**ERC20**

Fabian Vogelstellar developed ERC20 in 2015. The prime mission of ERC20 is to make a uniform Application Programming Interface (API) for tokens within smart contracts achievable. Thus, ERC20 acts as a standard set of rules for the Ethereum blockchain. It follows a series of regulations for fresh tokens to be swapped, moved, or shared to a cryptocurrency wallet. Furthermore, ERC20 describes the API of smart contracts rather than their implementation. As a result, you have functions referred to as code groups when you have a smart contract. The interface explains what a smart contracts’ function should be beforehand. Then there is the implementation which happens at the back end. The actual code for these routines is visible here.

**Following are the ERC20 token standards:**

* Token Name
* Decimal (up to 18)
* Symbol
* Transfer
* Balance of
* Total supply
* Transfer From
* Approve
* Allowance

The standards: Token name, decimal, and symbol, are optional, while the remaining standards are essential. For example, a “transfer” function is vital for an ERC20 token, which is where the need for the “transfer and transfer from” function arises. The token owner, recognized by their Ethereum address, can transfer tokens to another Ethereum address using the transfer function. The “transfer from” function is used with a third-party Ethereum address to transfer tokens on behalf of the owner.

**ERC721**

CryptoKitties, a popular game, implemented the ERC721 standard in late 2017. As previously said, participants in this game gather virtual kittens, which are each represented by an ERC721 token. But then, what is the difference between ERC20 tokens and others? An ERC721 token represents a class of assets, whereas an ERC20 token represents a particular type of asset. In the instance of CryptoKitties, the ERC721 token contract represents all of the game’s unique cats and who owns which of them. In comparison to ERC20, ERC721 simplifies ownership: a participant either completely owns or does not fully own an asset. For example, it is not feasible to possess “half a kitten” In CryptoKitties. As a result, the ERC721 token is referred to as a standard for non-fungible assets. This is one of the crucial aspects of the ERC721 standard to understand. However, the rest of the standards, particularly in terms of token transfers, is more or less similar to the ERC20 standard.

**differences**

We have already discussed the differences between the two standards in detail. But before concluding our discussion, let us summarize them:

The main distinction between ERC20 and ERC721 tokens is that the former is a fungible token, but the latter is a non -fungible token.

ERC20 tokens are interchangeable and represent a single entity, whereas ERC721 tokens represent a collection of assets. Furthermore, ERC721 is not divisible.

CrytoKitties is a notable example of ERC721 tokens; gaining complete ownership of virtual cats is one-of-a-kind and cannot be shared with any other player. The game is swiftly gaining traction to the point where blockchain platform gaming may become more generally embraced in the future. However, the same is not possible with ERC20 due to their fungible characteristics.

ERC20 tokens can be divided in any number of ways. Even sharing 0.1 % of your token is possible. On the other hand, ERC721 tokens are not-divisible.