

# The Blockchain

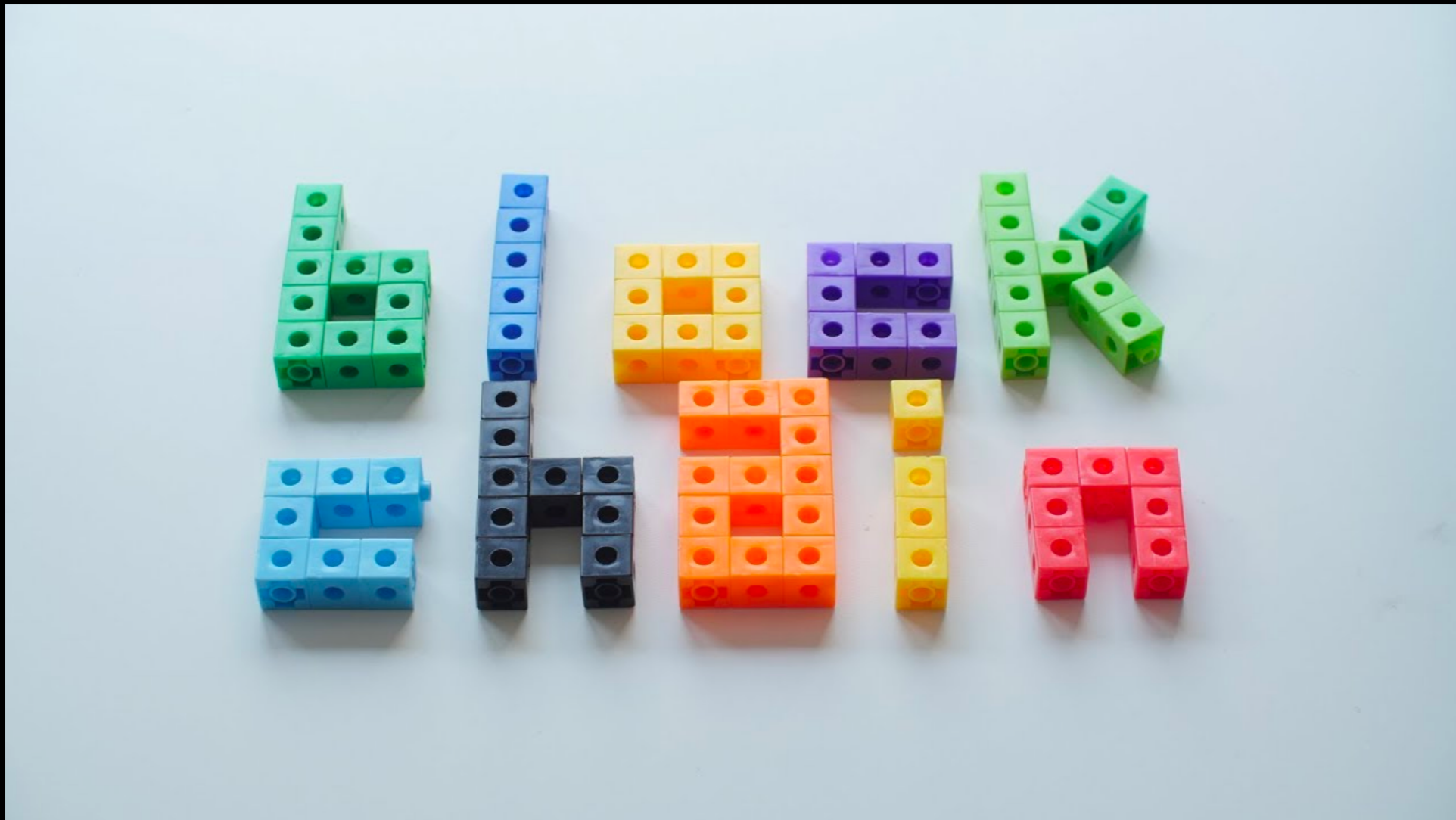
Is it the Next Disruptive Technology?

# Lecture Outline

- History of Blockchain + Bitcoin
- Elements of Blockchain
- Use Cases
- Current Pros + Cons
- Blockchain + Art + The Environment
- Future of Blockchain
- Resources
- Assignment



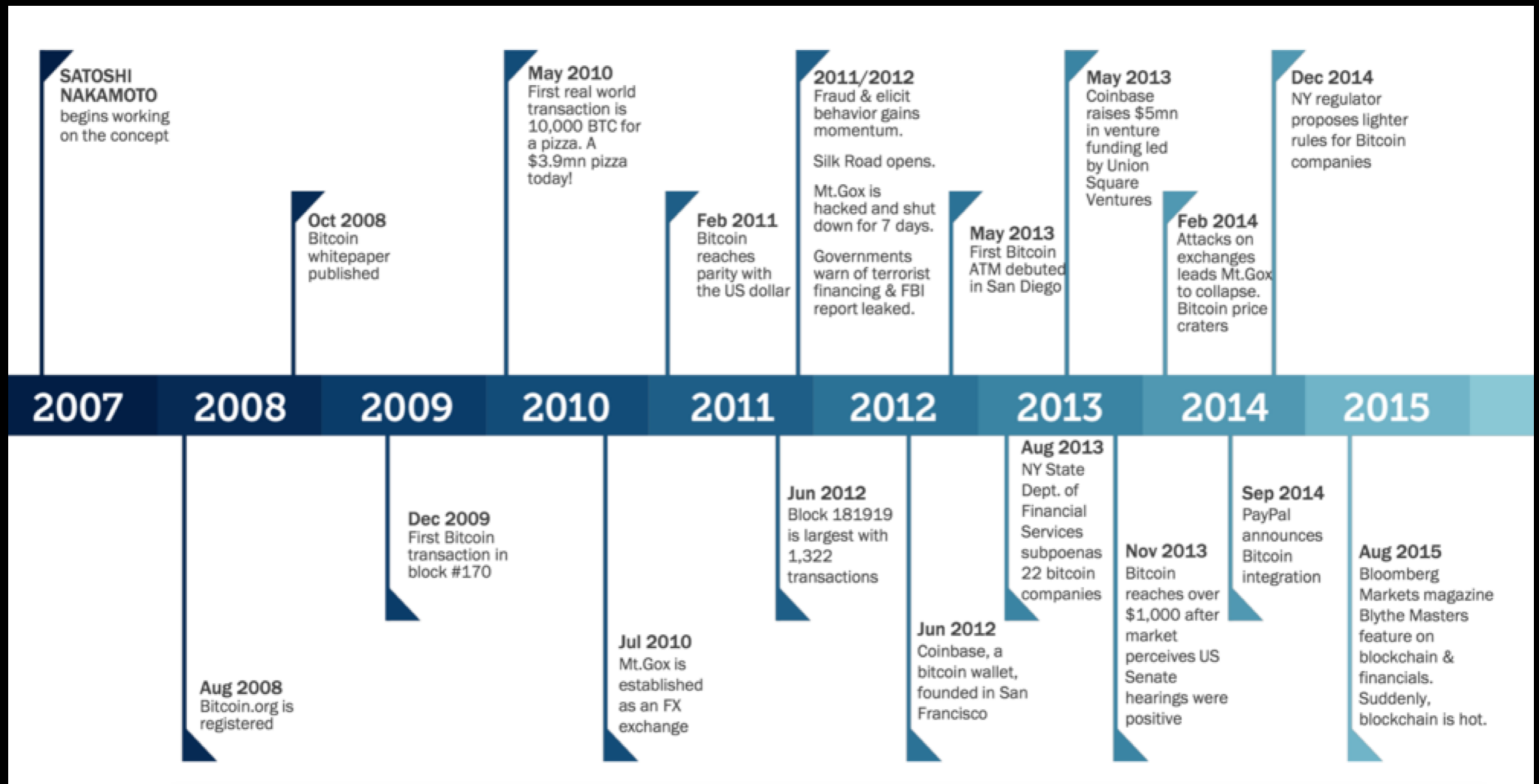
# What is Blockchain?



# What is Blockchain?

A decentralized, distributed and public digital ledger that is used to record transactions across many computers so that the record cannot be altered retroactively without the alteration of all subsequent blocks and the collusion of the network.

# History of Blockchain





# Terminology











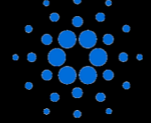

Altcoins	Bitcoin	Blockchain	<b>Block</b>
<b>Block Reward</b>	Client	Consensus	Cryptojacking
<b>dApp</b>	Double Spending	<b>Ethereum</b>	Fiat Currency
<b>Fork</b>	Hardfork	Halving	<b>ICO</b>
Mining	Mining Difficulty	Node	<b>Smart Contracts</b>
Solidity	Proof of Work	Wallet	Proof of Stake





# Cryptocurrency

There are more than 1,100 cryptocurrencies in the market today with a total market cap of \$150B

 Bitcoin	 Ethereum	 Ripple	 Litecoin
 Dash	 Bitcoin Cash	 Monero	 NEO
 NEM	 Zcash	 Cardano	 Stellar Lumens

# Authentication

- Digital Identity | [val : ID](#)
- Medical Information | [Medicalchain](#)
- Voting | [Follow My Vote](#)
- Anti-Counterfeit | [Blockverify](#)
- Credit Card Transactions | [Mycelium](#)

# Smart Contracts / dApps

- [Smart Contracts](#)
- [dApps](#) (Decentralized Applications)
- [DAOs](#) (Decentralized Autonomous Organization)

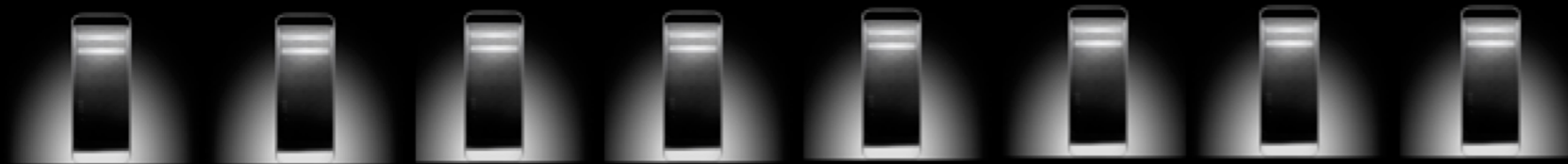
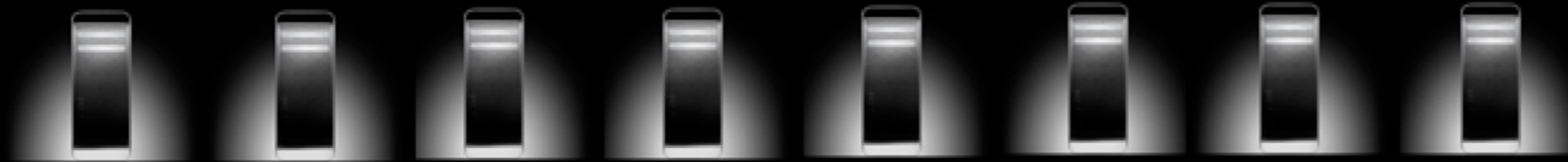
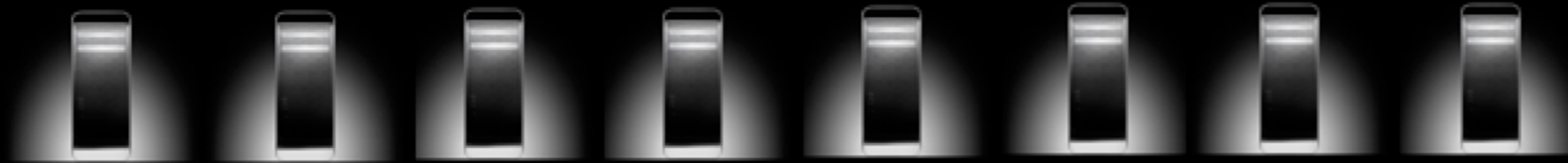
# Pros vs. Cons

Pro's	Con's
Anything of value can be transferred and saved safely and confidentially - without unlawful alteration	Scammers and other seedy characters can use the anonymity to their advantage to do evil
Transactions are verifiable by a vast, peer-to-peer global network	Hacks and manipulation can still occur
Cryptocurrencies are not able to be "frozen" in the case of economic crisis (such as your money in the bank would be)	The majority of governments, offices, retailers, and everyone who deals with money, do not understand, let alone use / accept cryptocurrencies as valid payment.
There will no longer be the need for intermediaries such as banks, lawyers, government, etc.	Many people are currently employed in institutions that serve as intermediaries... there will certainly be a lot of resistance
Transactions are irreversible.	Transactions are irreversible.
1 Bitcoin is (as of this publication) worth \$1252 USD, and has increased in value over time	Behind the scenes, there may be trouble with bitcoin, and there are rumors of it splitting into two separate cryptocurrencies

# Pros vs. Cons

<u>Pros</u>	<u>Cons</u>
Decentralization	<a href="#">Energy Usage</a>
Anonymity	Anonymity
Bankable Citizens	Wild West

- [Decentralized Economy](#)
- [Genesis Mining Farm](#)
- [Energy Used To Mine Bitcoin](#)



= 7200 kwh/mo.

= 86,400 kwh/yr.

= 35.1 tons coal/yr.

= 94.7 tons CO<sub>2</sub>/yr.

# Blockchain + Art + The Environment

- [Look Ma, A Blockchain](#)
- [CryptoKitties](#)
- [Resonate](#) / [DADA.nyc](#)
- [ascribe](#)
- [Bittercoin](#)
- [01.01.20](#)
- [terra0](#)
- [Rhizome](#)
- [Plantoid](#)
- [Respiratory Finance](#)



# THE FUTURE OF BLOCKCHAIN TECHNOLOGY





# Resources

- [All The Info You Could Want on Bitcoin](#) - Jameson Lopp
- [Blockchain Glossary](#)
- [CoinDesk](#)
- [CoinTelegraph](#)
- [Blockchain Subreddit](#)
- [blockchain.info](#)
- [Ethereum](#)
- [Github](#)

# Speculative Assignment

In groups of 3-4, come up with an idea for a dApp that uses blockchain technology in a way that can provide a benefit in topics we discuss in this class. For example:

- Environmental Sustainability
- Environmental Authentication
- Alternative Energy Tracking

Questions...?

Jeremy Billauer

[jeremy.billauer@du.edu](mailto:jeremy.billauer@du.edu)