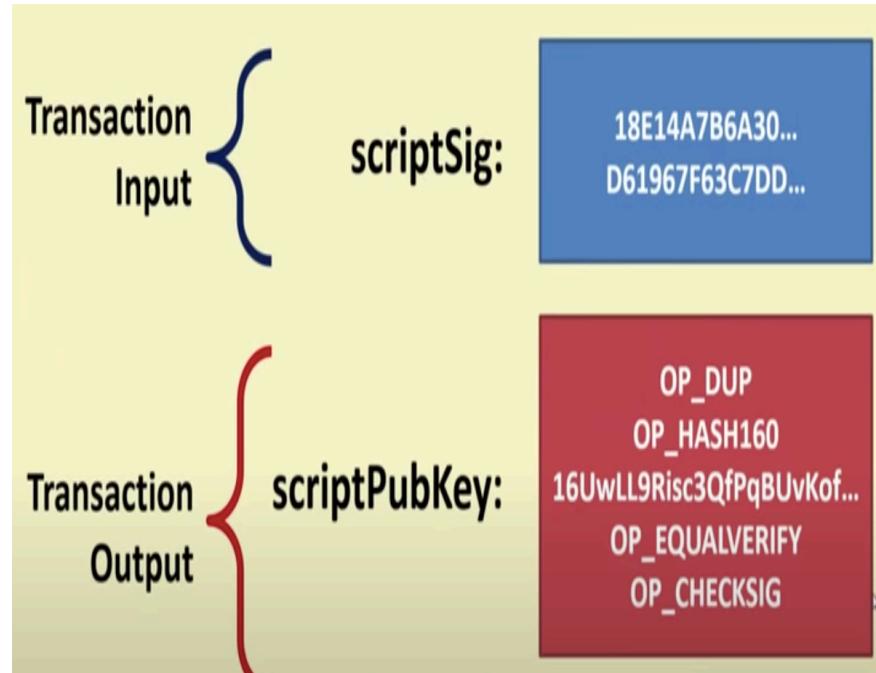


Scripting Language in Bitcoin Transactions

Bitcoin transactions have inputs and outputs.

Inputs are references to previous transactions where coins were sent.

Outputs are addresses where coins are sent.

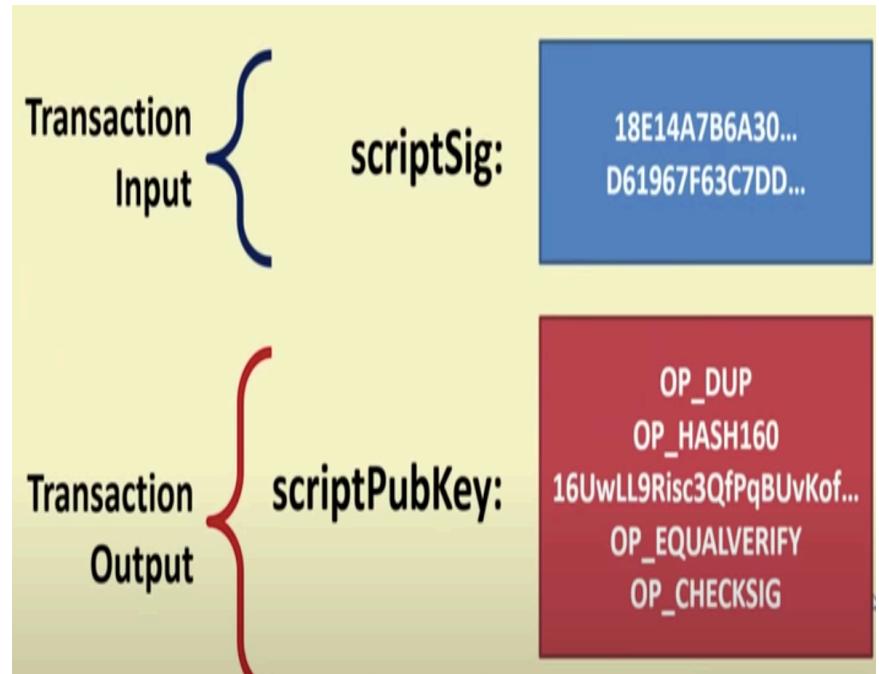


Scripting Language in Bitcoin Transactions

Scripting language is used to specify conditions that must be met to spend bitcoins.

Conditions include digital signatures, multisignatures, and time locks.

If conditions are not met, the transaction is invalid.



Scripting Language in Micropayments

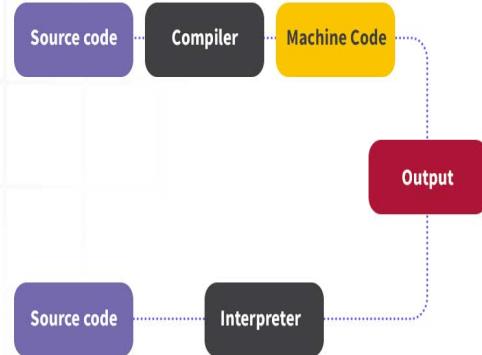
Scripting language is used to enable micropayments.

Micropayment channels are opened by creating a multi-signature address.

Transactions can be made off-chain to avoid transaction fees.



What is
**Scripting
language?**



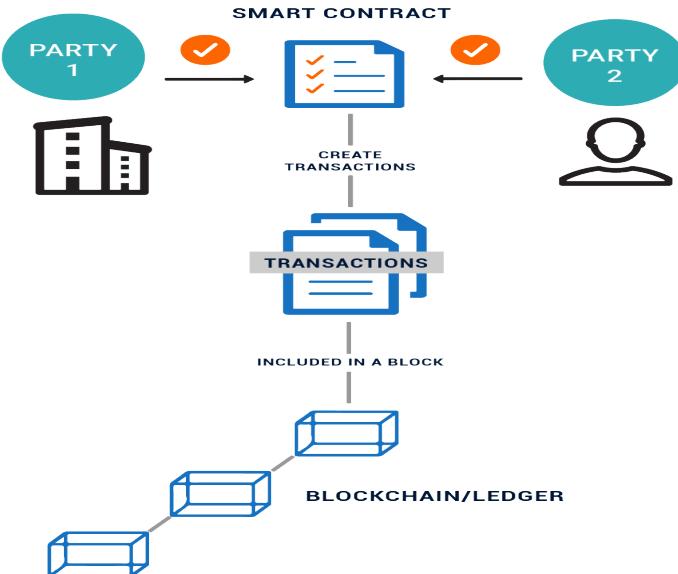
Scripting Language in Micropayments

Micropayment channels allow for multiple transactions without going back to the blockchain.

Transactions are only broadcast to the blockchain when the channel is closed.

This reduces the number of transactions on the blockchain and saves fees.

BLOCKCHAIN AND SMART CONTRACTS - FLOW DIAGRAM



Scripting Language in Micropayments

One use case of micropayments is in pay-per-use services.

Users can pay for a service in small increments instead of paying a large upfront fee.

This enables access to services that were previously too expensive or not feasible.

The screenshot shows a WordPress dashboard with a dark theme. At the top, there's a navigation bar with icons for My Blog, 2 posts, 0 comments, a New button, Edit Page, and Enable Visual Builder. Below the navigation, the WordPress logo and the word "divi" are visible. On the right side of the header, there are links for Home, Shop, and Contacts. The main content area has a title "Manage Wallets". It contains three input fields: "Wallet Name" (empty), "Points" (value 0), and "Comment" (empty). A green button at the bottom is labeled "Adjustment". A cursor icon is positioned over the "Points" field.

Scripting Language in Micropayments

Another use case of micropayments is in content monetization.

Content creators can receive micropayments from users for access to their content.

This can incentivize the creation of high-quality content and reduce reliance on ads.



Home Shop Contacts

Create Wallet

Your wallet ID is:

24ec5550c776cdb118671ec32317500e

Update

34df14b3754388f04f448e3d5ab1d36a

Update

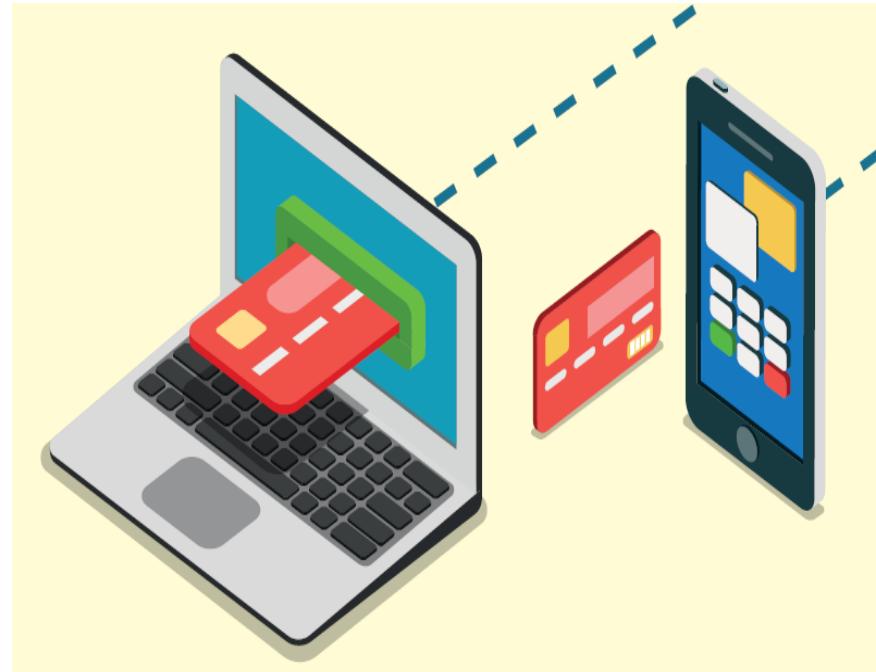
Create wallet

Scripting Language in Micropayments

Micropayments can also be used for tipping.

Users can tip content creators for their work.

This can encourage creators to continue producing quality content.



Scripting Language in Micropayments

Micropayments can also be used for gaming.

Players can pay small amounts to play games or access in-game content.

This can create new revenue streams for game developers.

Scripting Language in Micropayments

Micropayments can also be used for donations.

Users can donate small amounts to charities or causes they support.

This can make it easier for people to contribute to causes they care about.

Future of Micropayments



- Micropayments' benefits are clear:
 - Increase revenue possibilities.
 - Motivate expansion of online content.
 - Allow user-specific digital products.
- Current picture may be changed by:
 - Definition of standards (W3C).
 - Entrance of big players (MS).

Advantages of Micropayments

Micropayments enable access to services that were previously too expensive.

They can incentivize the creation of high-quality content.

They can create new revenue streams for creators and developers.

Future of Micropayments



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Advantages of Micropayments

Micropayments can reduce reliance on ads.

They can encourage donations to charities and causes.

They can create new business models and revenue streams.

Future of Micropayments



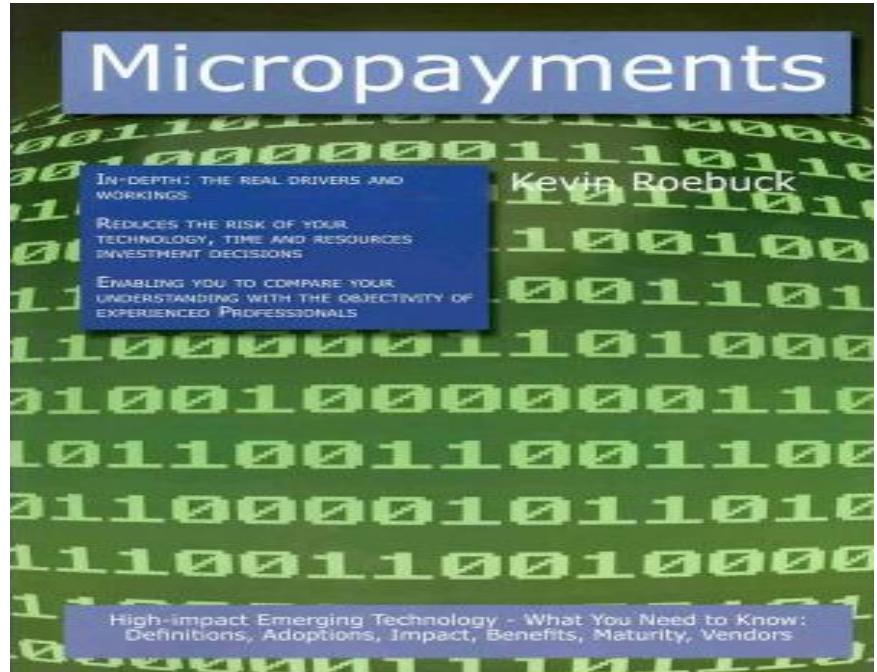
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Challenges of Micropayments

Micropayments require a high level of security.

They can be vulnerable to hacking and fraud.

They require a significant amount of development and maintenance.



Challenges of Micropayments

Micropayments can be subject to regulatory scrutiny.

They require a significant amount of user adoption.

They can be limited by transaction fees and scalability.

Future of Micropayments

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Conclusion

Bitcoin blockchain scripts enable micropayments.

Micropayments have many use cases, including pay-per-use services, content monetization, and gaming.

While there are challenges, micropayments have the potential to create new business models and revenue streams.

Does the Business Scenario need Blockchain?

Does...it need to be Secure?

Authenticated counterparties digitally sign contracts, updates and approvals.

...it need to be Shared?

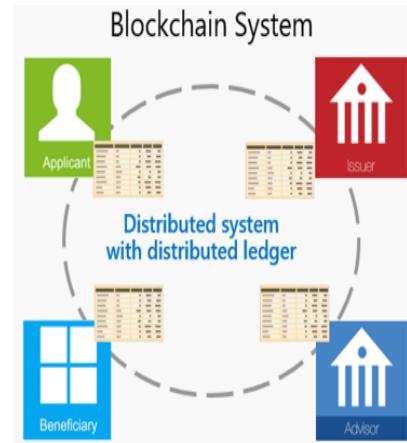
Parties collaborate in near real-time using standardized templates.

...it need to be Distributed?

Each member of the network can use the blockchain to validate the other counterparties.

...it need to be Authoritative?

Each immutable entry is written once thereby increasing visibility and auditability while reducing error rates.



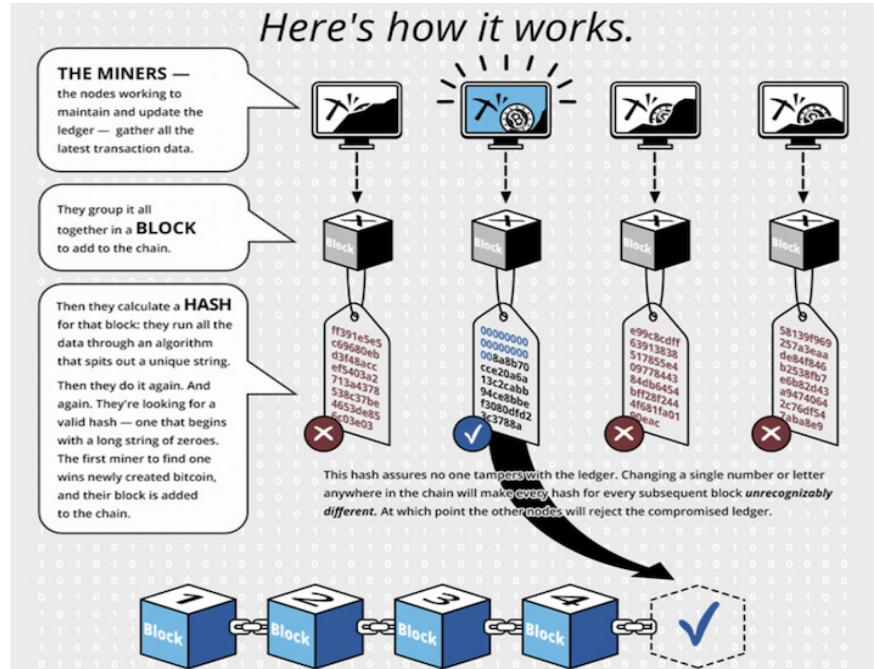
Escrow Etc Downside Of Bit Coin Mining

Introduction

Bitcoin mining is the process of adding transaction records to the public ledger of the Bitcoin network.

Escrow is a legal arrangement where a third party holds and regulates payment of the funds required for two parties involved in a given transaction.

While Bitcoin mining and escrow have their benefits, they do come with certain downsides.



Escrow - Benefits

Escrow provides a safe and secure way to conduct transactions.

It helps prevent fraud and ensures that both parties fulfill their obligations.

Escrow also helps resolve disputes in case of a disagreement between the parties involved.



What Is Escrow Service?

An escrow is a financial arrangement where a third party holds and regulates payment of the funds required for two parties involved in a given transaction.

Escrow - Downsides

Escrow services charge a fee for their services, which can add up to the overall cost of the transaction.

The use of escrow can also lead to delays in completing a transaction, as the funds need to be verified and released by the escrow agent.

Escrow services are not available in all countries, limiting their use in international transactions.



Bitcoin Mining - Benefits

Bitcoin mining is a decentralized process, which means that no central authority controls it.

It helps maintain the security and integrity of the Bitcoin network.

Bitcoin mining also provides an opportunity for individuals to earn Bitcoin as a reward for their efforts.

The infographic is titled "Benefits" in large, colorful letters at the top. Below the title, it asks "HOW BITCOIN CAN BENEFIT NEW USERS?". It features several sections with icons and text:

- EASY TO OPEN A BITCOIN WALLET ADDRESS:** Shows a wallet icon with a Bitcoin symbol. Text: "It's very simple to get your own Bitcoin wallet address. You don't require any personal information to do this. All you need is a Bitcoin wallet. A Bitcoin wallet can be a mobile app or a software. Anyone 10+ and above can have a Bitcoin wallet."
- NO NEED FOR BANK APPROVAL TO LAUNCH YOUR BUSINESS IDEA:** Shows a thumbs-up icon. Text: "With normal business, you need to usually take loans from the bank in order to start your business idea. All you require is a QR code that you need to scan to get support for your firm."
- QUICK ACCESS TO OTHER ALTCOINS:** Shows a person walking icon. Text: "The digital world isn't limited to just Bitcoin but includes hundreds of more cryptocurrencies. This is the main reason why Bitcoin has the fact that it allows you to access all the other currencies in the world. You can exchange it with any currency of your choice."
- BITCOIN IS INDEPENDENT:** Shows a stack of coins icon. Text: "The technology is not controlled by any government or central bank. The only person who controls Bitcoin is the one who owns it."
- BITCOIN VS. TRADITIONAL CURRENCY:** Shows a person holding a Bitcoin and a person holding a dollar bill icon. Text: "Real money is centralized whereas digital currency is decentralized. This means that it is highly transparent which means that all transactions are visible on the blockchain."

At the bottom, it says "THERE IS ALWAYS MORE TO LEARN ABOUT BITCOIN AT WWW.BTCWONDER.COM".

Bitcoin Mining - Downsides

Bitcoin mining requires a significant amount of energy consumption, leading to high electricity bills and a negative impact on the environment.

The mining process becomes more difficult over time, requiring more powerful hardware and increasing costs.

Bitcoin mining is also vulnerable to 51% attacks, where a malicious actor controls the majority of the network's mining power.

Escrow and Bitcoin Mining - Combined

Escrow can be used in Bitcoin transactions to provide an extra layer of security and prevent fraud.

However, the use of escrow in Bitcoin transactions can also lead to delays and added costs.

Bitcoin mining can provide a reward for those who successfully complete transactions, but it also requires a significant amount of energy and resources.

Best Bitcoin Escrow Services

BTCCrow.com
The escrow service for Bitcoin

It was established in 2011, and is one of the oldest escrow services. However, it isn't the most reliable as there have been many complaints regarding delayed payments and system's response.

Escrow My Bits:

Established just two years ago, "Escrow My Bits" has gone on to become one of the go-to names for Bitcoin users. The site offers a wide variety of services, including:

REGULAR ESCROW **REGULAR ESCROW PEGGED TO TRADITIONAL VALUE** **MULTI SIGNATURE ESCROW** **MULTI SIGNATURE ESCROW PEGGED TO A FIAT VALUE**

Bitrate:
Bitrate is more like a multi-signature wallet. Advantage of Bitrate is that the site itself doesn't hold the private key so it cannot steal your funds.

If a transaction takes longer than expected, Escrow My Bits, lets you peg it to the fiat currency without the exchange rates affecting you.

Bitrated

There is more to learn about bitcoin at wwwbtcwondercom

Regulation of Bitcoin Mining and Escrow

Bitcoin mining and escrow services are largely unregulated, making it difficult to ensure their reliability and security.

Some countries have implemented regulations to control Bitcoin mining and require escrow services for certain transactions.

The lack of regulation can lead to scams and fraudulent activities, making it important to conduct due diligence before using these services.



Alternatives to Bitcoin Mining and Escrow

There are alternative cryptocurrencies that do not require mining, such as Ripple and Stellar.

Other payment methods, such as PayPal and credit cards, can provide a similar level of security as escrow services.

It is important to consider all available options before choosing to use Bitcoin mining or escrow services.



Conclusion

Bitcoin mining and escrow services have their benefits and downsides.

It is important to conduct due diligence and consider all available options before using these services.

As the industry continues to evolve, it is likely that new technologies and regulations will emerge to address these issues.

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The escrow service for Bitcoin
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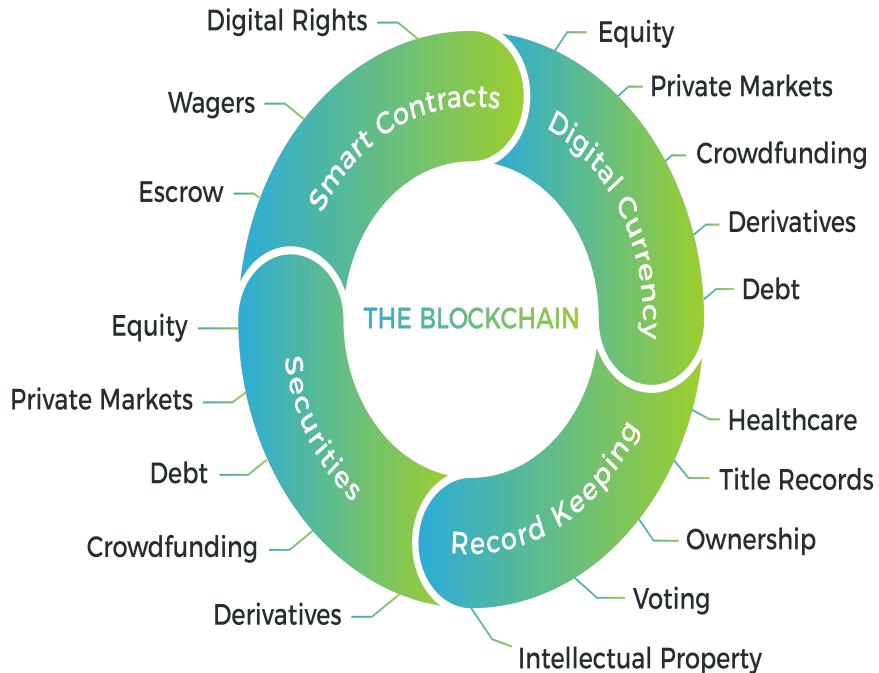
Block Chain Science: Grid Coin, Folding Coin

Introduction to Block chain Science

Block chain science is a field of study that focuses on the development and implementation of blockchain technology.

Blockchain technology is a decentralized, distributed ledger that records transactions in a secure and transparent manner.

The use of blockchain technology has enabled the development of various cryptocurrencies, including Gridcoin and Foldingcoin.



What is Gridcoin?

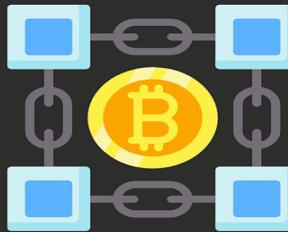
Gridcoin is a cryptocurrency that is designed to reward individuals who contribute computing power to scientific research.

Gridcoin uses a proof-of-stake algorithm to secure its network and validate transactions.

Gridcoin's primary goal is to incentivize scientific research by providing financial rewards to individuals who contribute computing power.

CRYPTO CLASS

BLOCK REWARD



The **payment** given to a **miner** for securing a **blockchain** that uses **POW (Proof-of-Work) consensus**.

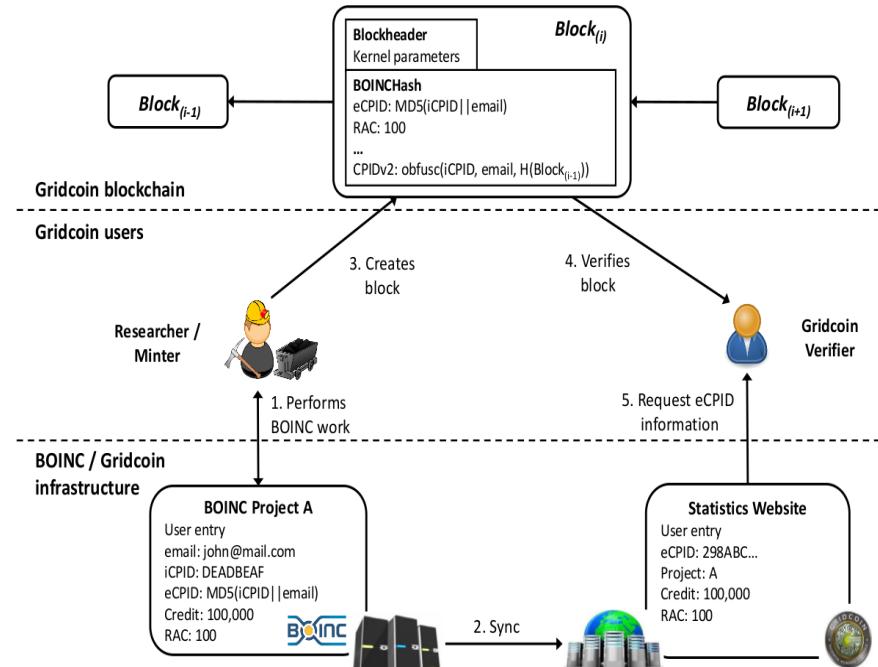
 CryptoManiaks

How does Gridcoin work?

Gridcoin uses a BOINC platform to distribute scientific research projects to participants.

Participants are rewarded with Gridcoin based on the computing power they contribute to the project.

The more computing power a participant contributes, the more Gridcoin they earn.



What is Foldingcoin?

Foldingcoin is a cryptocurrency that is designed to incentivize individuals to contribute computing power to protein folding research.

Protein folding is a complex process that is critical to understanding various diseases and developing new treatments.

Foldingcoin uses a proof-of-stake algorithm to secure its network and validate transactions.

**Folding@Home and Genome@home:
Protein folding and design with
distributed computing**



Stefan Larson

Pande Group
Dept. of Chemistry and Biophysics Program
Stanford University

How does Foldingcoin work?

Foldingcoin uses the Folding@home platform to distribute protein folding research projects to participants.

Participants are rewarded with Foldingcoin based on the computing power they contribute to the project.

The more computing power a participant contributes, the more Foldingcoin they earn.



FoldingCoin

Mine Medicine, Not Hashes

Similarities between Gridcoin and Foldingcoin

Both Gridcoin and Foldingcoin are cryptocurrencies that are designed to incentivize individuals to contribute computing power to scientific research.

Both Gridcoin and Foldingcoin use proof-of-stake algorithms to secure their networks and validate transactions.

Both Gridcoin and Foldingcoin use distributed computing platforms to distribute research projects to participants.

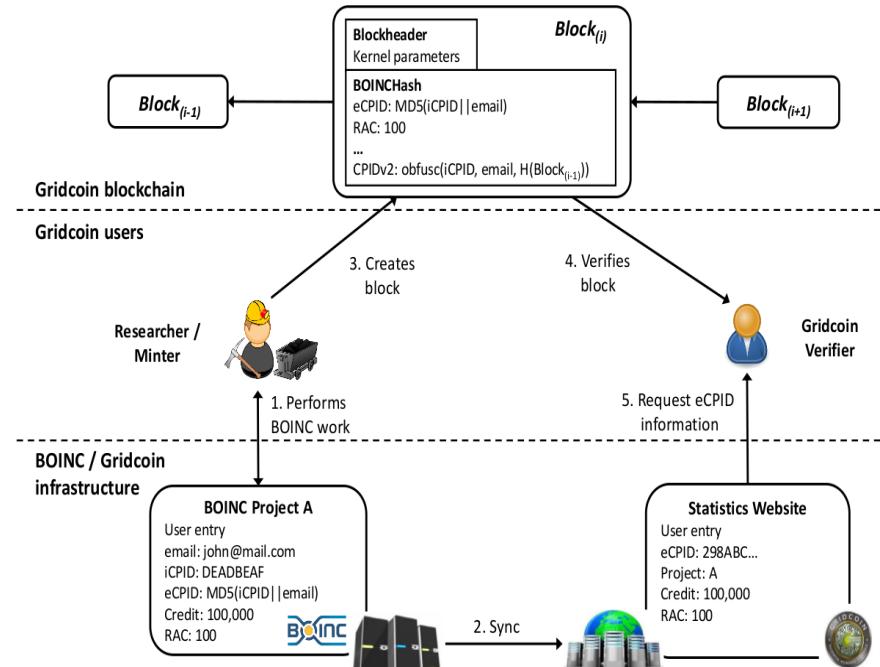


Differences between Gridcoin and Foldingcoin

Gridcoin rewards participants for contributing computing power to various scientific research projects, while Foldingcoin specifically rewards participants for contributing computing power to protein folding research.

Gridcoin uses a BOINC platform to distribute research projects, while Foldingcoin uses the Folding@home platform.

Gridcoin has a larger community and market capitalization than Foldingcoin.



Benefits of Gridcoin and Foldingcoin

Gridcoin and Foldingcoin provide financial incentives for individuals to contribute computing power to scientific research, which can help accelerate the pace of scientific discovery.

Gridcoin and Foldingcoin can help democratize scientific research by allowing individuals to contribute computing power from their personal computers.

Gridcoin and Foldingcoin can help distribute the costs of scientific research across a large network of participants.

Challenges of Gridcoin and Foldingcoin

Gridcoin and Foldingcoin are still relatively new and have not yet achieved widespread adoption.

The value of Gridcoin and Foldingcoin is dependent on the success of the scientific research projects they support, which can be unpredictable.

The use of distributed computing platforms can be resource-intensive and may require significant energy consumption.

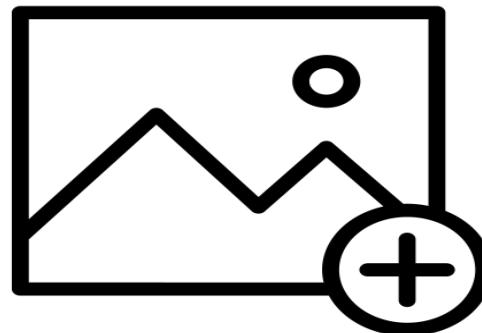


Future of Gridcoin and Foldingcoin

Gridcoin and Foldingcoin have the potential to revolutionize the way scientific research is conducted by providing financial incentives for individuals to contribute computing power.

As more individuals participate in Gridcoin and Foldingcoin, the networks will become more secure and the scientific research projects will become more diverse.

Gridcoin and Foldingcoin may also inspire the development of new cryptocurrencies that incentivize other types of scientific research.

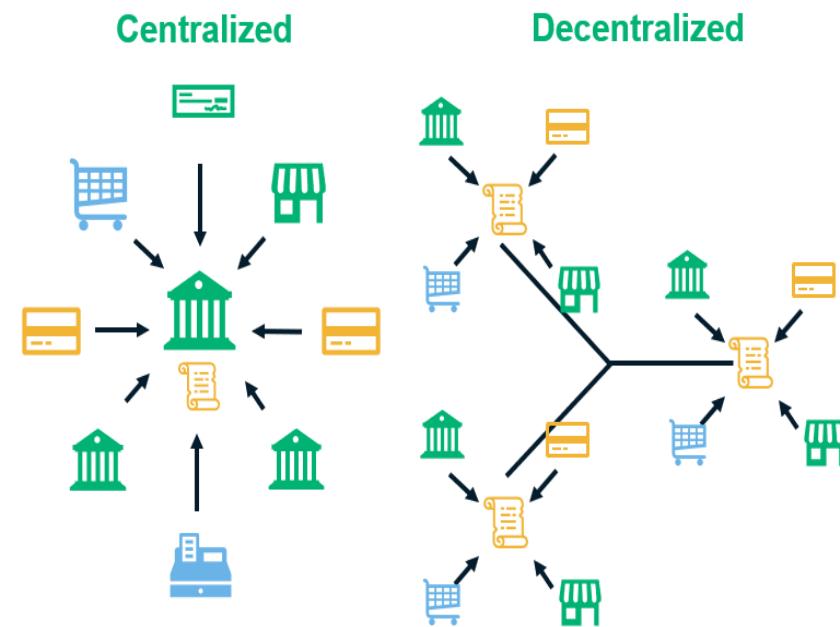


Conclusion

Gridcoin and Foldingcoin are two examples of cryptocurrencies that are designed to incentivize individuals to contribute computing power to scientific research.

Both Gridcoin and Foldingcoin use distributed computing platforms to distribute research projects to participants.

Gridcoin and Foldingcoin have the potential to democratize scientific research and accelerate the pace of scientific discovery.



Questions?

Do you have any questions about Gridcoin or Foldingcoin?

How do you see the use of cryptocurrencies evolving in the scientific research community?

What other types of scientific research could be incentivized using cryptocurrencies?

Do you know anyone that could use extra money for anything?

The Power of \$15
1. Addition



Help 3 your first hour, day or week and receive \$30!
Help 4 and earn a 20% Matching Bonus!!



Blockchain Genomics, Bit Coin MOOCs

Introduction

Blockchain genomics and Bit coin MOOCs are two emerging fields that are rapidly changing the landscape of healthcare and education.

Both fields are based on the principles of decentralization and security through cryptography.

This presentation will explore the potential of these fields and their impact on the future of healthcare and education.



What is Blockchain Genomics?

Blockchain genomics is the use of blockchain technology in the field of genomics.

It allows for secure storage and sharing of genomic data while maintaining privacy and ownership.

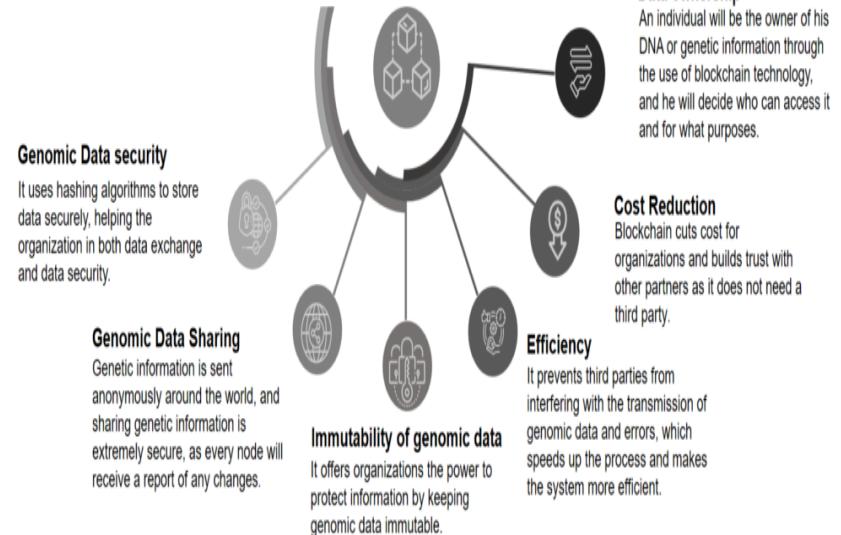
Blockchain genomics has the potential to revolutionize personalized medicine and drug development.

Benefits of Blockchain Genomics

Increased privacy and security of genomic data.

Improved access to genomic data for research purposes.

Facilitation of personalized medicine and drug development.

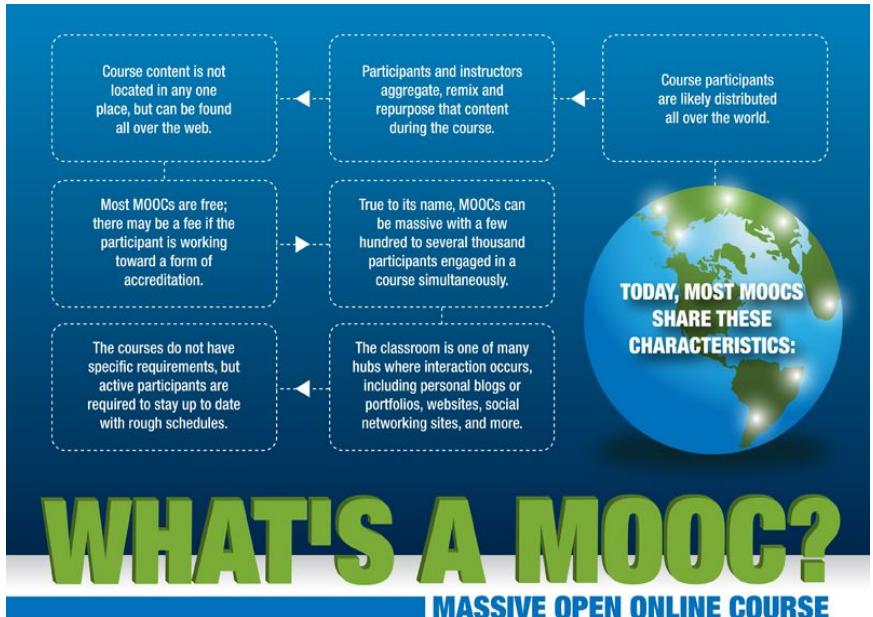


What are Bit coin MOOCs?

Bit coin MOOCs are Massive Open Online Courses focused on the study of cryptocurrencies and blockchain technology.

They provide an accessible and comprehensive education on the subject.

Bit coin MOOCs are offered by universities and institutions around the world.



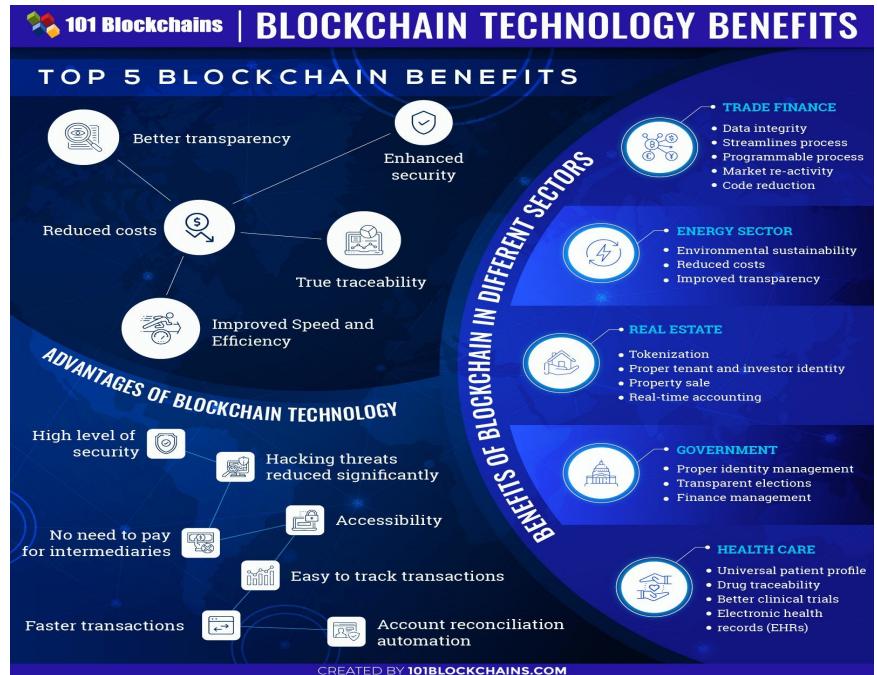
SOURCES: ISPUB.COM | DAVECORMIER.COM | SITES.GOOGLE.COM | EN.WIKIPEDIA.ORG | SLIDESHARE.NET | NYTIMES.COM

Benefits of Bit coin MOOCs

Accessible education on the subject of cryptocurrencies and blockchain technology.

Opportunities for global collaboration and networking.

Potential for career advancement in the field.

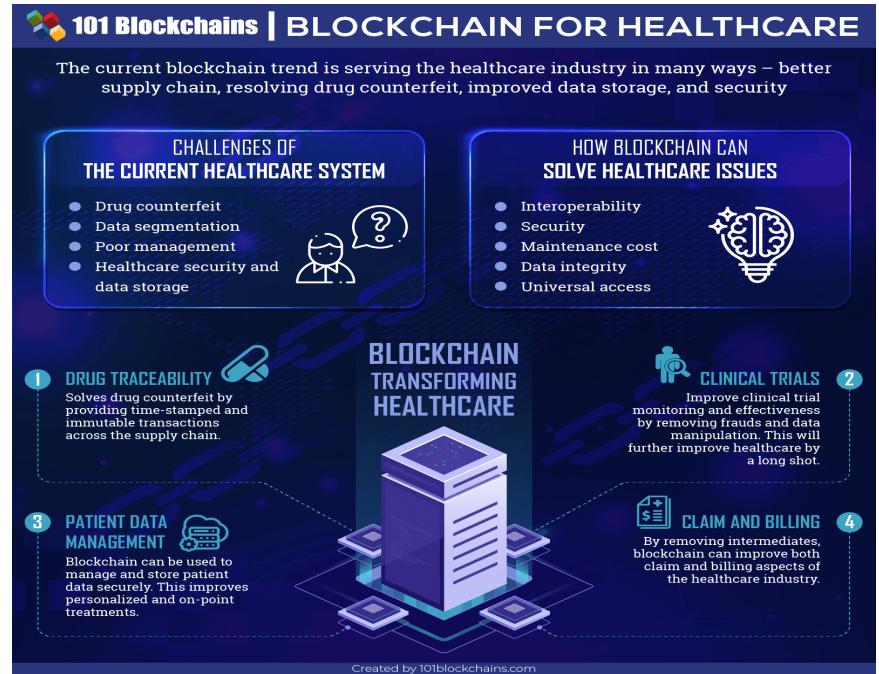


Application of Blockchain Genomics in Healthcare

Blockchain genomics can be used to securely store and share patient genomic data between healthcare providers.

It can facilitate personalized medicine and drug development.

Blockchain genomics can also improve clinical trial transparency and data sharing.

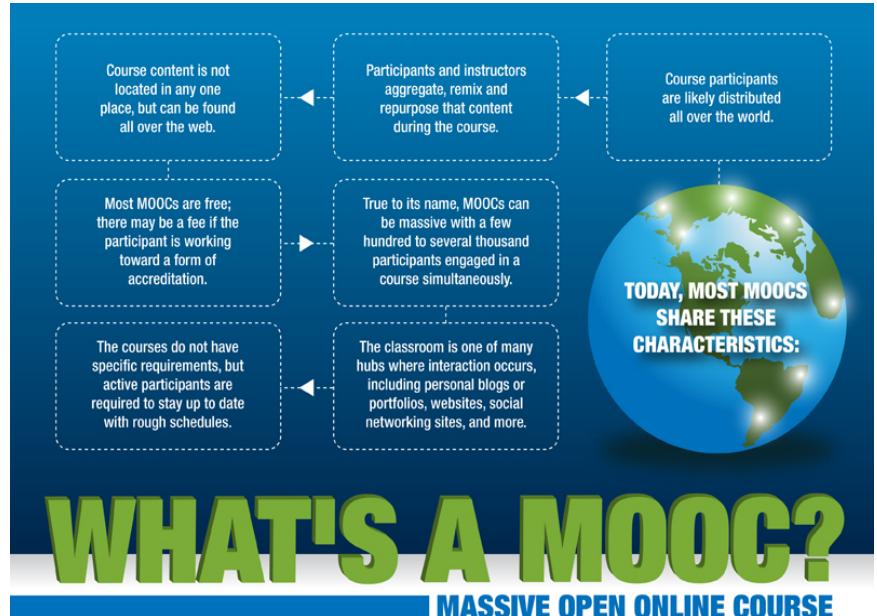


Application of Bit coin MOOCs in Education

Bit coin MOOCs can provide an accessible education on cryptocurrencies and blockchain technology.

They can serve as a platform for global collaboration and networking.

Bit coin MOOCs can also facilitate career advancement in the field.

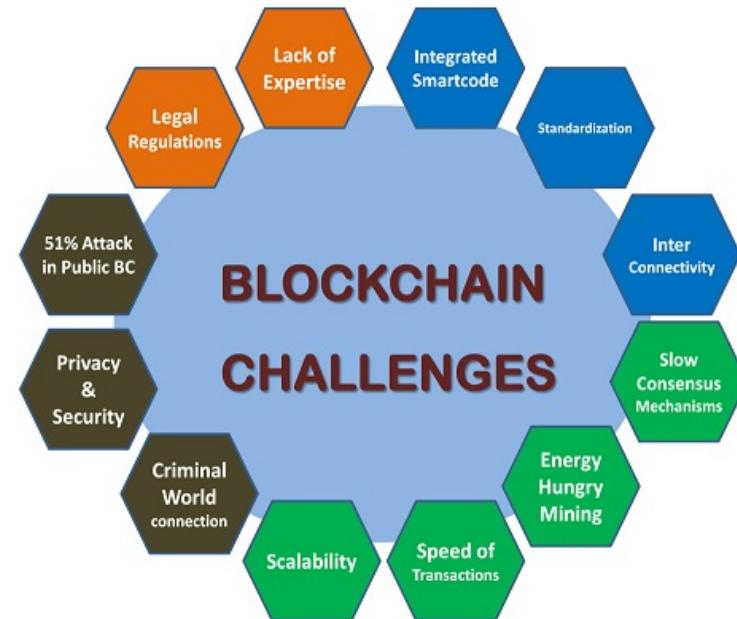


Challenges of Blockchain Genomics

Legal and ethical issues surrounding ownership and privacy of genomic data.

Costs associated with implementing blockchain genomics technology.

Limitations in scalability and interoperability.



Challenges of Bit coin MOOCs

Limited accreditation and recognition of MOOCs in traditional education systems.

Challenges in ensuring the quality and credibility of MOOCs.

Limited access to technology and internet connectivity in some regions.

MOOCs AND OPEN EDUCATION IN THE GLOBAL SOUTH

Challenges, Successes, and Opportunities



EDITED BY
KE ZHANG, CURTIS J. BONK,
THOMAS C. REEVES,
AND THOMAS H. REYNOLDS



Future of Blockchain Genomics

Continued development and refinement of blockchain genomics technology.

Increased adoption and implementation in healthcare systems.

Potential for the creation of a global genomics data marketplace.

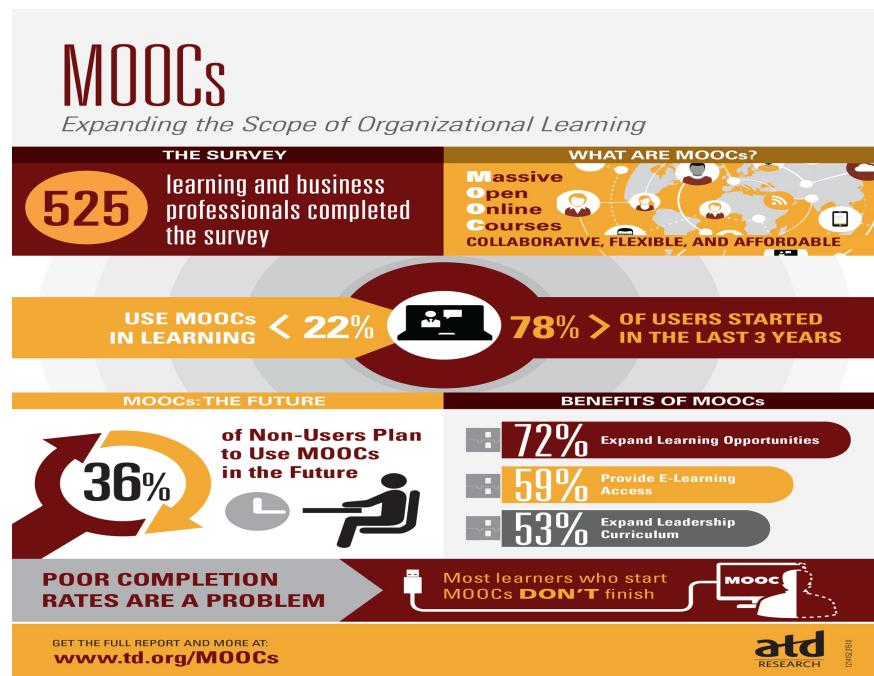


Future of Bit coin MOOCs

Continued expansion of MOOC offerings and access to education.

Integration of MOOCs into traditional education systems.

Potential for the creation of a global network of blockchain and cryptocurrency experts.

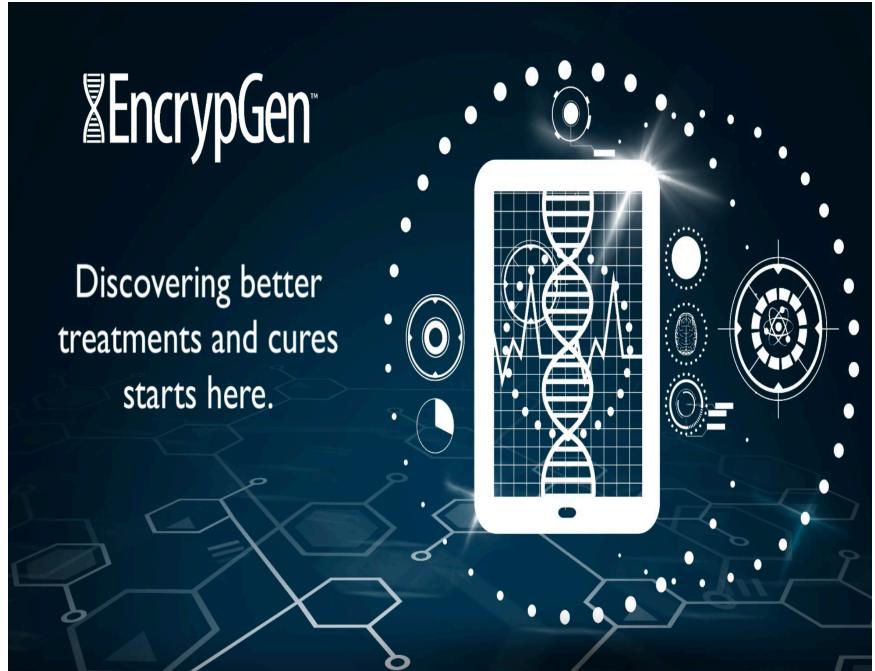


Case Study: EncrypGen

EncrypGen is a blockchain genomics startup that allows for secure storage and sharing of genomic data.

It offers a marketplace for individuals to sell their genomic data to researchers.

EncrypGen has the potential to revolutionize the field of genomics and personalized medicine.



Case Study: University of Nicosia

The University of Nicosia offers a MOOC focused on cryptocurrencies and blockchain technology.

It is the first accredited MOOC in the world.

The University of Nicosia is a leader in the field of blockchain education.



Conclusion

Blockchain genomics and Bit coin MOOCs are two emerging fields that have the potential to revolutionize healthcare and education.

While there are challenges associated with these fields, the benefits and potential for impact are significant.

Continued development and adoption of blockchain genomics and Bit coin MOOCs will shape the future of healthcare and education.

