http://rawbot.org

Rawbot team

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Preface

Rawbot is a framework, more precisely a collection of configurations/scripts/hacks with an underlying currency named RAW with the purpose of facilitating the implementation of payment gateways to activate digital services on a variety of IoT enabled devices such as Raspberry Pi, Arduino, Beagleboard, particle, drones, electric cars and more.

Rawbot utilizes RAW coin, an Ethereum guaranteed token that can be exchanged to ETH through a smart contract at any moment.

We have acquired experience in use cases from different Industries to address technical issues that may arise during the process on both client and merchant level, this experience will be invested in supporting users to achieve a seamless implementation.

Giving Life to a sharing economy

The possibilities for application resulting from the intersection between blockchain technology and the internet of things may be disruptive and endless.

Architecture

- Raw coin is an Ethereum smart contract that implements the ERC223 Token Protocol.
- To Establish and maintain transparency, the code is published on github and the contract code is verified enabling it to be visible on Etherscan.

Rawbot has 3 main components:

- Smart contract that enables the user to create action, add devices, create business logic and subcontracts using payments.
- The open source CMS: A tool for merchants to track sales, manage payments, add services and perform accounting operations encapsulated in an easily scalable Docker container.
- RAW Platorm: Web Interface providing DIY and advanced tutorials that aid users to integrate Rawbot with different IoT devices and build endless use cases.

Characteristics

The total supply is set to eighteen million with a decimal precision of eight. The platform follows the ERC223 token standard as ERC223 tokens are backwards compatible with ERC20 tokens while also offering more advantages. Each RAW Coin is equivalent and fixed to 0.5USD, once the total supply reaches the margin of 1 million coins, the contract will adjust and generate a supply double the size of the previous one. ERC223 tokens are sent by calling transfer functions on a token contract whether the receiver was a contract or a wallet address. If the receiver is a wallet, ERC223 token transfers will be the same as ERC20 transfers, and if the receiver is a contract – ERC223 token contract will try to call tokenFallback function on the receiver contract. If there is no tokenFallback function on the receiver contract, the transaction will fail. tokenFallback function is an analog of fallback function for Ether transactions. It can be used to handle incoming transactions.

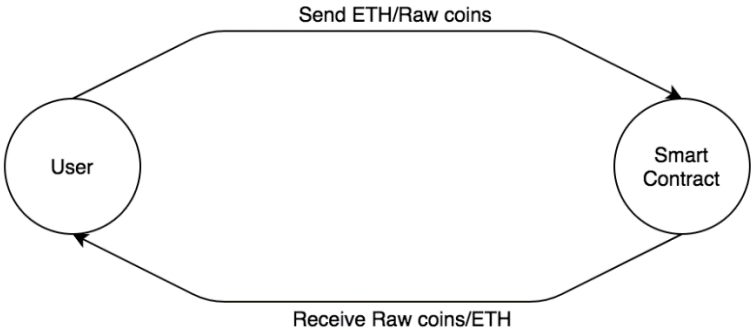
There is a way to attach bytes _data to token transactions similar to _data attached to Ether transactions. It will pass through token contracts and will be handles by the tokenFallback function on the receiver contract. There is also a way to call transfer functions on ERC223 token contracts with no data argument or using ERC20 API with no data on transfer function. In this case _data will be an empty bytes array.

ERC223 Advantages:

Some of the reasons why RAW Coin follows ERC223 rather than ERC20:

1. ERC223 eliminates the risk of lost tokens which may occur during the transfer of ERC20 tokens to a contract (when people mistakenly use the instructions for sending tokens to a wallet). ERC223 allows users to send their tokens to either wallet or contract with the same function transfer, thereby eliminating the potential for confusion and lost tokens.
2. Allows developers to handle incoming token transactions, and reject non-supported tokens (not possible with ERC20)
3. Energy savings. The transfer of ERC223 tokens to a contract is a one step process rather than a 2 step process (for ERC20) which translates into two times less gas and no extra block chain bloating.

Target & Pricing



Exchange - Buying

1. User creates an ERC-223 address using MEW or anyERC-223 compatible wallet.
2. User wants to exchange N ETH for Raw coins.
3. User sends N ETH to the contract address covering the gas fee (estimated gas price).
4. The smart contract calculates the amount of Raw coins to be sent to the user.
5. The smart contract saves the user's address, Raw coins purchased, ETH/USD price and timestamp.
6. The smart contract sends the Raw coins to the user's ERC-223 address.
7. User can spends the Raw coins freely.

Exchange - Selling

1. The smart contract has the user's ERC-223 address saved and previous transactions details.
2. The user can exchange Raw-to-ETH if the amount is less or equal to the Raw coins purchased.
3. The smart contract calculates the amount of ETH to be sent.
4. The estimated gas price is deducted from the final amount of the ETH.
5. ETH is sent to the user's address.

Popular digital assets such as Bitcoin (BTC) and Ether (ETH) are too volatile to be used as everyday currency. The value of a bitcoin often experiences large fluctuations, rising or falling by as much as 25% in a single day and occasionally rising over 300% in a month. Raw is an ether-backed crypto currency whose value is fixed relative to the US Dollar. We believe that stable digital assets like Raw are essential to realizing the full potential of blockchain-IoT technology advancement. Raw coins can be used in the same manner as any other crypto-currency: it can be freely exchanged, used to pay for goods and services, or held as a long term saving. Each Raw coin is equivalent and fixed to 0.5USD. Exchange will cost the estimated gas price of the transaction. 20 million RAW coins will be created, 4 million will be owned by the Rawbot community of developers, and the rest will be held in the contract to be exchanged by users.

Once the total supply reaches the margin of 1 million coins, the contract will amend and generate a supply equal to the double of the previous one. Initial supply: 20 million coins (4 million dedicated the RAWBOT community of developers – 16 million circulating). Once it reaches 1 million coins (contract address), it will generate 40 million coins (8 million for the Rawbot community of developers – 32 millions circulating).

Use cases & Examples

Open source scripts (snippets) will be available to help the community implement the RAW payment gateway with IoT devices such as Robotics, open source hardware (Raspberry PI, Arduino, Beaglebone), IFTTT and services such as M2X.

- Payment for delivery drone: it can be utilized to transport material to a specific destination
- House rental: integrated payment gateway using smart locks keyless and human less approach
- Electrical scooters rental which are totally automated where user can rent a scooter from station to station and pay by mileage.
- Payment for RC cars rental, park meters and elevators.
- Robotic cleaning service that charges a fee to clean their surroundings
- Coffee/snack machines
- Amusement parks
- Smart bridges
- Gas stations

More examples:

Example 1 (RC car rental)

- A customer wants to rent a RC car.
- The customer has to pay X amount of RAW coins (visible on the IoT device).
- Once the customer pays the X amount, the car mechanics will be enabled.
- When time is over, the car will stop automatically until the customer renews the rental duration.

Example 2 (House rental + smart lock)

A customer wants to rent a house.

- The customer has to pay the customer has to pay X amount of Raw coins (visible on the IoT device) (smart lock at the entrance).
- Once the customer pays the X amount, the smart lock will be enabled for Y period of time.

When time is over, the smart lock will disable the house services and lock the doors

Automatically until the customer renews the rental duration.

Payment Management Platform (base code)

Anyone can easily deploy the backend code which will be encapsulated in a Docker container. It serves as a Payment management platform for accounting, tracking payments and services. It is easy to extend and add features and functionalities.

Chargeback & Identity Theft

RAW ends chargeback fraud and identity theft.

Email Invoicing

The smart contract will bill clients electronically and quickly receive payment. No wait times, no paper involved.

Two-Factor Authentication

Secure your RAW account with two-factor authentication capability from Google Authenticator.

Wallet Compatibility

Our invoices work with ERC-223 protocol compatible Ethereum wallets.

Mobile Optimization

Access your RAW account dashboard tools easily and effectively on mobile web browsers.

Email, Mobile, and Server Payment Notifications

Stay up-to-date with your transactions via email, text, and server IPNs.

Refund policy

If the script failed to launch or work, the user will get a refund automatically.

Conclusion

"The code is open source and can be verified by any skilled person – Satoshi"

"With e-currency based on cryptographic proof, without the need to trust a third party middleman, money can be secure and transactions effortless – Satoshi "

In a difficult-to-disrupt environment, we at RAWBOT believe that only by adoption will the FUD and volatility dissipate. Ethereum is the biggest network, Ethereum is an account based system. In Ethereum, balance management resembles a bank account in the real world.

Blockchain and IoT are a perfect pair. Blockchain technology is capable of stabilizing the performance of complex IoT systems ensuring its information safety and authenticity while cloud server down time and unavailability of services susceptibility to manipulation downsized the automation of our world today.

To interact with IOTA as an example, the implementer shall run or gain access to an IRI node which usually has its API exposed. Since IOTA is still in a heavy development phase, an embedded Linux device such as Raspberry Pi doesn't have the resources to run an IRI. This is where RAWBot comes into play to provide a plug and play DIY solution to make payments accessible to the majority of hardware, embedded systems or sensors.

Blockchain Is a Technology, Not a Philosophy. The Advancement of technology will solve the oracle problem. Smart contracts will be the future of mankind, Raw is the experiment.

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