

ETHEREUM BLOCKCHAIN AND SMART CONTRACTS

ethereum

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BLOCKCHAIN

- ☐ IMPORTANCE OF ETHEREUM
- ☐ WHY WE NEED THE ETHERUM
- ☐ STUDY ABOUT ETHEREUM
- ☐ HOW ETHEREUM WORKS
- ☐ TYPES OF CONSENSUS
- ☐ DAO, & DAPPS
- ☐ DAPP COMPONENTS
- ☐ PROGRAMMING IN SOLIDITY
- ☐ DAPP DEVELOPMENT TOOLS
- ☐ CREATE VOTING APP
- ☐ TOP B2C APPLICATIONS



Ethereum

[i-'thir-ē-am]

An open-source blockchain that is known for its smart contracts functionality, and which serves as the basis for the cryptocurrency ether (ETH).

Ethereum 2.0

Why We Need It?

1

Simplicity

The complexity of network should be minimized even at the cost of some losses in efficiency.

2

Failure-resistance

The blockchain should be able through major network partitions and when very large portions of nodes go offline.

3

Compatibility with quantum hardware

All network elements should either be quantum secure or can be easily swapped out for quantum secure counterparts when available.

4

Decentralization

Maximum participation of validators in total and per-unit time should be allowed.

5

Low 'Entry Price'

All processes including whole system validation should be available on average consumer's laptop.

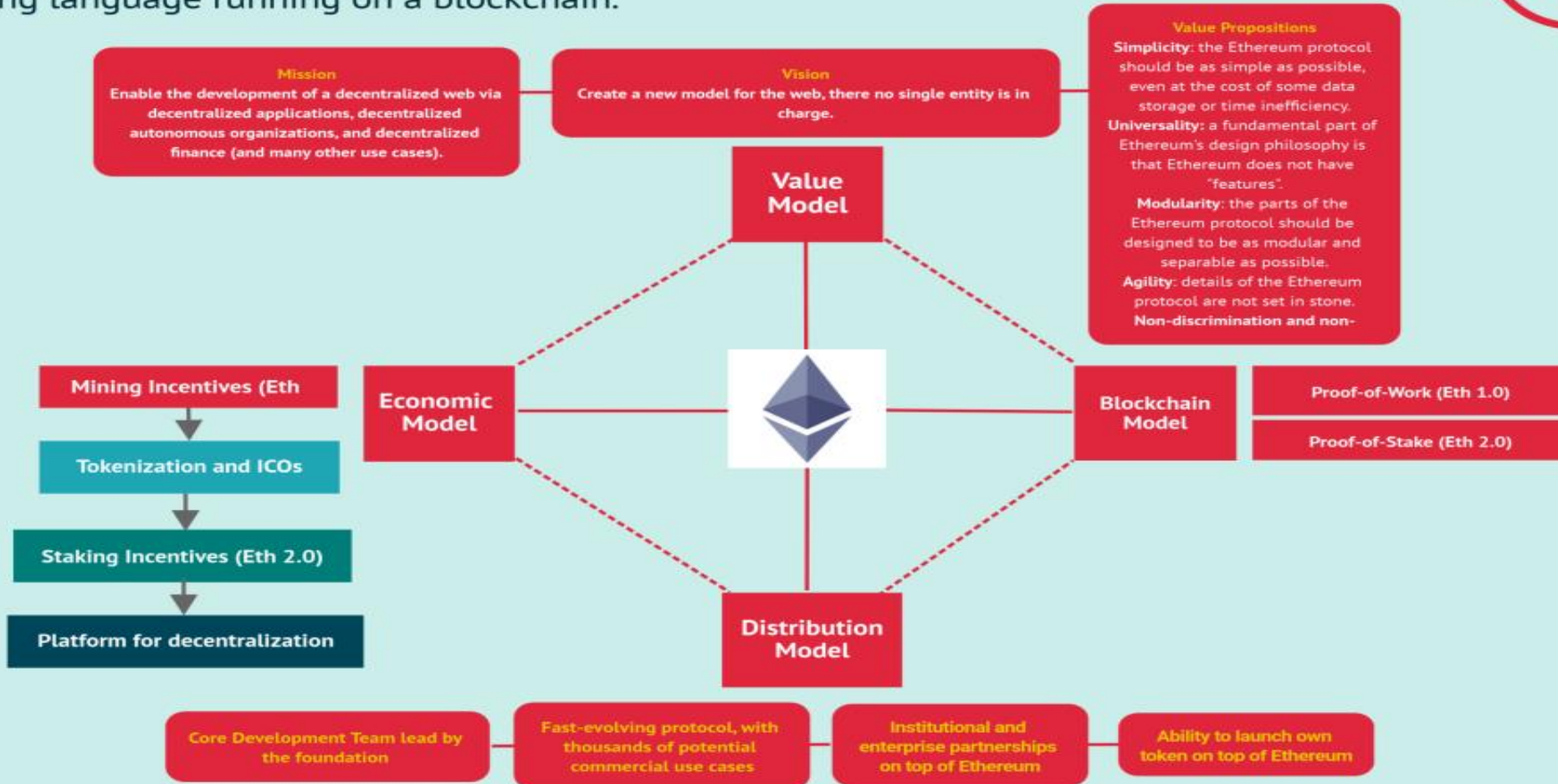
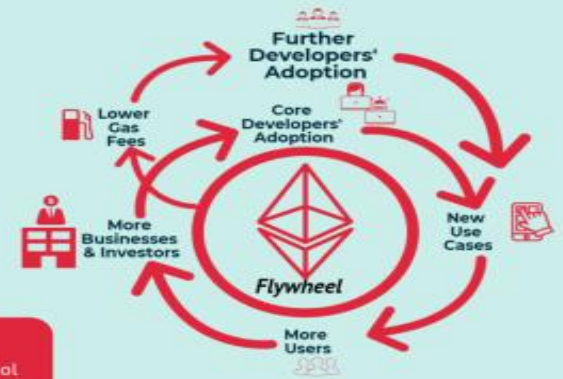
ETHEREUM USE CASES

- Payment Gateways
- ICO Platforms
- Tokenizing Assets
- Health Applications
- Digital Identity Management



Ethereum Ecosystem And Its Business Models

Ethereum was launched in 2015 with its cryptocurrency, Ether, as an open-source, blockchain-based, decentralized platform software. Smart contracts are enabled, and Distributed Applications (dApps) get built without downtime or third-party disturbance. It also helps developers build and publish applications as it is also a programming language running on a blockchain.



Different types of Consensus Algorithms



01 When a user initiate a transaction, "miners" or supercomputers try to solve a problem or puzzle to verify it.

02 A user is encouraged to spend more until he/she becomes a validator to create a block.

03 Same as PoS but users with more coins will get to vote and elect witnesses.

04 A single validator can handle proposed transactions and create a new block.

05 Focuses on a winfield way of a block verification joining the professional node operators.



Decentralized Applications (dApps)

[Like 'sen-tral-ized a-pli-kay-shun']

Software programs that run on a blockchain or P2P network of computers instead of a single computer.

What Is Solidity?



Solidity is a type of object-oriented programming language. This programming language is developed specifically for smart contracts.

This type of language is widely used in creating smart contracts features in blockchain platforms. It's influenced by C++, JavaScript and Python. Solidity also uses Ethereum Virtual Machine to function properly.

Advantages of Ethereum

Decentralisation

Transparency and
security

Flexibility and
customisation

Ethereum's growing
ecosystem

Interoperability and
standards

Community and
developer support

Ethereum 2.0
transition

Economic
incentives

Disadvantages of Ethereum

Scalability issues

Energy consumption

Regulatory challenges

Competition and network congestion

Complexity of development

Security concerns

Transition to Ethereum 2.0

Storage and bandwidth costs

User Experience and accessibility

Governance challenges

Conclusion and Future Outlook for Ethereum

The Ethereum community is one of the most active and engaged in the blockchain space, with many developers working on innovative projects and dApps

Ethereum is expected to continue to grow in popularity and adoption, especially with the upcoming upgrades



The rise of DeFi has been one of the most significant developments in the Ethereum ecosystem, and it is expected to continue to grow in the coming years

The future of Ethereum is bright, but there are also challenges that lie ahead

The scaling solutions that are currently being developed for Ethereum, such as sharding and layer 2 solutions like Optimistic Rollups, are expected to make the platform more scalable and efficient

THANK YOU ALL..!!!!



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