WePlay's guide on EVM

Blockchain is the foundation of all cryptocurrencies, and being a rapidly evolving technology, it has a plethora of applications and initiatives that may be used to solve human issues.

You may come across the term Ethereum Virtual Machine (EVM) as a Crypto enthusiast or a newcomer. So, what exactly is this, and how did this concept come to be? From the beginning, Ethereum's designers were clear about their goals. It was supposed to be a "global computer" or a "internet computer," according to them. How does it plan to achieve this goal? The Ethereum Virtual Machine is a part of the solution (EVM).

Photo credit: DecBC

What’s more, WePlay– the visual social network Metaverse – has extensive EVM support. We’ll dive into what EVMs are and why this support can be so valuable when you interact in WePlay Metaverse!

EVM ecosystem

Understanding the EVM is essential to grasping the ecosystem as a whole. But before you answer this question, you need to break down your learning sequence into several parts. Let's take a sneak peek into these parts and how they work together.

First of all, let's take a look at what a virtual machine (VM) is then followed by what a Turing machine is. All these work hand in hand to make an EVM.

Virtual Machine (VM)

Virtual machines are computers that seek to abstract at a higher level than your typical operating system or OS. Unlike Windows or iOS, virtual machines (VMs) are built on top of standard operating systems to mimic the functionality of a physical computer.

In other words, virtual machines use virtual architecture to simulate the computing capabilities of physical computers. They can run on a wide range of operating systems and hardware, making them the ideal engine for a distributed ecosystem.

In theory, anyone can run a VM which makes it a highly portable platform for a decentralized network. In this sense, the EVM acts like a global processor or computer that lends its accumulated computing power to developers. The developers, in turn, use this resource to create smart contracts and decentralized apps or dApps.

Turing complete

When a machine is given adequate time and memory, as well as the necessary instructions, it is said to be Turing complete. Turing-completeness is guaranteed by the EVM.

Imagine a thinking machine that can solve any computational problem, no matter how difficult it is, yet not being able to reason like humans. This is the approach taken by EVM. In short, any logical step of a computational function can be performed by a Turing-complete machine.
Turing-completeness is used by programming languages, not just computers. Java script, Python, and C++, for example, are Turing complete.

Having known what VM and a Turing complete is, you have now prepared yourself to understand what an EVM is.

What is an Ethereum Virtual Machine (EVM)?

The Ethereum Virtual Machine (EVM) is a virtual CPU that allows Ethereum to run smart contract programs. The EVM is a computation machine that functions similarly to a decentralized computer. EVM is in charge of executing and deploying smart contracts. It is primarily responsible for facilitating the functionality of smart contracts, which are often written in higher-level programming languages such as Solidity.

In essence, EVM functions as a massive decentralized master computer capable of doing a wide range of programmable activities on the blockchain.

It's also worth noting that EVM runs in a sandboxed environment, meaning it's completely separate from the main Blockchain network and ideal for testing. As a result, anyone who wants to use EVM to write a smart contract can do so without interfering with other Blockchain operations.

And then, there is EVM-compatibility, which means creating an EVM-like code execution environment that makes it easy for Ethereum developers to migrate smart contracts to an EVM compatible chain without having to write the code from scratch again.

So what exactly does EVM do?

Ethereum Virtual Machine does the following checks whenever there is a transaction on the Ethereum Blockchain:

- Confirms if a transaction has the correct number of values, the validity of the signature as well as whether the transaction matches the nonce of that particular transaction account. If there is a mismatch, the transaction will be returned as an error.

- Calculates the transaction fee required and initializes the gas payment.

- Executes the transfer of the required amount of digital assets to the assigned address.

The transaction will be rolled back if EVM detects that the sender did not use enough Gas or Ether. The transaction fee will not be repaid in this case; instead, it will be paid to the miner.

If a transaction fails due to an address issue on the recipient's part, EVM will reimburse the money transmitted as well as the corresponding charge to the sender (no miner is paid here).

EVM compatible blockchains in WePlay

More independent blockchains are adopting the EVM as their default smart contract engine as crypto spreads far and wide. Chains like Binance, Fantom, Polygon, Avalanche, Cardano, xDAI, among others.

Here in Weplay, we are following a multi Blockchain approach, therefore, we'll be adopting several EVM compatible blockchains to give our members the cream of the crops.

WePlay just partnered with Polygon Studios on the Polygon network. Polygon (MATIC) is the biggest EVM on Ethereum with thousands of DApps and very very fast with fees in cents. At the same time we are also in active talks with the Near Foundation and FileCoin for collaboration both on the Aurory L2 and distributed and decentralised NFT storage. ***This is just the beginning!***

Follow us on our Telegram channel to stay in tune with more updates coming from

About WePlay Project

WePlay offers a Social Network Metaverse where users will not only be able to walk and interact but drive as well as refuel their vehicles, buy wearable NFTs, allow their NFTs from other blockchains to be used as well as interact with all sorts of SocialFi, DeFi, and DAO protocols in a fun and visual way. On top of that, Users are allowed to mint and release their own NFTs in the WeVerse via WePlay NFTime.

The WeVerse also further gives WePlayers the ability to chat, talk and communicate with each other in a highly secure, encrypted, and decentralized way.

To stand a chance of being whitelisted for WePlay NFTs and getting more information about the NFT projects at large, do well to follow us on Twitter (@WePlayLabs) and join our Discord.