Automation on the blockchain (stores, ATM, gambling etc)

crypto251.0 Cryptocurrency and the Smileycoin

Gunnar Stefansson (editor)

November 29, 2020

Doing stuff on the blockchain

The blockchain can be used for a lot more than transactions:

- Sending data, using the data fields
- Coding data into the amounts
- Monitoring transactions
- Executing code as a response to transactions

So how do you do stuff?

Method 1: the config file...
option to monitor incoming transactions:
`walletnotify=/home/user/bin/command %s`
code everything into the transactions
Benefits: No changes to the wallets
Method 2: Change the wallet, add wallet commands
Benefits: No changes to the protocol
Method 3: Change the protocol

Gambling on the blockchain

basics. . .
sendtoaddress BCJW4iZw7PechFHgtqqSdHmymjnFA6LjNJ 10
etc
vanity address: Betzy. . .
sendtoaddress BEtZyyYqDXqmRJJ45nnL15cuASfiXg9Yik 10
. . . needs to be written up
See https://steemit.com/blockchain/@gstefans/double-or-nothing

Messages on the blockchain

See github thread sendwithmessage for Smileycoin
Can send messages by coding it into the blockchain
`smileycoin-cli sendwithmessage BEtZyyYqDXqmRJJ45nnL15cuASfiXg9`
`1000 "Hello, Betzyy"`
See transaction daf75d1ae31877b51856b4dee931600a5a5db819f52a5d986
https://chainz.cryptoid.info/smly/search.dws?q=daf75d1ae31877b
Note how the coding uses ASCII characters 32-128 (0x20-0x7F), requiring
2 bytes per character, see http://www.asciitable.com/ (subtracting
32 dec from each ASCII code)

A very simple ATM on the blockchain

An Automatic Teller Machine, ATM, dispenses money when you put in a credit card.

An ATM could also dispense Euro when you put in USD.

A blockchain ATM could dispense SMLY when you put in LTC.

For this you need to use two chains, the LTC and SMLY chains.

- To "put in LTC" means to send LTC to an address.
- To "dispense SMLY" means to send SMLY to a SMLY address.

For this to work (1) the ATM needs to have a LTC address and (2) the ATM needs to be told about a SMLY address.

This can be done by sending a SMLY address encoded in a LTC transaction.

For more info see

https://steemit.com/blockchain/@gstefans/more-messing-around-

A more elaborate ATM on the blockchain

for more info see
https://steemit.com/crypto/@gstefans/on-line-atm-looking-for-

Traditional data

Normal use is through the op return
usually limited to 80 characters, but see
https://bitcoin.stackexchange.com/questions/78572/op-return-m
and example below

API access to the blockchain

Some block explorers give API access
This means that arbitrary programs can access data from the blockchain
Example:
https://blocks.smileyco.in/api/tx/3105284208c04db1675c128089a7
gives a JSON string for a SMLY transaction

Copyright 2020, Gunnar Stefansson (editor)