Alice in gno.land

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What’s on the menu

1. Down the Rabbit Hole
2. Through the Looking Glass
3. Tea Party with the Mad Hatters

Who am I?

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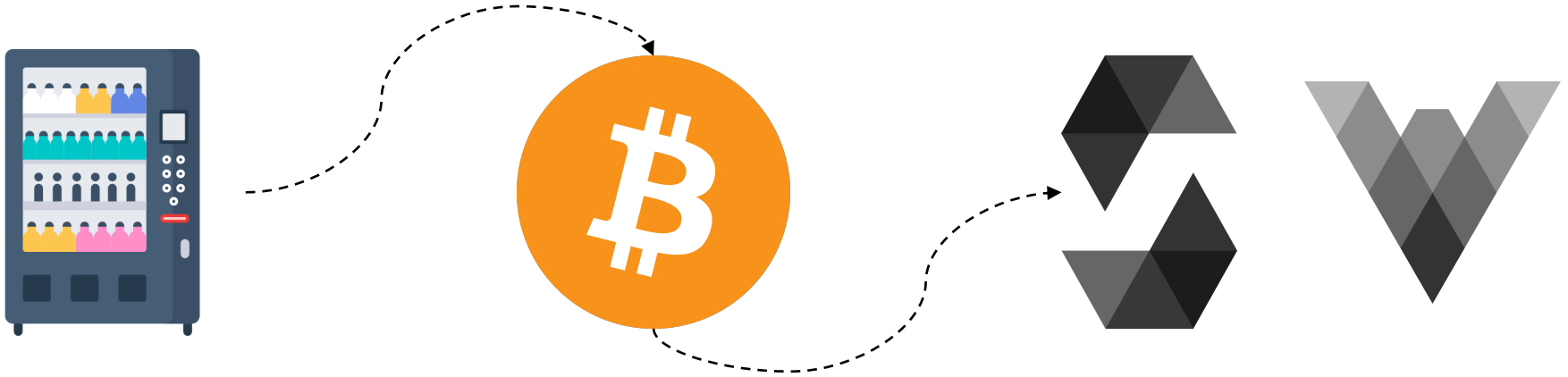
Down the Rabbit Hole

What are Smart Contracts, really?

"A smart contract is a computerized transaction protocol that executes the terms of a contract" – Nick Szabo (1994)



These solutions...are not perfect

- The barrier of entry for newcomers is not minimal

CRYPTOZOMBIES

Solidity by Example

```solidity
pragma solidity ^0.8.0;

contract ShortContract {
    struct Data {
        uint256 value;
        mapping(address => bool) addresses;
    }

    event ValueChanged(uint256 newValue);

    address private owner;
    mapping(uint256 => Data[]) private dataList;

    modifier onlyOwner() {
        require(msg.sender == owner);
        _;
    }

    constructor() {
        owner = msg.sender;
    }

    function addData(uint256 index, uint256 value) external {
        dataList[index].push(Data(value));
    }

    function updateDataValue(uint256 index, uint256 dataIndex, uint256 newValue) external onlyOwner {
        Data storage data = dataList[index][dataIndex];
        data.value = newValue;
        emit ValueChanged(newValue);
    }
}
```

These solutions...are not perfect

- **Limited in design and purpose => Unlimited in exploits**

Re-entrancy

Front running

Phishing with tx.origin

Arithmetic Overflow

Honeypots

Signature replay

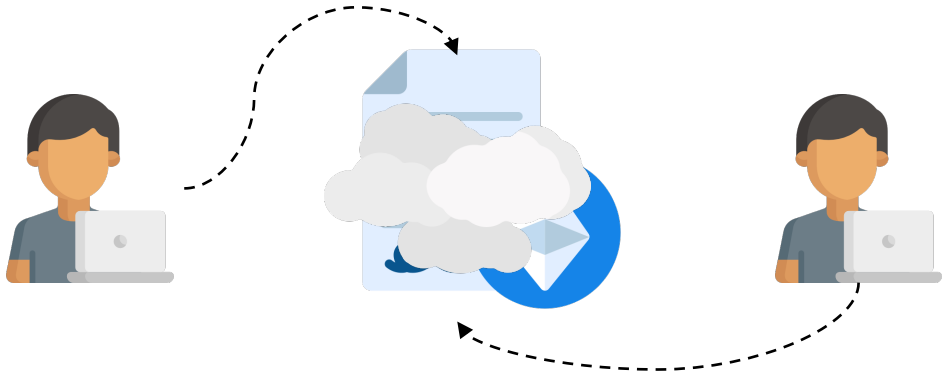
Arithmetic Underflow

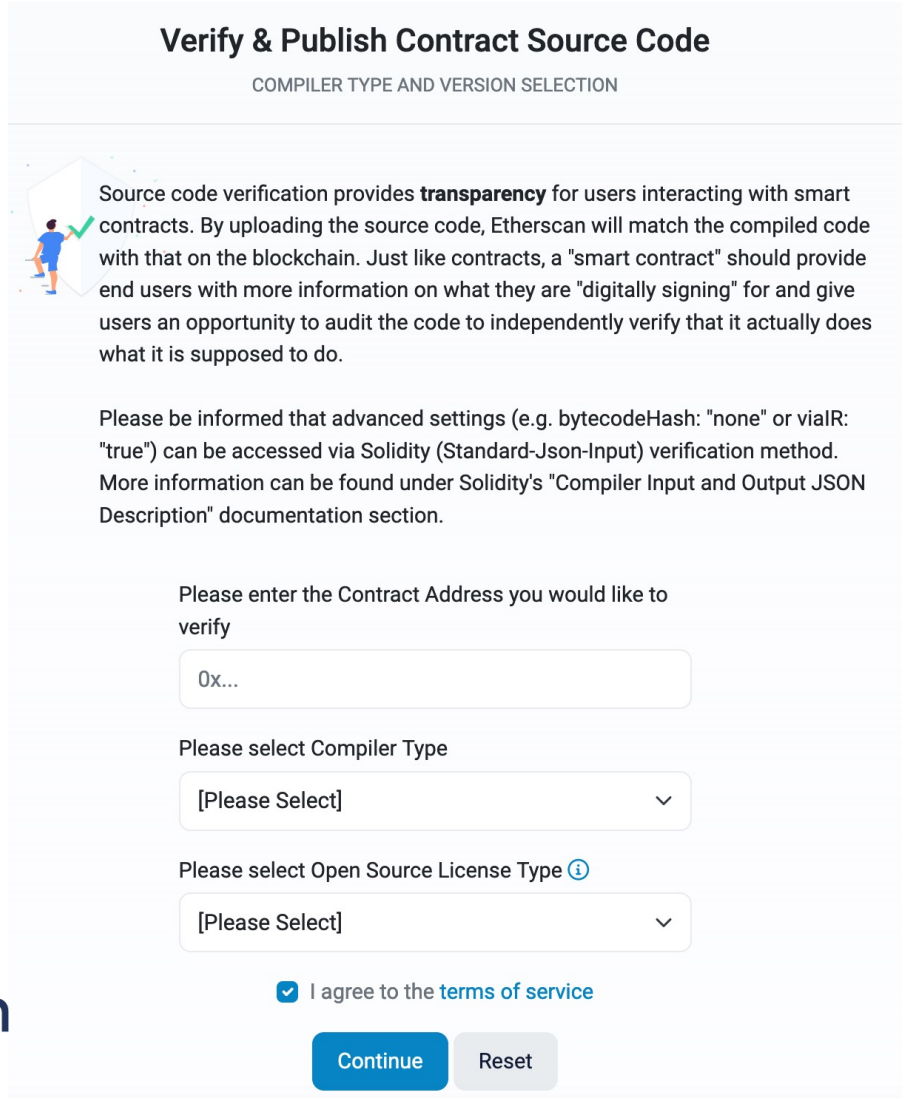
Private data access

Denial of service

These solutions...are not perfect

- No source code transparency and auditability





Etherscan

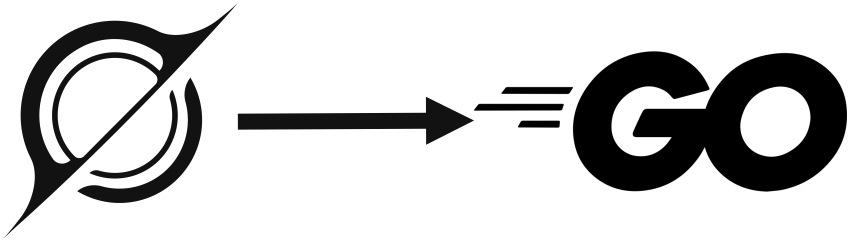
What is Gno.land?

Gno.land is a layer 1 smart contract platform that addresses key challenges in the blockchain space, with a focus on making smart contract development easy and intuitive for users

It leverages an interpreted version of Go, called Gnolang (Gno)

Gno is *accessible*

By basing the Smart Contract language on a version of Go, existing Web2 developers can easily transition into writing blockchain logic




```
package hello

func SayHello(name string) string {
  return "Hello " + name + "!"
}
```

Gno is *transparent*

Source code transparency is at the forefront of Gno.land, so users and developers can always know what they are executing

"Upload sources, not binaries"

- @moul

Gno is *supercharged*

Gno.land gives you all the superpowers of Go, and more

- **Simple, yet complete**
- **Designed for inter-chain SC systems**
- **Powerful “std” library, with a package marketplace**

Through the Looking Glass

Realms

A Realm is a Smart Contract on Gno.land, written in Gno

- **Contain state (stateful)**
- **Imported from** gno.land/r/...
- **Expose a** Render **method for Markdown**

Packages

A Package is simply a bundle of functionality

- **Don't contain state (stateless)**
- **Imported from** gno.land/p/...
- **Can be imported by other Realms / Packages**

What we're building

A ticketing system for...the Mad Hatters' tea parties!

```
date: …
time: …
guests: …
```

```
date: …
time: …
guests: …
```

```
date: …
time: …
guests: …
```

- **RSVP as a guest**
- **See all available parties**
- **See all RSVP'd guests**

Tea party with the Mad Hatters

What you'll need to get started

- Internet connection
- Git
- Go 1.19+

GNO_WIFI
gno2023

Where can I find the tutorial?

You can find the entire workshop (text + code) on the following GitHub link:

DEMO

How can I integrate Gno into my dApps?

Gno.land offers official package support for dApp developers

- Tendermint2 JS/TS client (SDK) – tm2-js-client
- Gno JS/TS client (SDK) – gno-js-client
- Golang client (SDK) – Soon™

What if I want to set up a wallet?

There are multiple wallets being implemented for Gno

- The Adena wallet by the Onbloc team is the most mature

Where can I learn more?

The GNO ecosystem is constantly improving...but you can make it better!

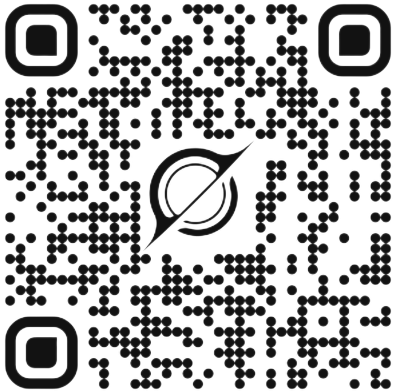
GitHub

Awesome GNO

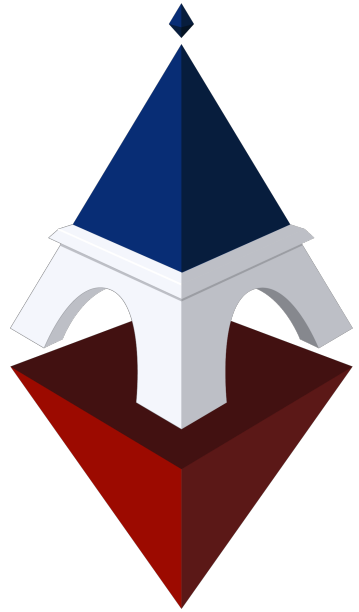
Discord

Game of Realms is a worldwide developer competition challenging participants to build Smart Contracts and tooling in Gnolang.

Learn more on the official Discord:



See you at EthCC!



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