**Sending Eth Through a Function**

**Introduction:**

In this part, we’ll explore how to transfer Ethereum (ETH) to a smart contract by creating a `fund` function. This function will require a minimum amount of ETH to ensure proper transaction handling.

**Value and payable:**

When a transaction it’s sent to the blockchain, a value field is always included in the transaction data. This field indicates the amount of the native cryptocurrency being transferred in that particular transaction.

For the function `fund` to be able to receive Ethereum, it must be declared `payable`. In the Remix UI, this keyword will turn the function red, signifying that it can accept cryptocurrency.

Wallet addresses and smart contracts are capable of holding and managing cryptocurrency funds. These entities can interact with the funds, perform transactions, and maintain balance records, just like a wallet.

Function fund() public payable {

// allow users to send $

// have a minimum of $ sent

// How do we send ETH to this contract?

Msg.value;

//function withdraw() public {}

}

In Solidity, the value of a transaction is accessible through the`msg.value`(<https://docs.soliditylang.org/en/develop/units-and-global-variables.html#special-variables-and-functions>) property. This property is part of the global object `msg`. It represents the amount of Wei transferred in the current transaction, where Wei is the smallest unit of Ether (ETH).

**Reverting transactions:**

We can use the`require` keyword as a checker, to enforce our function to receive a minimum `value` of one (1) whole ether:

require(msg.value > 1e18); // 1e18 = 1 ETH = 1 \* 10 \*\* 18

This `require` condition ensures that the transaction meets the minimum ether requirements, allowing the function to execute only if this threshold is satisfied. If the specified requirement is not met, the transaction will revert.

The require statement In Solidity can include a custom error message, which is displayed if the condition isn’t met, clearly explaining the cause of the transaction failure:

require(msg.value > 1 ether, “Didn’t send enough ETH”); //if the condition is false, revert with the error message

An online tool like Ethconverter (<https://eth-converter.com/>) can be useful for executing conversions between Ether, Wei, and Gwei.

**Important:** 1 Ether = 1e9 Gwei = 1e18 Wei

**Note:** Gas costs are usually expressed in Gwei

If a user attempts to send less Ether than the required amount, the transaction will fail and a message will be displayed. For example, if a user attempts to send 1000 Wei, which is significantly less than one Ether, the function will revert and does not proceed.

**Conclusion:**

In this lesson, we explored how to use the `value` field of a transaction to transfer Ether to a contract. We also learned how to generate an error message when the user sends insufficient Ether to the `FundMe` contract.