



Ethos

Improving on Bitcoin



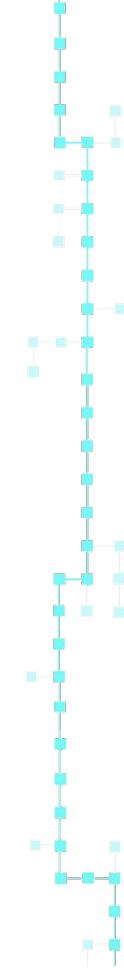
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What You Will Learn

- What is Ethereum?
- What does Ethereum do?
- What are Smart Contracts?
- Problems that Ethereum Solves



As of August 2017, Ethereum was the second largest cryptocurrency by market cap. It has consistently showed market dominances as a smart contracts platform.

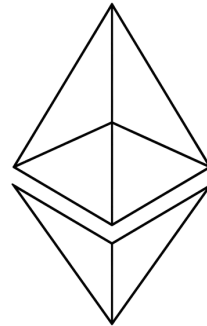


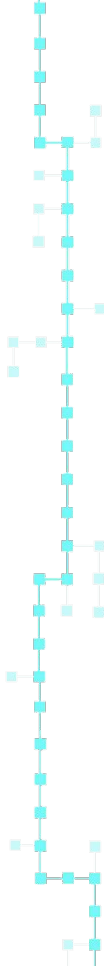
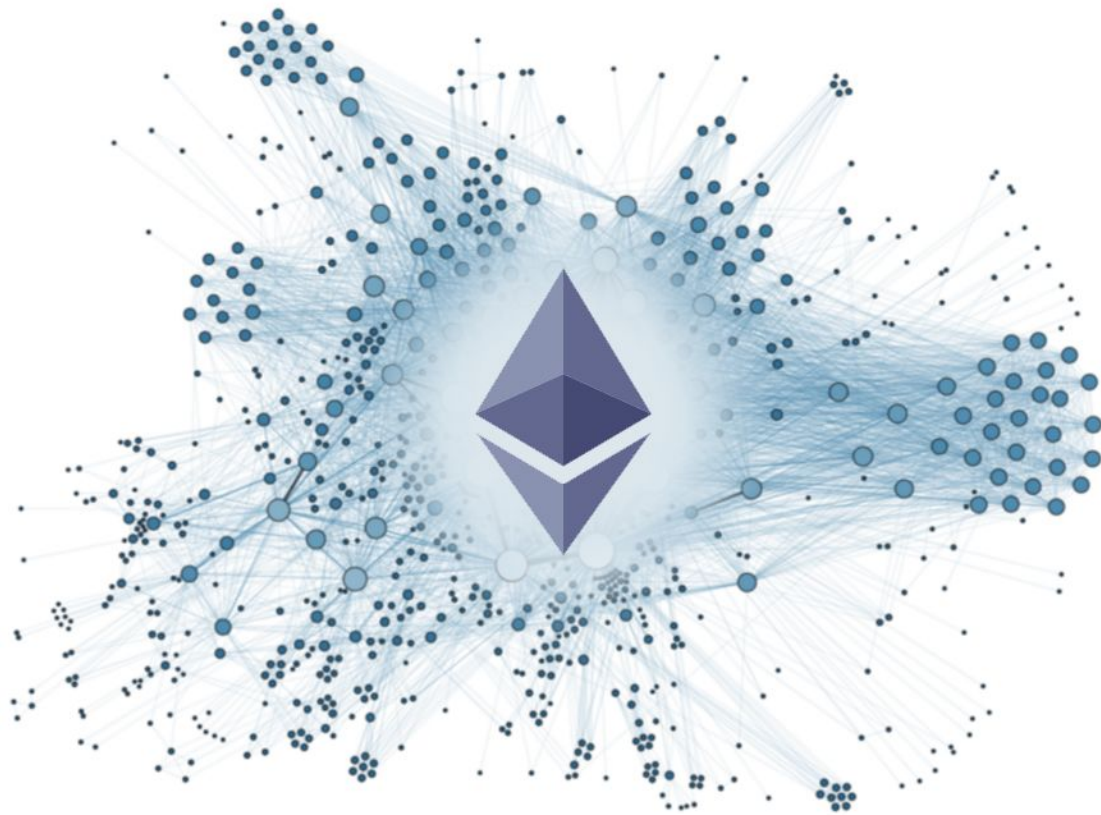
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What is Ethereum?





“Bitcoin you can program”



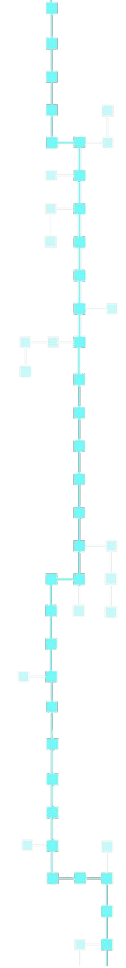
Vision: A “World Supercomputer”

What is Ethereum?

- Open-source public distributed computing platform
- Features a “smart contract” scripting language
 - Decentralized and “Turing-complete”
 - EVM (Ethereum Virtual Machine)
- Provides a cryptocurrency token called “Ether”
- Also features “gas” to allocate resources on the network



Ether can be spent on computational tasks or for transaction fees through the “gas” functionality of it. Ether is a functional token whereas Bitcoin is just a currency.



What is a Smart Contract?



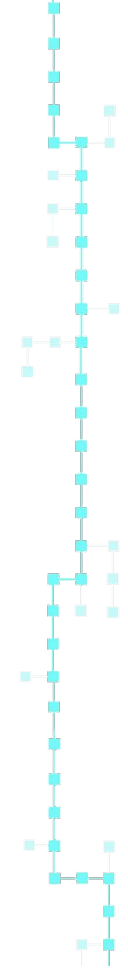
Example: Soda Machine Contract

"If you put in .01 ETH, then you get a soda"

The Smart Contract might look like this
(the following is not solidity code):

```
> if money received == $2.50  
>   && the button pressed is "Diet Coke"  
> then release Diet__Coke
```

*With the soda machine there is an implicit contract.
You trust the soda machine will give you soda*

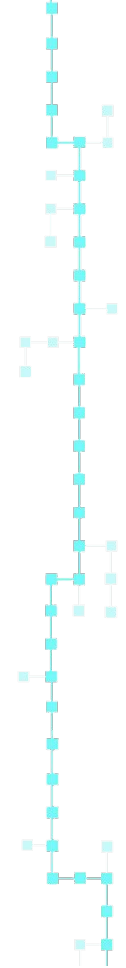


What is a Smart Contract?

- With Ethereum, there is no trust or centralized machine
 - Your contract gets executed exactly as written
- This means you need to be careful to write your contract correctly!
- Smart contracts enable a new class of applications called Dapps (Decentralized Applications)
 - Dapps can't be stopped and are 100% transparent



Gas used to run Dapps get paid back to miners giving miners a financial incentive to help support and secure the network like Bitcoin.

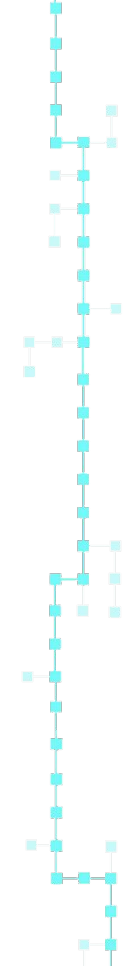


What's Possible with Smart Contracts?

- Anyone can issue their own token using ERC20 standard
- Decentralized Exchange
 - Exchange of value with no central party
- Decentralized governance
 - Secure voting and governance structure
- Ownership and financial structures
 - Create blockchain based companies



Smart contracts have many applications that still haven't been fully researched or explored.



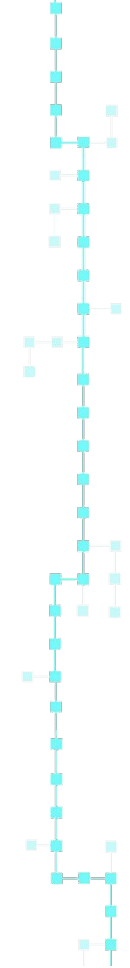
Ethereum Fast Facts

- This data is as of August 2017
 - We can compare ETH to BTC to do economic analysis

Ethereum Fast Facts	
Capped Supply	No, Fixed issuance per block (currently 3 ETH)
Current Supply	Around 93.88 Million
Market Capitalization	\$28.12B
Block Time	20 seconds
Algorithm	Ethash
Emission Rate	Fixed in perpetuity*

* Some planned hard forks may decrease emission rate

 Despite being based on the ideas of Bitcoin, Ethereum has vastly different specifications and functionality making the economic analysis different.

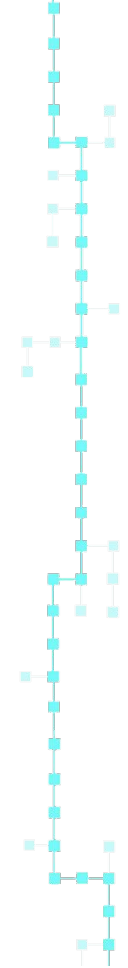


Bitcoin's Problems Ethereum Solves

- Ethereum can handle around 2-2.5x Bitcoin's transactions per second
 - Bitcoin estimated to be around 7-10 txps where Ethereum is around 15-20 txps
- Ethereum has a full scripting language and use cases outside of a store of value and currency
- Faster block time means faster confirmations
 - 20 seconds vs 10 minutes for 1 confirmation



Ethereum hasn't reached the same level of adoption that Bitcoin has and its brand is not as widely recognized. Bitcoin also has the “first-mover” advantage in the market.





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Ethereum Derives Value Differently from Bitcoin

Ether has more value than everyone simply believing it has value like Bitcoin. Ether has functional value on the Ethereum network. If you want to run a smart contract, you need to use Ether and miners are willing to accept Ether to run smart contracts.



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