

WEB DAY 2023

MILANO 16 MARZO



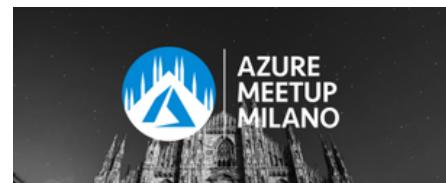
Road to Web3

Soumaya Erradi
Developer Lead @ Scaling Parrots

/* Sponsor */

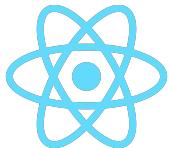


/* Partner */



Soumaya Erradi

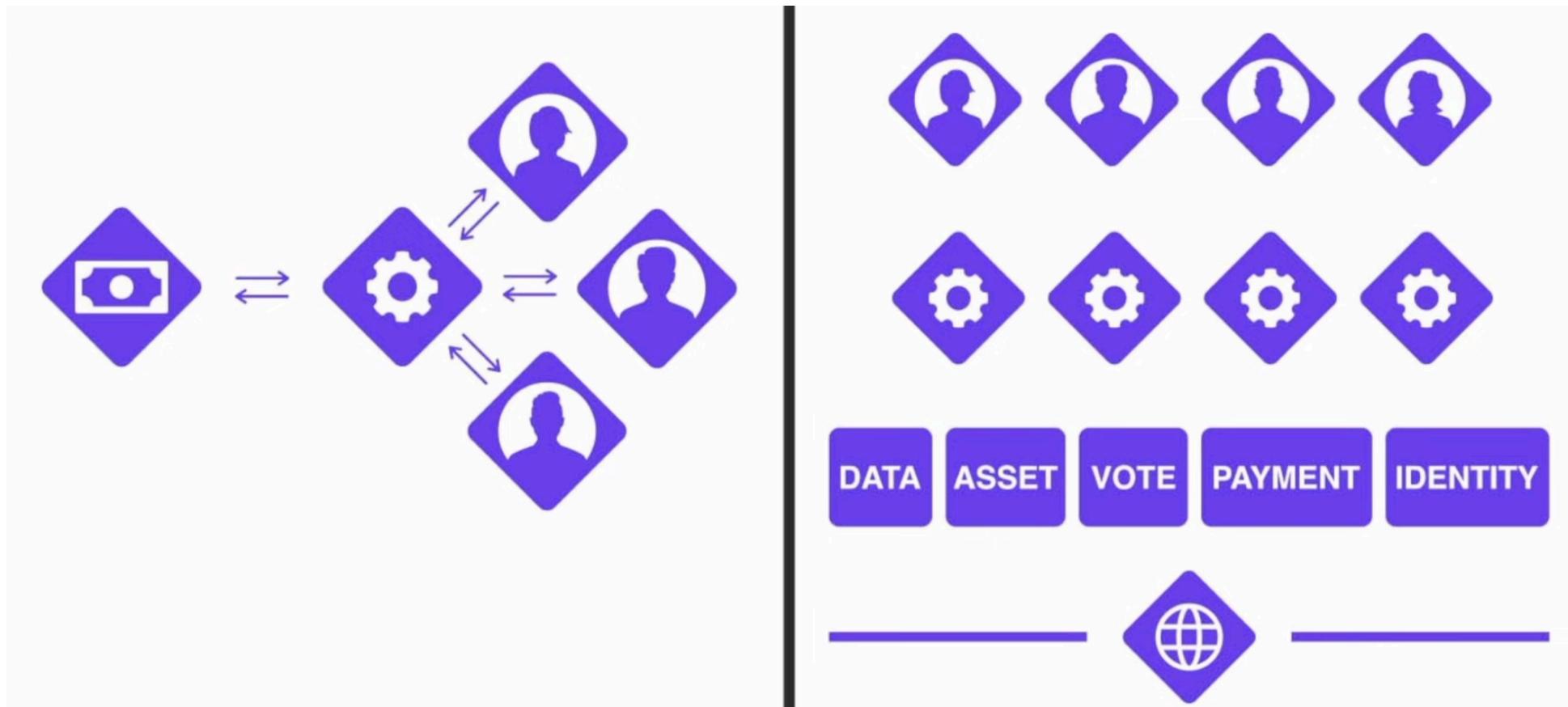
- Lead software developer @ Scaling parrots
- Frontend specialist
- Web3 enthusiast
- IT and electronics divulger



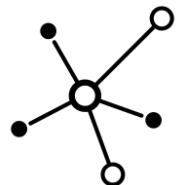
Web3



Web2 vs Web3



Pros



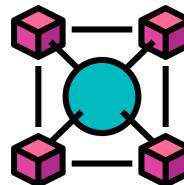
Decentralization



Ownership



Security



Interoperability



Permission less

Cons



Scalability



Complexity



User adoption

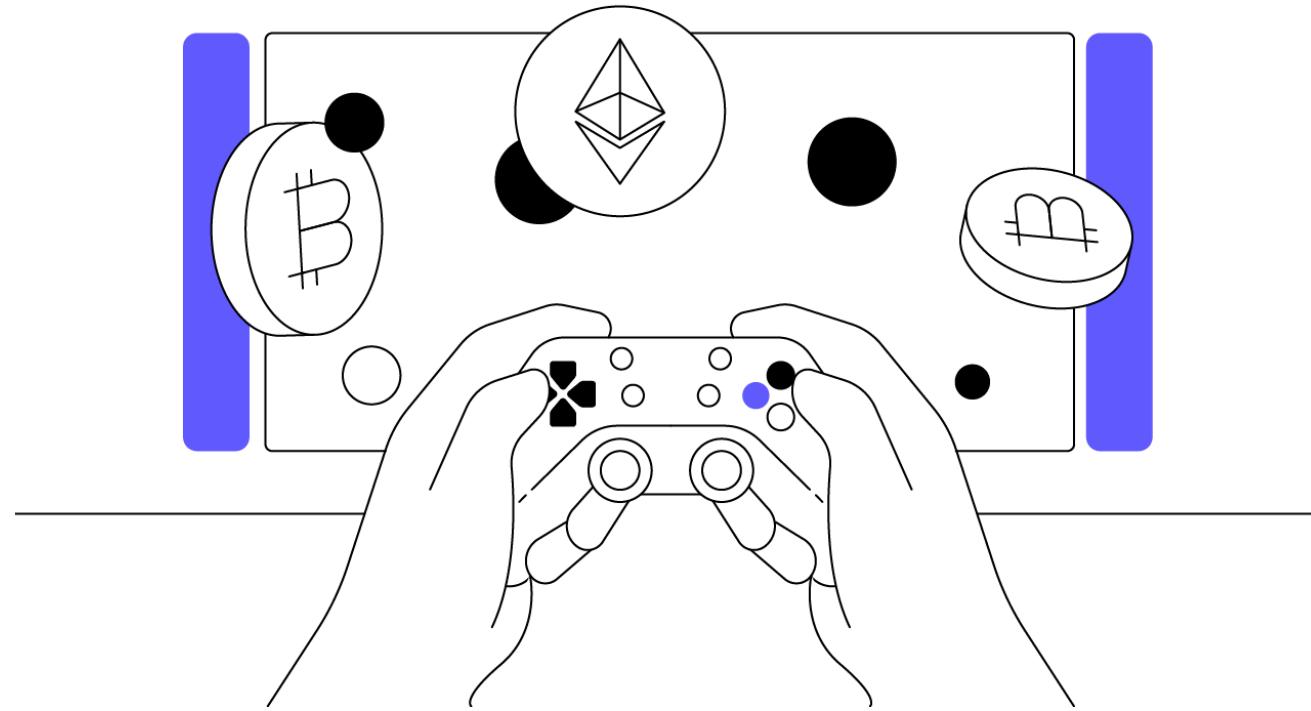


Environmental impact



Use cases





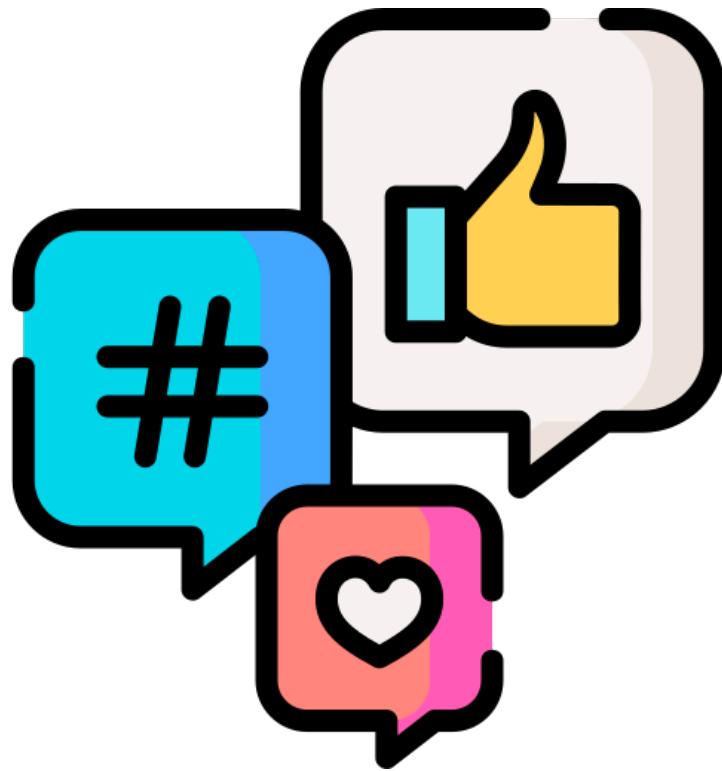
GAMEFI



NFT MARKETPLACE



DEFI

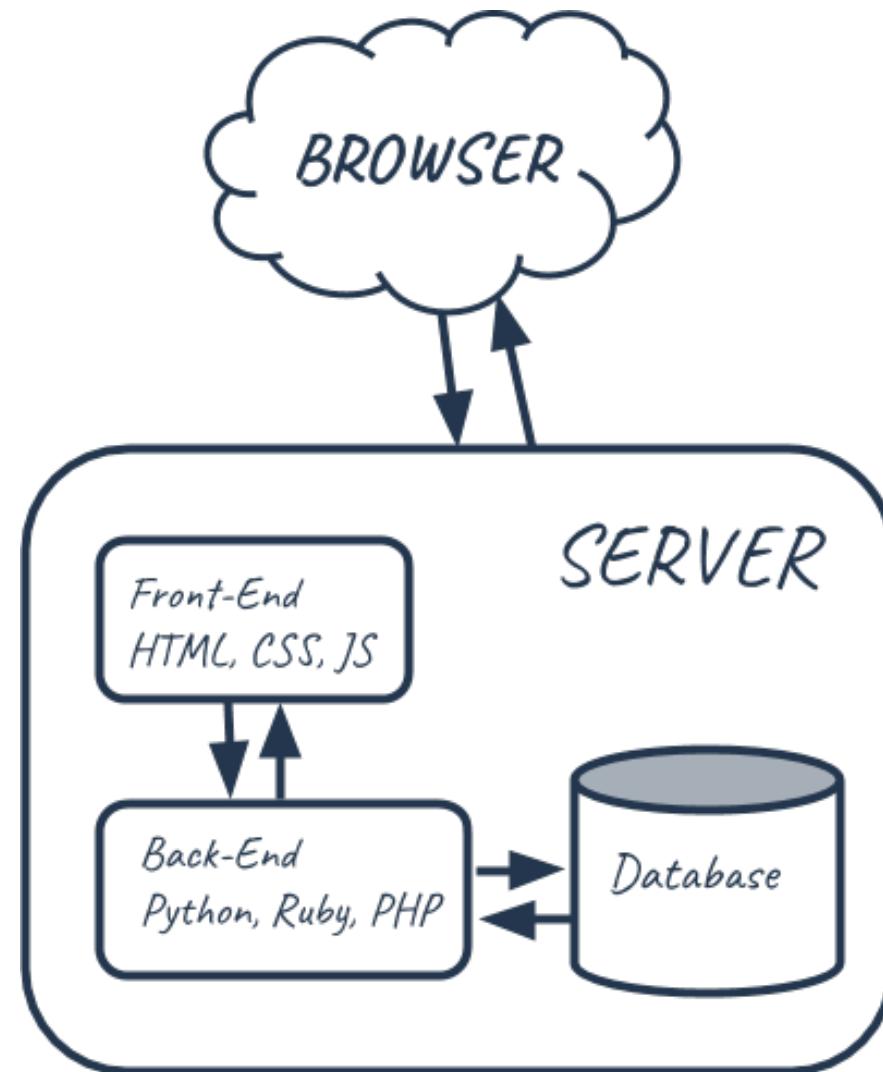


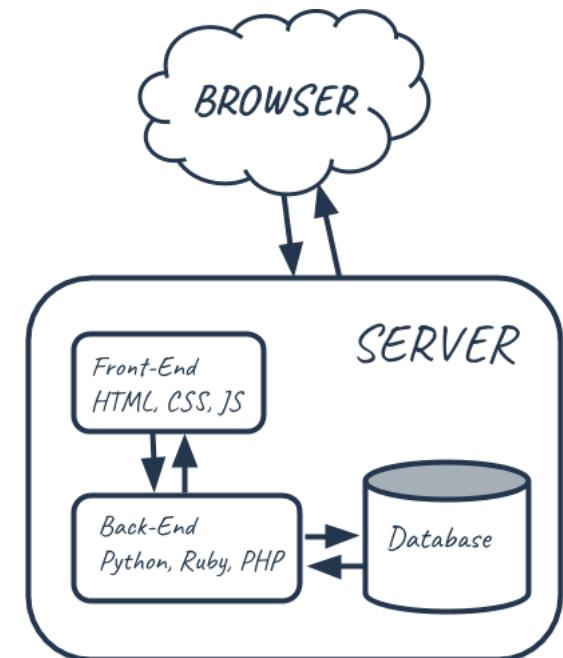
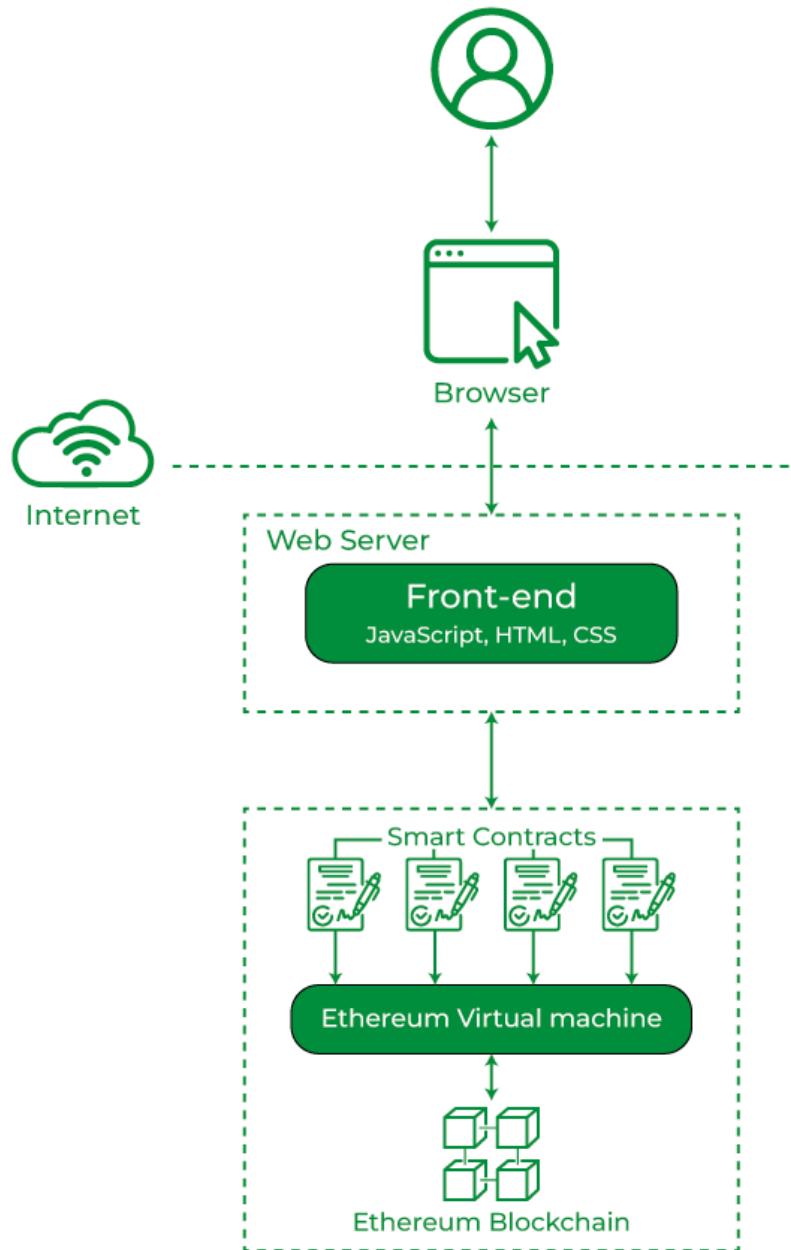
SOCIAL MEDIA

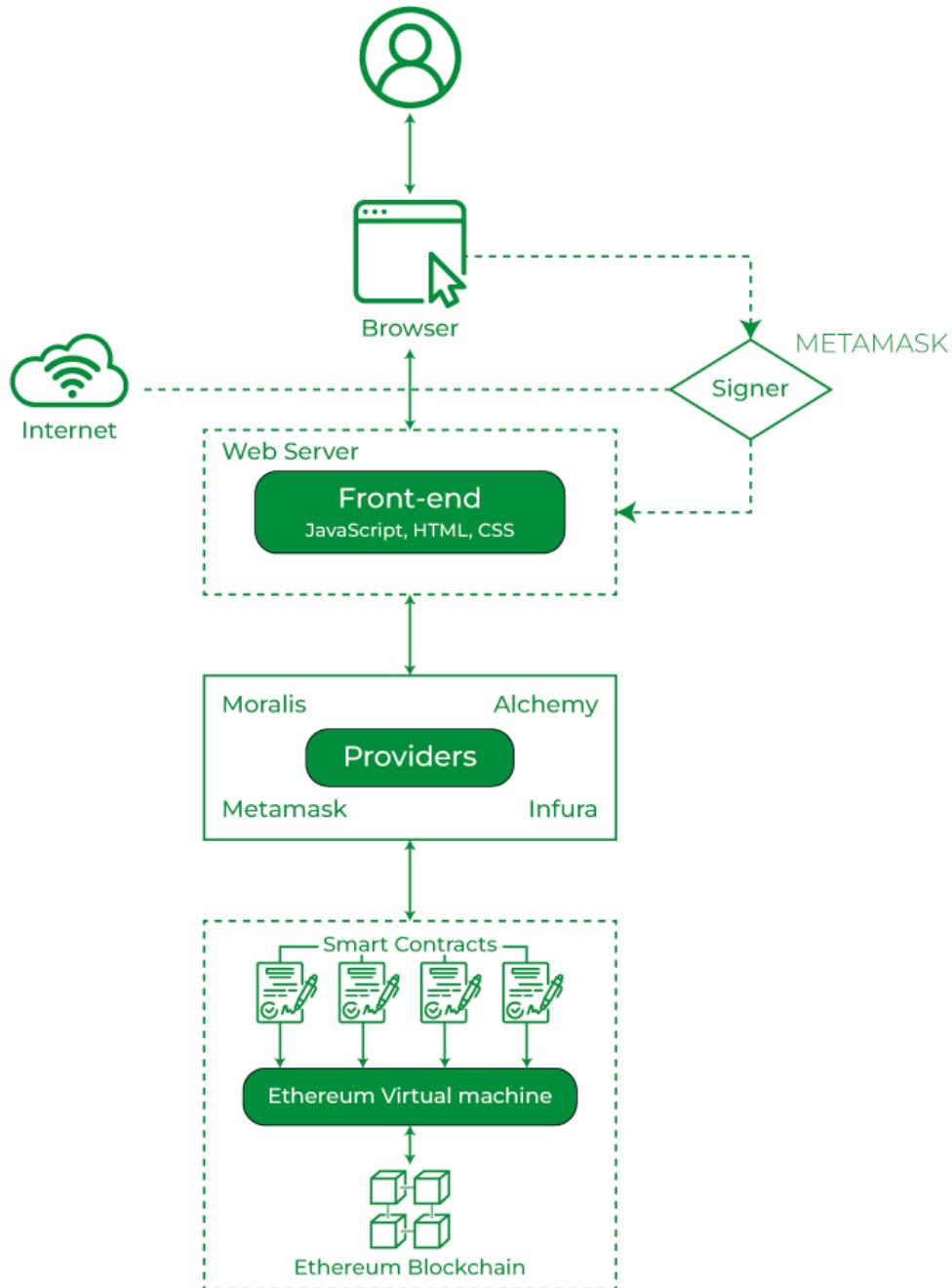
Web3 development



Web2







Web3 dev tools



Frontend framework/library

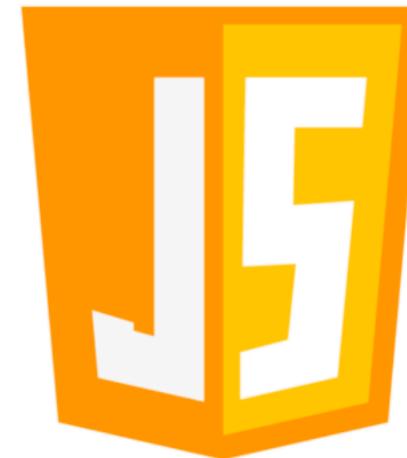
HTML



CSS



JS



Wallet



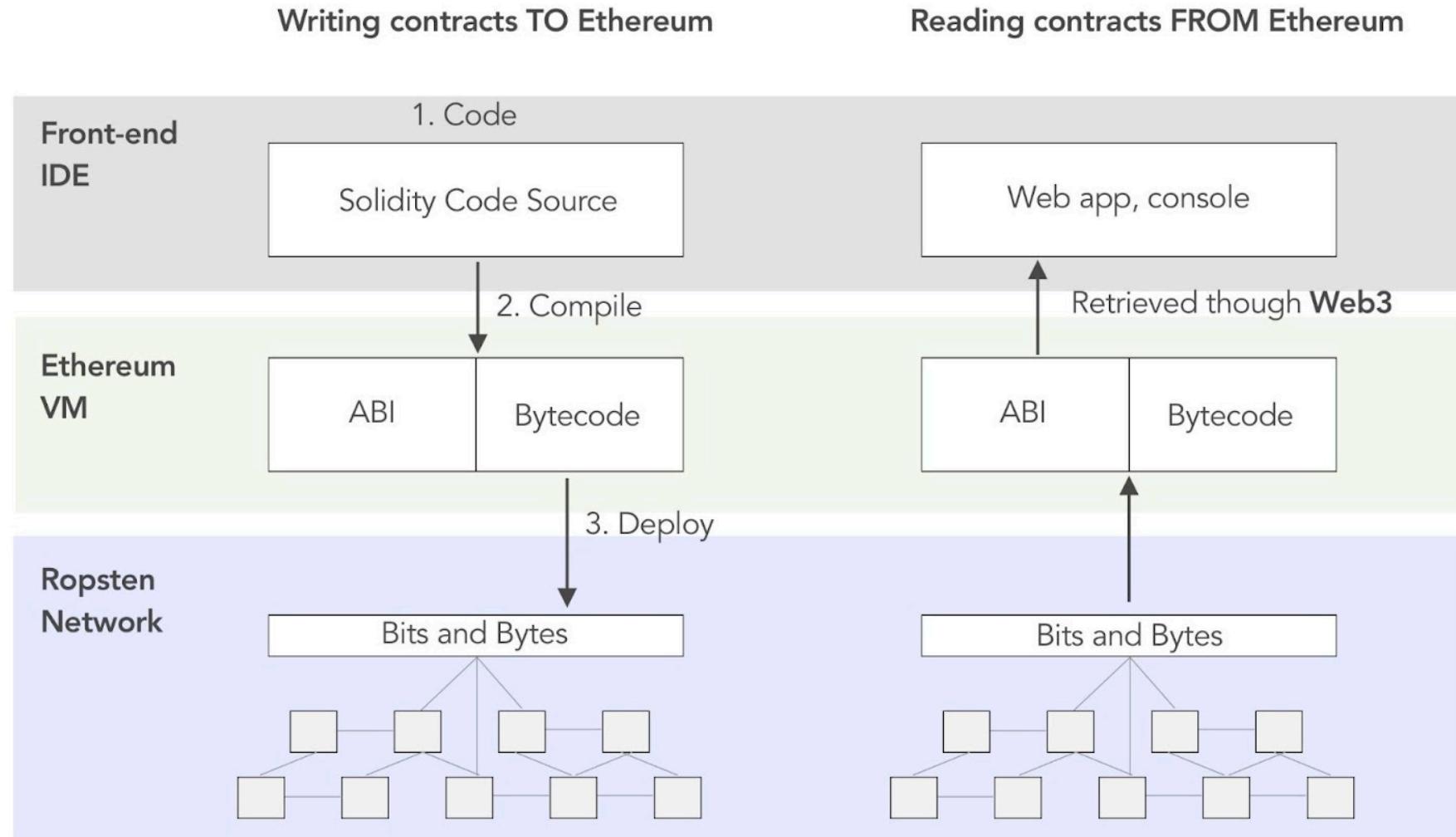
METAMASK

Library



ethers.js

Smart contract



```
1 pragma solidity >=0.5.0;
2
3 contract Rent {
4     // define events notifying rent is paid
5     event RentPaid(
6         address indexed _from,
7         string indexed _tenant,
8         uint _rent
9     );
10
11 function deposit(string memory _tenant) public payable {
12     //emit event notifying rent is paid
13     emit RentPaid(msg.sender, _tenant, msg.value);
14 }
15 }
```

Diagram illustrating the mapping between Solidity code and its corresponding ABI representation.

The Solidity code defines an event `RentPaid` and a function `deposit`.

The ABI representation shows:

- The `RentPaid` event is mapped to a function with:
 - Inputs:
 - `_tenant`: string
 - `name`: `deposit`
 - `payable`: true
 - `stateMutability`: payable
 - `type`: function
- The `deposit` function is mapped to an event with:
 - Inputs:
 - `_from`: address
 - `_tenant`: string
 - `_rent`: uint256
 - `name`: `RentPaid`
 - `type`: event



Rinkeby Testnet Network

All Filters

Search by Address / Txn Hash / Block / Token / Ens



Home

Blockchain

Tokens

Misc

Rinkeby



Contract 0xBc84F3bf7Dd607a37F9e5848a6333e6c188d926c



2

Contract Overview

Balance: 0 Ether

More Info

More

My Name Tag: Not Available

Contract Creator: 0xc31eb6e317054a79bb... at txn [0x66c6c946e53be3f544...](#)

Token Tracker: FundRequest (FND)

Transactions

Internal Txns

Erc20 Token Txns

Contract

Events

Code

Read Contract

Write Contract

Read Contract Information

[Expand all] [Reset]

1. name



2. creationBlock



3. totalSupply



4. decimals



5. balanceOfAt



6. version



Ethers.js

```
npm install ethers
```

```
import { ethers } from "ethers";
```

Ethers.js

- **Provider** - This is a class in Ethers.js that provides abstract read-only access to the blockchain
- **Contract** - This class is responsible for the connection to specific contracts on the network

Operations in Web3

- Wallet interaction
- Read from smart contract
- Write in smart contract

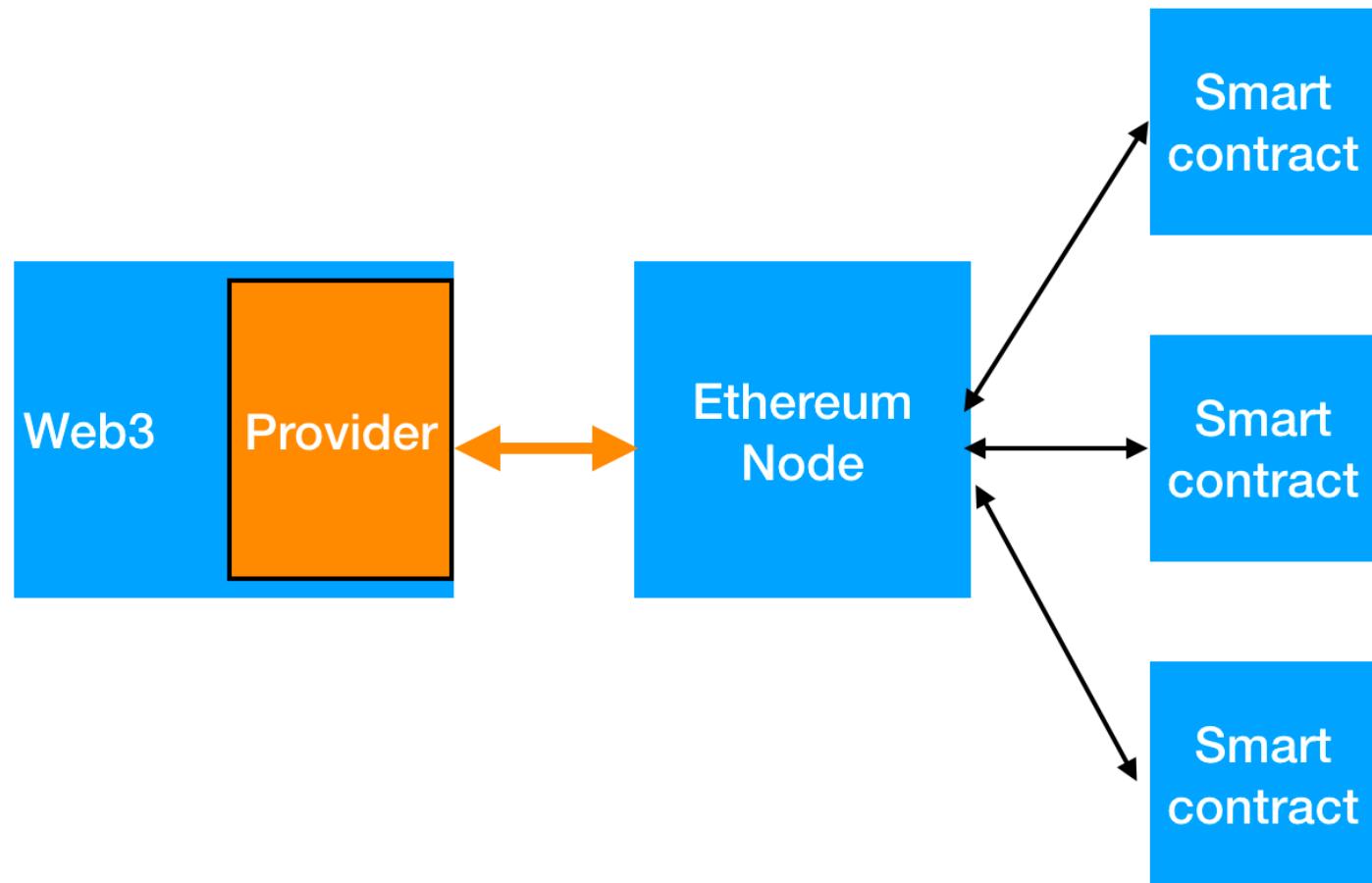
Wallet

- Provider
- Wallet address
- Network

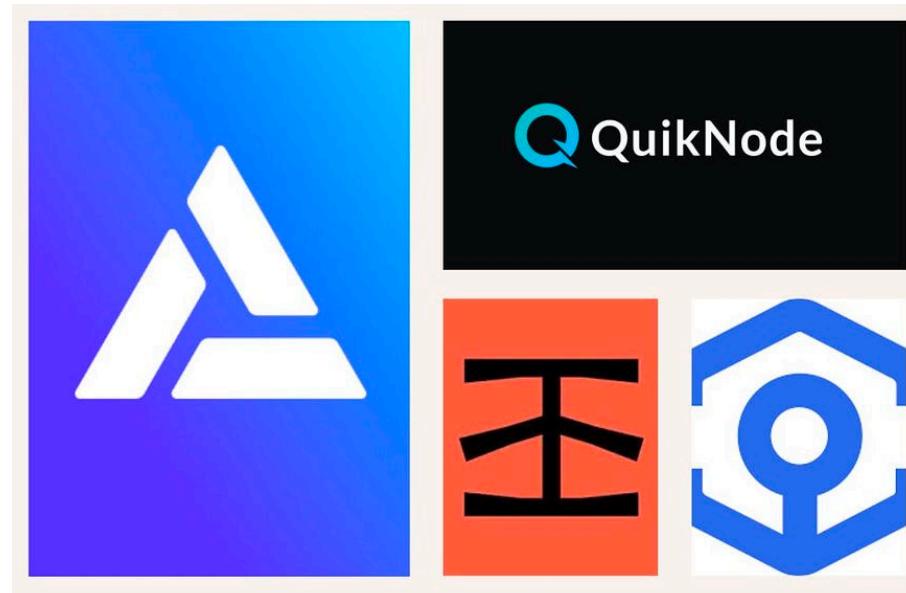
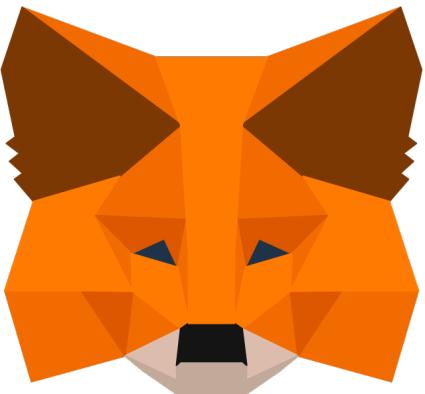
Read and write

```
{  
  "constant": true,  
  "inputs": [],  
  "name": "name",  
  "outputs": [  
    {  
      "name": "",  
      "type": "string"  
    }  
  ],  
  "payable": false,  
  "stateMutability": "view",  
  "type": "function"  
}  
  
{  
  "constant": false,  
  "inputs": [  
    {  
      "name": "_to",  
      "type": "address"  
    },  
    {  
      "name": "_value",  
      "type": "uint256"  
    }  
  ],  
  "name": "transfer",  
  "outputs": [  
    {  
      "name": "",  
      "type": "bool"  
    }  
  ],  
  "payable": false,  
  "stateMutability": "nonpayable",  
  "type": "function"  
}
```

Provider



Wallet provider vs public nodes



</> example



Wallet provider

```
const metamaskProvider = window.ethereum;

const web3provider = new ethers.providers.Web3Provider(metamaskProvider);

const addresses = await web3provider.send("eth_requestAccounts", []);

const network = await web3provider.getNetwork();
```

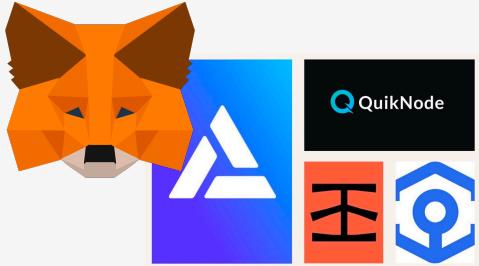
Public node provider

```
const rpcUrl = 'https://bsc-dataseed.binance.org';  
  
const provider = new providers.JsonRpcProvider(rpcUrl);
```

```
const contractManager = new ethers.Contract(  
    contractAddress,  
    abi,  
    provider  
)  
  
contractManager[methodName](...args);
```

```
const contractManager = new ethers.Contract(  
    contractAddress,  
    abi,  
    provider  
);
```

```
contractManager[methodName](...args);
```



```
{  
  "constant": true,  
  "inputs": [],  
  "name": "name",  
  "outputs": [  
    {  
      "name": "",  
      "type": "string"  
    }  
  ],  
  "payable": false,  
  "stateMutability": "view",  
  "type": "function"  
}
```

```
{  
  "constant": false,  
  "inputs": [  
    {  
      "name": "_to",  
      "type": "address"  
    },  
    {  
      "name": "_value",  
      "type": "uint256"  
    }  
  ],  
  "name": "transfer",  
  "outputs": [  
    {  
      "name": "",  
      "type": "bool"  
    }  
  ],  
  "payable": false,  
  "stateMutability": "nonpayable",  
  "type": "function"  
}
```



Demo





Soumaya Erradi
soumayaerradi

Overview **Repositories 35** Projects Packages Stars 3

Find a repository... Type ▾ Language ▾ Sort ▾ New

web3-angular-demo Public

TypeScript ⭐ 1 1 Updated 1 minute ago

Star



serradi92@gmail.com



@sumyerradi



@sumy92



@soumaya-erradi



@soumayaerradi

WEB  DAY 2023
MILANO 16 MARZO

GRAZIE

