Intro

Good morning everyone. This is Israk Ahmed, student of Computer Science & Engineering in TMSS Engineering College affiliated with University of Rajshahi.

Today I will introduce you with a very interesting technology called "Blockchain".

May I start sir?

Thank you sir!

Contents

These are the topics I will discuss in my presentation one after another.

Let's start with definition.

Definition

So what is blockchain?

Blockchain is actually a decentralized system where sharing of information or data is transparent and secure.

To understand blockchain properly, let's see how it works.

Working of blockchain

In blockchain all the data or information are divided into small portions. These portions are called Nodes.

Every nodes has 3 parts.

First one is obviously the actual data.

Then, it carries its own hash value. Hash value is an unique ID to verify all the nodes specifically. All the nodes have different hash values.

Also it carries the hash value of its previous node. Which connects all nodes sequentially.

This creates a chain of small nodes or blocks.

Now let's see how the blockchain network works.

Network

There are 3 major parts of the blockchain network.

These are nodes, consensus and miners.

One of them is nodes. We already know about nodes.

Next one is consensus. Consensus means an agreement of majority people in the network.

In blockchain when any transaction of money occurs, it needs at least 51% vote of the people in the same network to complete the transaction.

This is called consensus.

Now, the blockchain system needs some people to verify all the transactions and add it to the global ledger.

These people are called miners.

Now let's see some use cases of blockchain.

Use cases

Cryptocurrencies, means a currency which does not exist physically.

NFT – Non Fungible Token.

Also it can be used to arrange elections.

Also in transferring data or to create Dapps which means decentralized applications.

Now let's see some real life examples.

Examples

There are some cryptocurrencies based on blockchain. Like Bitcoin, Ethereum, Dogecoin.

An African country named Sierra Leone uses blockchain in elections.

Also there are some global companies like ConsenSys, Mastercard, Binance, BIT mining are based on blockchain services.

There are many advantages of using blockchain. These are:

Advantages

Decentralization, like there is no need of any middle man.

Trustable chain

Data can be traced using hash values.

The data in the nodes are immutable, it cannot be changed anymore one it is inserted.

If anyone to temper data in the nodes, the hash value of that node will be changed and the chain will be broken. Then it will be noticed by everyone.

This makes it highly secured storage.

Now let's see some disadvantages also.

Disadvantages

The infrastructure of blockchain consumes high energy.

Also it is very costly to implement.

There is a possibility of money laundering.

For this reason some countries have banned blockchain based currencies like China, Bangladesh.

And Immutability is also a disadvantage. Because if some wrong data is inserted by mistake, it cannot be changed anymore.

There many future opportunities with blockchain.

Let's see some.

Future Opportunities

Blockchain can be integrated with IOT and AI.

It can be used in banks to make banking more secure.

Cryptocurrencies can be launched by governments. Also it can be used in many government services. So That's all my presentation is.