EOS.IO BLOCKCHAIN

Sheharyar Ch

ABOUT US

A Blockchain Development Firm

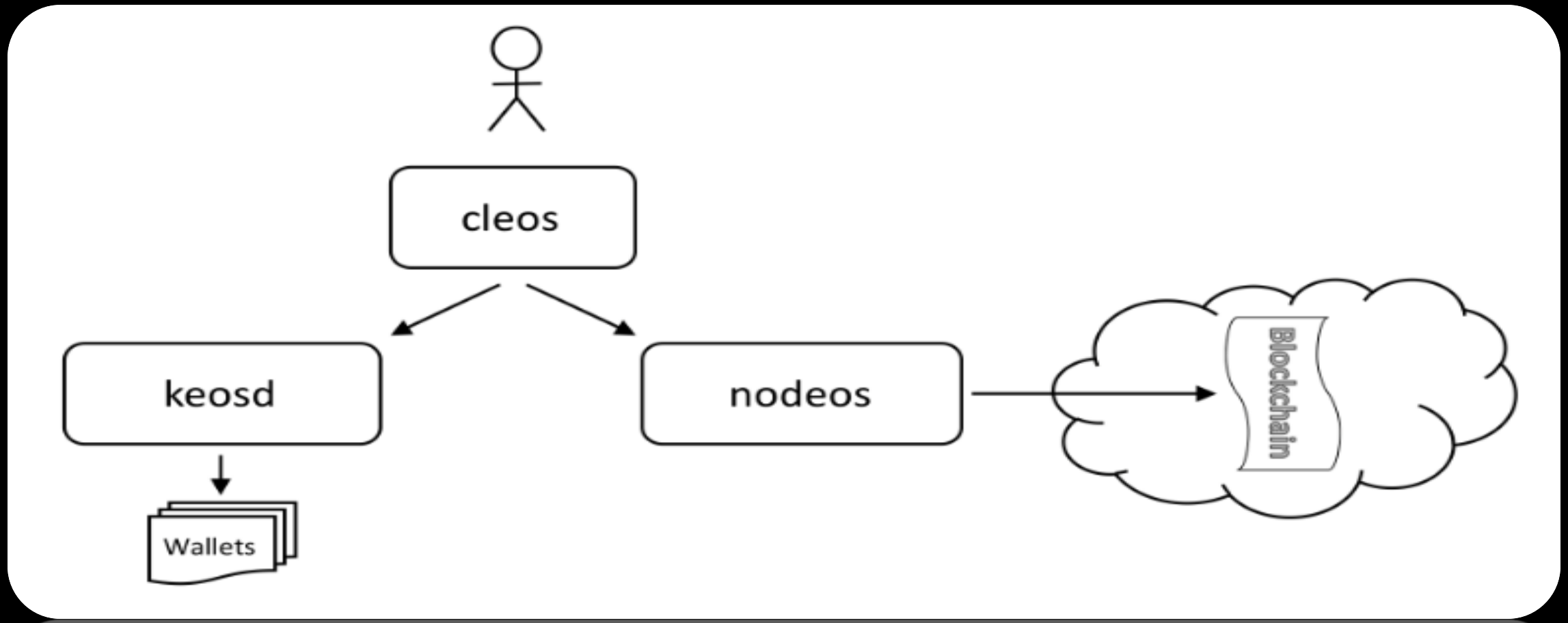
Blockchain Development

- We deal in all type of applications development.
- Currently working on EOS.IO development.
- Also moving towards Hyperledger and other blockchains.

WHAT IS EOS?

EOS Architecture and working

EOS.IO ARCHITECTURE



FULL NODE & LIGHT NODE

Full Node

- The complete, technical and powerful user of blockchain can hold the full node.
- Full node is that which can have all the data about ledgers.
- Basically A node who have mining power and can synchronize all the nodes in ledger will be called as Full Node.

Light Node

- Light node is that one which do not have any synchronize transaction. It just have a light node wallet which connect with a remotely node and can transact through it.

TRANSACTION VS ACTION

Transaction

- A transaction is basically a collection of one or more transactions.

Action

- An action represents a single operation.
- Issue Token
- Create Token

WORKING

- A governed blockchain network
- A decentralized autonomous network
- A protocol for deploying and interacting with web-assembly smart contracts.
- Takes C++ files as smart contract code in input and can generate .abi and .wast files as output.
- That EOS account becomes the address for the smart contract actions defined in the original C++ code.
- In which Block Producers work as minor.
- A Block is produced in 5 seconds.
- Each Block Producer Produces block till 6 seconds.
- There are total 21 Block Producers.
- Block contains zero or more transactions and transaction is a combination of one or more actions.

CONSENSUS ALGORITHM

DPOS

- In which Stake holder is involved.
- Basically in which Stake holder is the main powerholder who decides whether node is telling truth or not.
- In which Stake holder checks that the transaction is valid or not.
- If it is validate one then stake holder perform this transaction.
- But if it is invalid then Stake holder have full power to make it possible by using his power of stake basically this could be a malicious attack by stake holder.

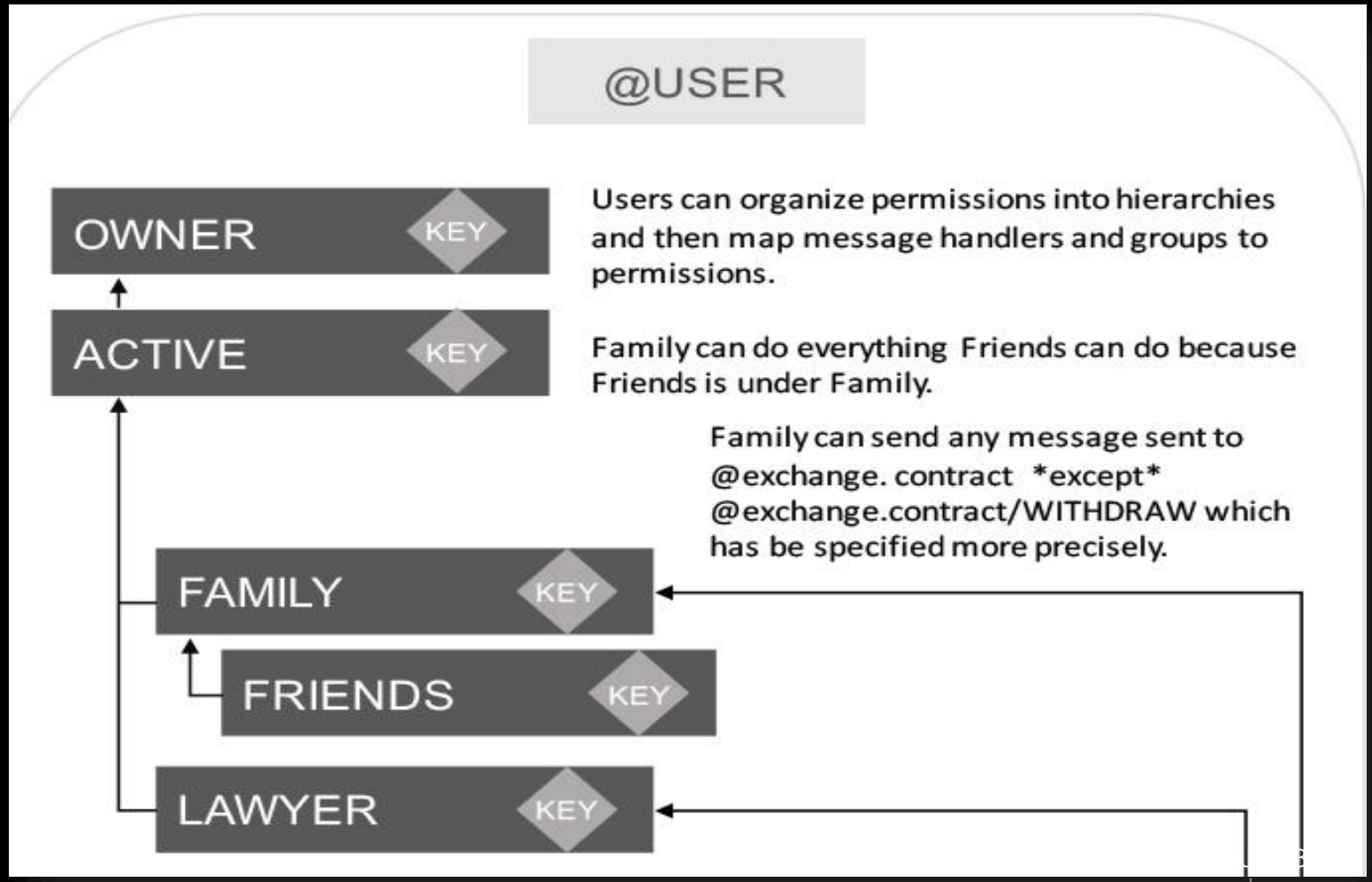
BFT

- It is used to validate the blocks.
- It works like anonymous or stranger phenomenon.
- No one can trust on any other person.

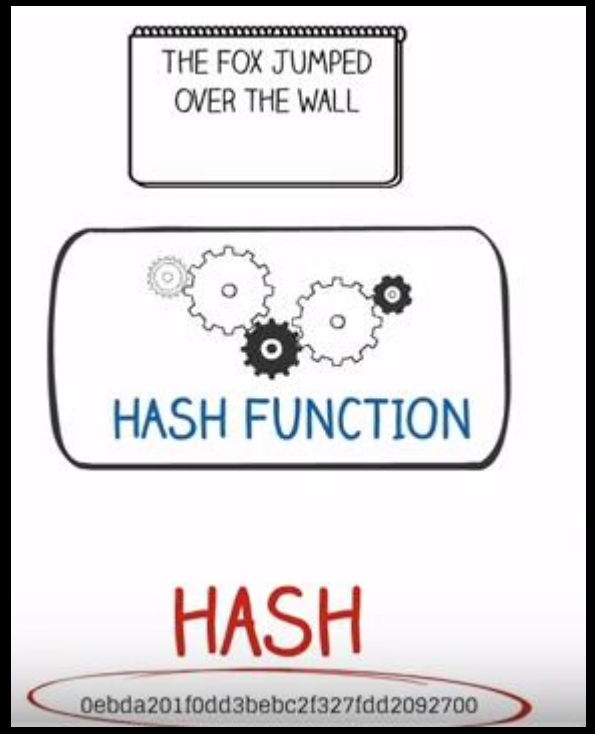
CONTINUE…

Accounts

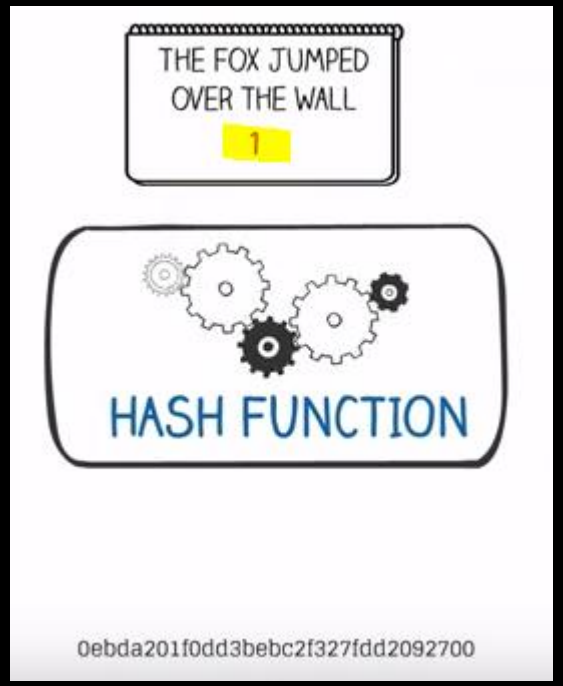
- Owner, Active & Social Accounts
- Follows the naming convention
- Only an existing account can create new accounts.
- That will charge some amount in respect of its resource usage and create a new account.



HASHES



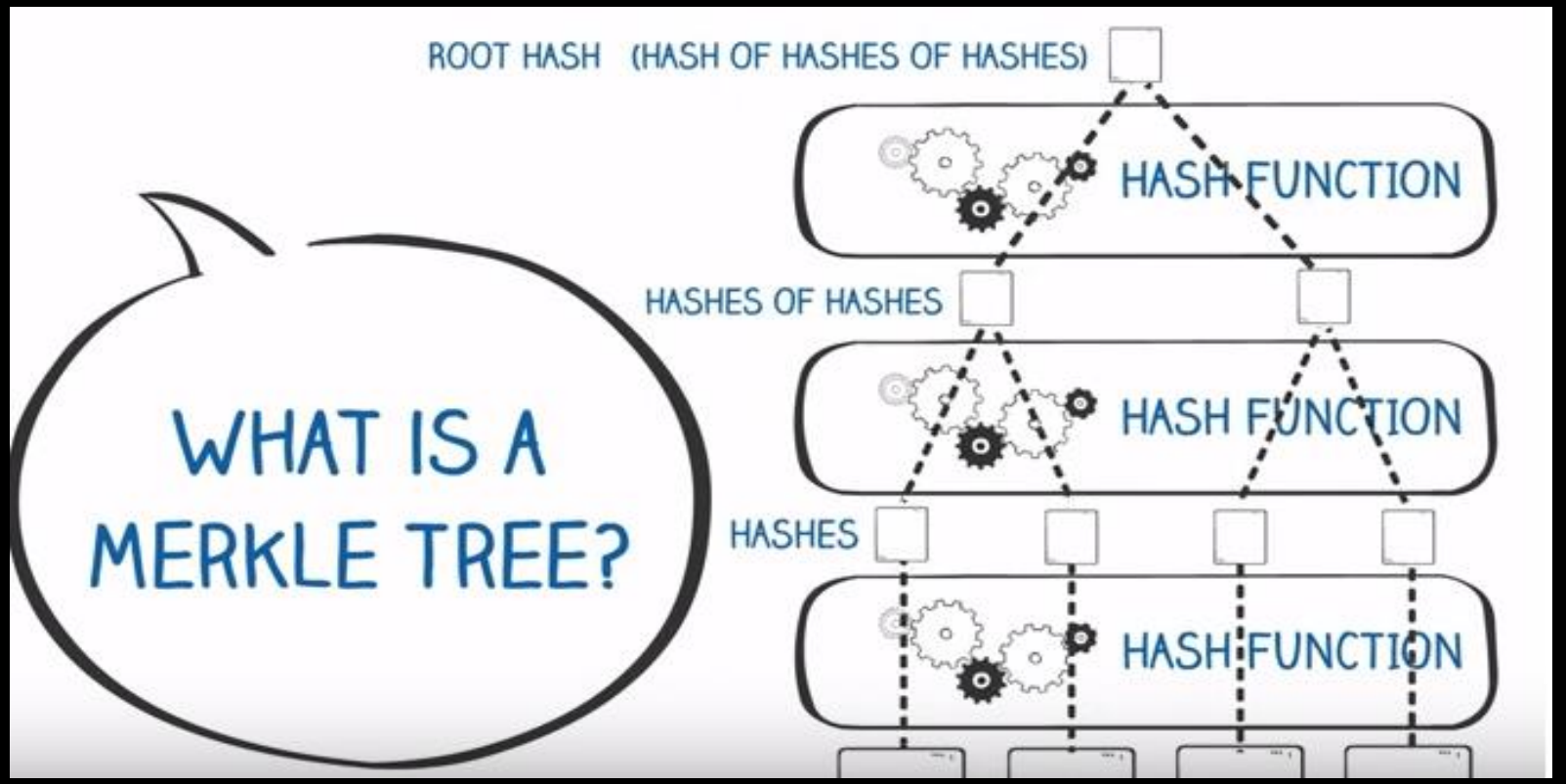
First INPUT with output



Add some change in INPUT

OUTPUT is changed

MERKLE ROOT



Q: Can merkle root be trackback or not?

WHAT TO DO WITH MERKLE ROOT

- Now we have a merkle root
- We put it into the block header which is a part of coin block.
- By having it in the block header we can make basically transaction TEMPRE PROOF.
- So if you go and change any value in input then it gets effected in the block header BECAUSE hash function will not produce the same hash and block header cannot identify the block identity and it will make it an INVALID BLOCK.
- So the transaction will not remain valid because it is not in the VALID block or it is tempered somewhere before.

MULTI CHAIN

- It means there two or many chains.
- Like there could be two or more competing chains that all honor the EOS20 token.
- Suppose there are multiple chains are launched in a network and ONE is main net that honor the EOS20 token the best and all others are side chain.
- Also there could be some other projects are launched, chains using the eos software not pretending to be remain a main chain and honor the eos20.
- That's very good for the community who are making DAPPS on the EOS Blockchain because eosio Software is a very good building block for any sort of dapps.
- Block Producers have no need to be in main chain to produce a block.
- Dapps developers can launch their application on any sub chain where they developed it.
- Basically Chain is locked first. When 15/21 peoples are voting then chain gets unlock by itself.

VERTICAL SCALING

- In which we use sequential processing phenomenon.
- Like we take only 1 computer and make its ram 8 GB and we execute all the processes on it. Then it executes sequentially to all processes.
- Like 1st one is completed and 2nd one is start and then the 3rd one will take start and after the completion of it 4th process will take place.
- Vertical scaling me serial/sequential ya single threaded execution hoti ha.
- Vertical me 1 hi Computer k upar 8gb ram hoti ha or wo single threadedly kam krta ha phr.

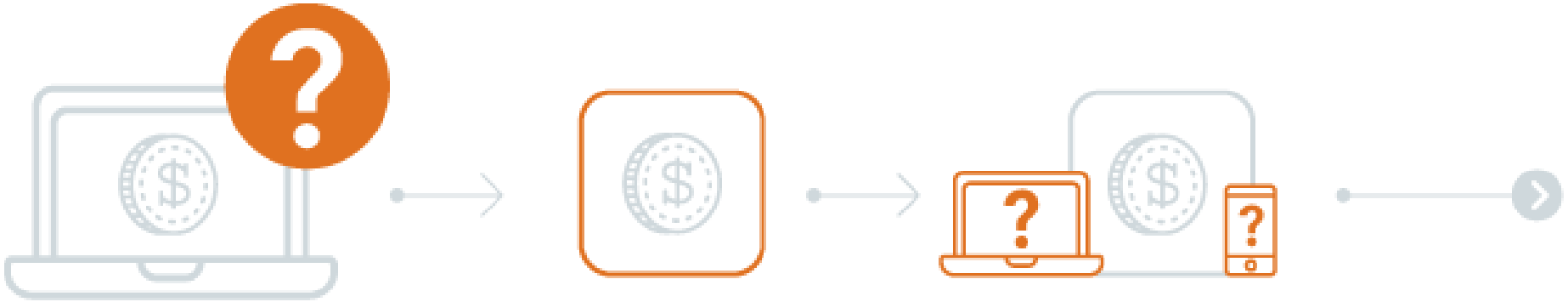
HORIZONTAL SCALING

- In which we can get parallel processing phenomenon.
- We divide computers from 1 to 4 and take 2 GB ram of all the computers and execute all the processes on 4 computers.
- Like we have 4 tasks to do then each task will start at same time on different Computers.
- Horizontal scaling se hmain parrallel execution milti ha.
- Horizontal me hm 4 computers use krtay hian having 2gb rams and parralel execute kr detay hain.

EOS- PRACTICAL APPROACH

How can we setup eos and how to work with it. Lets go to VS Code

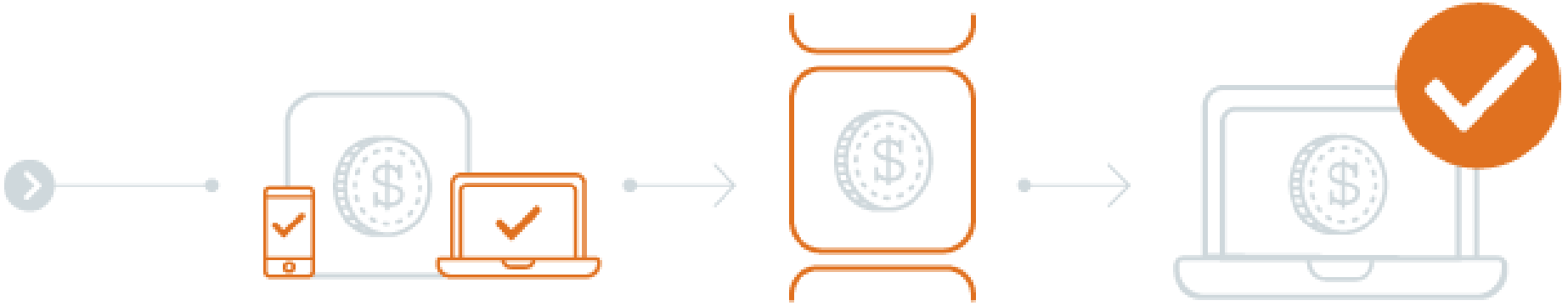
HOW A BLOCKCHAIN WORKS



User A requests a transaction

The transaction is represented as a "block"

The block is broadcast to every party in the network



The network of nods validates the transaction

Now a new block of data is created and added to the existing blockchain

The transaction is complete

THANK YOU

Sheharyar Ch
+92 322 4400 400
Sheharyaron@hotmail.com
https://www.sharetoinnovate.dotenest.com