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Frankfurt School Blockchain Center

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Bitcoin Talents

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Bitcoin Use Cases Over Existing Solutions

A. Payments

Cross-Border Payments

1) **Lower Fees:** Traditional international transfers often involve high fees due to intermediaries. Bitcoin transactions can significantly reduce these costs by eliminating the need for such intermediaries. https://bitcoindepot.com/bitcoin-atm-info/bitcoin-transaction-times-vs-traditional-payment-systems
2) **Faster Settlement:** International bank transfers can take several days to process. Bitcoin transactions typically settle within 10 minutes, providing quicker access to funds. https://bitcoindepot.com/bitcoin-atm-info/bitcoin-transaction-times-vs-traditional-payment-systems
3) **Global Accessibility:** Bitcoin allows anyone with internet access to send and receive payments, making financial services more inclusive, especially in underbanked regions. https://finchtrade.com/blog/blockchain-payments-vs-traditional-methods-a-comprehensive-comparison

A. Payments

Streaming payments

Streaming payments refer to the continuous, real-time transfer of small monetary amounts, enabling precise billing for services consumed over time. Traditional payment systems often struggle with implementing streaming payments due to limitations such as high transaction fees, delayed settlements, and reliance on intermediaries.

Incorporating Bitcoin's technology into streaming payments offers significant advantages over traditional systems, including enabling microtransactions, reducing fees, accelerating settlement times, enhancing security, and promoting financial inclusion. These benefits make Bitcoin a compelling solution for implementing efficient and effective streaming payment systems.

A. Payments

Privacy-focused transactions

Privacy-focused transactions are designed to protect the identities and financial details of the parties involved.

Added Value of Bitcoin Technology
Pseudonymity

Decoupling Personal Information: Bitcoin transactions do not inherently require personal identifiers such as names or addresses. Instead, they utilize alphanumeric addresses, reducing the direct association between transactions and individual identities.

Decentralisation: No Central Authority: Operating on a decentralized network, Bitcoin eliminates the need for intermediaries like banks, which traditionally collect and store personal data. This decentralization enhances user privacy by minimizing data collection points.

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https://www.cointribune.com/en/privacy-and-bitcoin-all-you-need-to-know/

Store of value

The store of value meaning refers to an asset's capacity to **sustain its value across time**, acting as a dependable method for **safeguarding wealth**. Store of value examples span from classical assets such as gold and real estate to contemporary forms of money as a store of value, with all embodying essential characteristics.

What gives Bitcoin value?

The concept of a store of value Bitcoin has gained popularity as people look for alternatives to traditional investments. Bitcoin store of value due to:

Limited Supply: Fixed at 21 million coins, making it deflationary.

Decentralisation: Operates on a blockchain, free from government control.

Accessibility: Available globally, transcending borders.

Security: Blockchain technology ensures robust security.

guarda.com/academy/blockchain/what-is-store-of-value/

Financial inclusion (“banking the unbanked”)

1) **Decentralized Financial Access**
   a) Traditional Systems: Access to banking services often requires physical presence, identification documents, and compliance with local regulations, limiting reach in remote or underserved regions.
   b) Bitcoin's Advantage: Operates on a decentralized network accessible via the internet, enabling individuals worldwide to participate without reliance on centralized authorities.
2) **Lower Transaction Costs**
   a) Traditional Systems: Cross-border transactions incur high fees due to intermediaries and currency conversions, making them unaffordable for many.
   b) Bitcoin's Advantage: Facilitates peer-to-peer transactions with minimal fees, reducing the cost barrier for international money transfers and remittances.
3) **Financial Sovereignty and Empowerment**
   a) Traditional Systems: Banking services may be inaccessible due to geographic location, financial illiteracy, or distrust in financial institutions.
   b) Bitcoin's Advantage: Provides individuals with full control over their assets, fostering financial independence and trust through transparent blockchain technology

Financial inclusion (“banking the unbanked”)

El Salvador's decision to adopt Bitcoin as legal tender exemplifies Bitcoin's potential in enhancing financial inclusion:

Increased Financial Access: The initiative aimed to provide banking services to the approximately 70% of Salvadorans without bank accounts, offering a digital alternative to traditional banking.

Digital Bearer Instrument

Digital Bearer Instruments refer to digital assets that can be directly transferred and redeemed without a central registry, embodying a significant leap in transferring ownership securely and privately online, akin to the physical transfer of assets like gold. https://www.cryptoeq.io/dictionary/digitalbearerinstrument

Existing Solutions

1) Stablecoins

2) Tokenised Assets

3) Central Bank Digital Currencies (CBDCs)

4) Bills of exchange or Promissory Notes - www.tradefinanceglobal.com/legal/digital-negotiable-instruments

Use Cases of Bitcoin over other Digital Bearer Solutions

1) **Intrinsic Decentralization and Trustlessnes**
    a) Bitcoin: Operates on a fully decentralized, permissionless blockchain without reliance on any central authority, allowing peer-to-peer transactions that are secure and transparent.
    b) Stablecoins: Typically pegged to fiat currencies or assets, stablecoins often depend on centralized entities to maintain their value and manage reserves, introducing potential counterparty risk.
    c) Tokenized Assets: Represent physical or financial assets on a blockchain, requiring intermediaries to validate and tokenize the underlying assets, which may reintroduce central points of control.
    d) ePUs: Digital versions of traditional negotiable instruments, ePUs are generally issued and regulated by centralized organizations, necessitating trust in these entities for their validity.
2) **Absence of Counterparty Risk**
    a) Bitcoin: As a decentralized digital asset, Bitcoin transactions do not involve intermediaries, eliminating counterparty risk.
    b) Stablecoins and Tokenized Assets: Depend on the solvency and integrity of the issuing entities, exposing holders to potential counterparty risks.
    c) ePUs: Reliant on the issuer's credibility and adherence to regulatory standards, ePUs carry inherent counterparty risk.

Use Cases of Bitcoin over other Digital Bearer Solutions

1) **Immutable Scarcity**
    a) Bitcoin: Features a fixed supply cap of 21 million coins, ensuring scarcity and serving as a hedge against inflation.
    b) Stablecoins: Supply can fluctuate based on the issuer's reserves and monetary policies, lacking inherent scarcity.
    c) Tokenized Assets: Supply is contingent upon the availability and tokenization of underlying assets, which can vary.
    d) ePUs: Supply depends on the issuance of digital instruments by centralized entities, without a predetermined cap.
2) **Global Accessibility and Censorship Resistance**
    a) Bitcoin: Accessible worldwide without restrictions, Bitcoin transactions are resistant to censorship due to the decentralized nature of its network.
    b) Stablecoins and Tokenized Assets: Subject to regulatory frameworks and potential restrictions, their accessibility can be limited by jurisdictional controls.
    c) ePUs: Governed by specific legal and regulatory environments, ePUs may face limitations in cross-border usability and are susceptible to censorship by issuing authorities.

https://www.kaleido.io/blockchain-blog/tokenized-deposits-vs-cbdcs-vs-stablecoins

NFTs

Fungility - Is the quality of a good or asset that makes individual units interchangeable and mutually substitutable. For example, any single dollar bill or Bitcoin is equivalent to any other—each unit holds the same value and function. - hedera.org

Non-Fungibility - offers uniqueness as its primary attribute. A non-fungible token is unique and there cannot exist another like it. For example, a plane ticket is unique — it specifies a specific seat, on a particular flight, at a specific time.

An NFT (Non-Fungible Token) is a one-of-a-kind digital asset that represents ownership or proof of authenticity of a specific item—like art, music, or collectibles—secured and recorded on a blockchain.

- Wikipedia.org

Ordinals NFTs

Ordinals are Bitcoin NFTs.

Through a logical ordering system, known as ordinal theory, each satoshi receives a unique number, allowing it to be identified and tracked. These “ordinal numbers” are given based on the order of its creation, hence, the name Ordinals.

On January 20, 2023, developer Casey Rodarmor launched Ordinals on Bitcoin mainnet, which led to a robust ecosystem of NFTs on Bitcoin.

- https://phantom.com/learn/crypto-101/ordinals-bitcoin-NFTs

Ordinals are Bitcoin NFTs. Unlike previous versions, which existed on layer-2 blockchains, Ordinals are Bitcoin native. Each ordinal is created by attaching—or “inscribing”—data, such as images, videos, and more, to an individual satoshi (aka sat), which is the lowest denomination of bitcoin (BTC).

Earlier inscriptions on Bitcoin Blockchain using Counterparty protocol dedicated to Satoshi Nakamoto

Rare Pepes

SATOSHIRARE

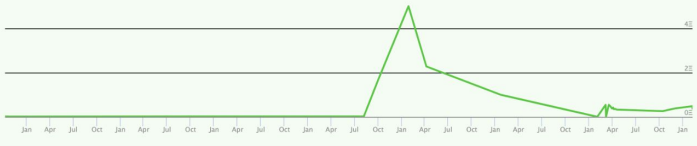
Series 30 - Card 36

Current floor price

0.44Ξ ($1,088)

Buy floor | View on Horizon | View on Opensea

Sales history



Information

Name	SATOSHIRARE
Artist	18QqcnBvKWZ1VC7WR8mztS Y5WNidBjahXP
Collection	Rare Pepes
Series	#30
Card	#36
Supply	214
Issuance	October 2017
Sets	Satoshi Nakamoto
Floor price	0.440Ξ
Last sale	0.480Ξ
Market cap.	$254.2 k
Holders	38
Top 3 holders	88%

Available assets

ASSET	TYPE	PRICE
1x. SATOSHIRARE	Sale	0.44 ETH ($1,088)
1x. SATOSHIRARE	Sale	1 ETH ($2,473)
1x. SATOSHIRARE	Sale	1 ETH ($2,473)
1x. SATOSHIRARE	Dispenser	0.45 BTC ($42,059)

Last sales

https://pepe.wtf/asset/SATOSHIRARE

Rare Pepes were originally issued on the Bitcoin blockchain using the Counterparty protocol.

This platform enabled artists to mint and trade these collectible memes by embedding metadata onto Bitcoin transactions, making each Rare Pepe unique.

https://phantom.com/learn/crypto-101/ordinals-bitcoin-NFTs

Use cases Ordinals NTFs over existing NFTs

Unparalleled Security and Decentralisation

Built on Bitcoin’s highly secure, decentralized blockchain.

Stronger resistance to censorship compared to other NFT platforms.

Permanent On-Chain Storage

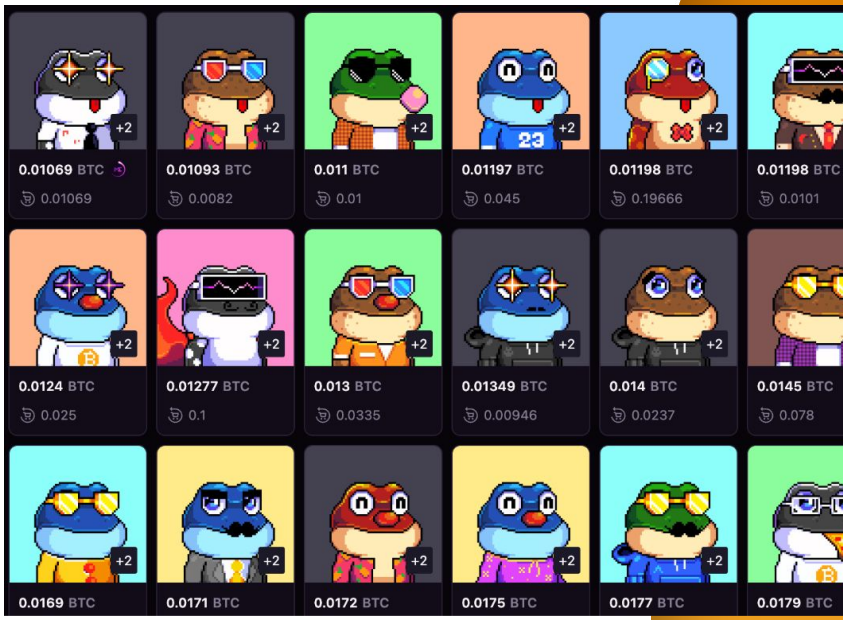
Unlike Ethereum NFTs, Ordinals store all data fully on-chain.

Guarantees long-term preservation and authenticity.

Simplicity and Proven Robustness

No reliance on complex smart contracts—reduces vulnerabilities.

Uses Bitcoin’s simple and battle-tested infrastructure.



Use cases Ordinals NTFs over existing NFTs

Enhanced Economic Value and Network Effects

Bitcoin’s reputation as "digital gold" enhances NFT value.

Attracts collectors who value security and long-term ownership.

Superior Transparency and Traceability

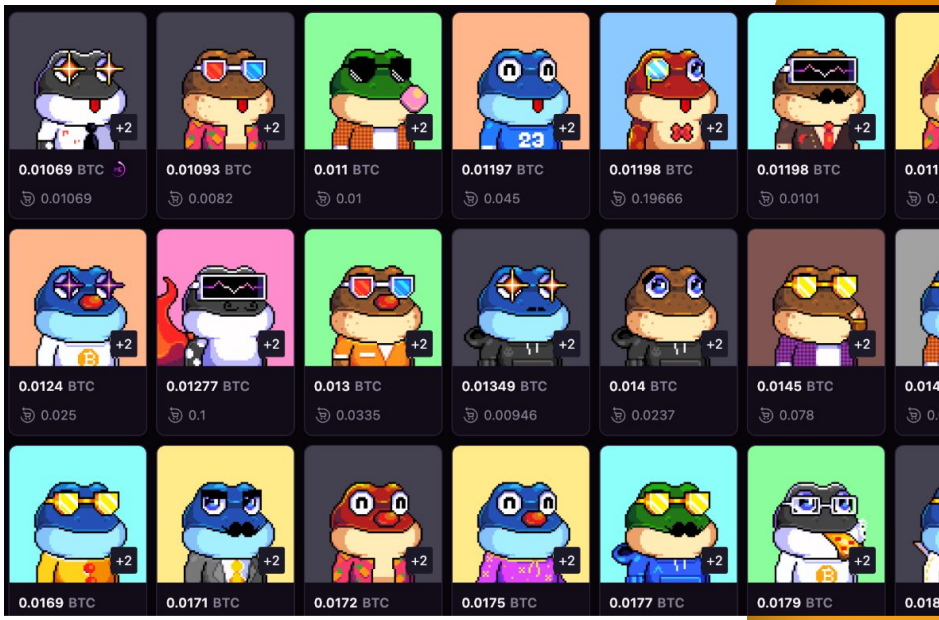
Every transaction is on Bitcoin’s public ledger.

Ensures clear, tamper-proof ownership history.

Censorship Resistance

No single authority can alter or remove inscribed data.

Ensures permanent, tamper-proof digital assets.



Future?

1. **Digital Gold and Store of Value:** Bitcoin is increasingly referred to as "digital gold," serving as a hedge against inflation and economic uncertainty. Its limited supply and decentralized nature make it an attractive store of value for both institutional and retail investors. db.com
2. **Decentralized Finance (DeFi):** Bitcoin's integration into DeFi platforms can enable lending, borrowing, and yield farming without intermediaries, expanding its utility beyond simple transactions. Fidelity Digital Assets
3. **Cross-Border Payments:** Bitcoin can facilitate faster and more cost-effective international remittances compared to traditional banking systems, benefiting individuals and businesses engaged in global commerce. Fidelity Digital Assets

Challenges to be addressed?

1. **Reluctance to Hold Bitcoin:**
    a. Currency Preference: The U.S. dollar's stability and widespread acceptance make it a more attractive option for Salvadorans, leading to a preference for fiat currency over Bitcoin.
    b. Trust Issues: A lack of trust in Bitcoin's value stability discourages its use as a store of value or medium of exchange.
2. **Market Volatility:**
    a. Financial Risk: Individuals and businesses face potential losses when holding or transacting in Bitcoin due to its volatile nature.
    b. Merchant Hesitancy: Businesses may be reluctant to accept Bitcoin, fearing rapid devaluation before conversion to stable currencies.
3. **Cross-Border Payments:**
    a. Adoption Barriers: Unclear regulations can deter businesses and individuals from adopting Bitcoin due to fears of legal repercussions.
    b. Investment Hesitancy: Institutional investors may avoid Bitcoin without clear regulatory frameworks, limiting large-scale adoption.

References

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