lab10 - Research #28

Local coin (Grazcoin)

22.12.2016 02:20 - didi

Status:	In Progress	
Priority:	Normal	
Assignee:		

Description

A regionally defined local currency can be a useful tool for promoting the **local economy** and for implementing **benefit systems**. Done as crypto currency, it can bridge the **convenience** gap to generic fiat currency and even convert it into an advantage, considering that we're still mostly using cash.

Example for inverted convenience gap: parking ticket machines accepting such a coin could allow users to pre-pay for the max. allowed timeframe with automatic chargeback of remaining time if not fully using it. Advantages over current coin based system:

- Gone the problem of having the required coins
- No need to know beforehand how long the stay will be
- No overpay if leaving earlier
- Possibility of additional features, because it's software. E.g. reminder of imminent timeout.

Examples for a benefit system:

- BikeCoin
- Other Computer-observable behaviour beneficial to the community
- Discounts for specific locations / products / timeframes

What makes discounts much more interesting is that with a wallet tailored for that coin, the information about such discounts can be directed to where it belongs. The sender just broadcasts, the receiver (wallet) can decide what's relevant for the user, based on previous behaviour, location etc. Without any privacy implications.
At the same time such a coin could be compatible with generic wallets - e.g. by being compatible with the Ethereum Token Standard, making it convenient for non-locals (e.g. tourists) too and also minimizing compatibility constraints (a local wallet may not be provided for non-mainstream platforms).

Related issues:

Related to lab10 - Research #40: Research Raiden (state / payment channels)	**In Progress**

History

#1 - 22.12.2016 02:23 - didi

- Subject changed from Local coin (Gra-Coin) to Local coin (Graz-Coin)

#2 - 13.01.2017 08:15 - leantom

When someone issues Electronic Money it needes a licence. The exact regulation can be found at:
https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20007043
Cryptocurrencies are not seen as e-cash, because there is no central coordinator.
Furthermore the is no need for a licence, if the monetary value is traded within a company or small group (e.g. Styrrion)

Important: If someone gets crytotokens for fiat money, someone needs to hold the fiat money if it is not immediately considered as payment for something. Electronic vouchers or prepayed Mobile Payment (NFC based)cause no problem.

If we want to top-up a token system from a bank account, then we could do that automatically via the bank and there is no carring about the payment towards the token issuer in the background. That would be feasable for big issues - e.g. City of Graz.
If we have a Graz-Coin which is usable for all kind of purchases, then the Euros must be kept in a trust until someone is cashing in and the Euros are immediately transfered to the bank account of the recipient.

Electronisches Geld

#3 - 13.01.2017 20:06 - didi

I created a test token on Ropsten.

In Mist->Wallet->Contracts->Custom Tokens links here.
Account needs to be connected in order to deploy.

Ropsten Testnet:
Token contract address: 0x6363af576cbc122283070173fb3412e084efe712
Instantiate:

```
o = eth.contract([{"constant":true,"inputs":[],"name":"name","outputs":[{"name":"","type":"string"}],"payable"
:false,"type":"function"},{"constant":true,"inputs":[],"name":"totalSupply","outputs":[{"name":"","type":"uint
256"}],"payable":false,"type":"function"},{"constant":false,"inputs":[{"name":"_from","type":"address"},{"name
":"_to","type":"address"},{"name":"_value","type":"uint256"}],"name":"transferFrom","outputs":[{"name":"succes
s","type":"bool"}],"payable":false,"type":"function"},{"constant":true,"inputs":[],"name":"decimals","outputs"
:[{"name":"","type":"uint8"}],"payable":false,"type":"function"},{"constant":true,"inputs":[],"name":"standard
","outputs":[{"name":"","type":"string"}],"payable":false,"type":"function"},{"constant":true,"inputs":[{"name
":"","type":"address"}],"name":"balanceOf","outputs":[{"name":"","type":"uint256"}],"payable":false,"type":"fu
nction"},{"constant":true,"inputs":[],"name":"symbol","outputs":[{"name":"","type":"string"}],"payable":false,
"type":"function"},{"constant":false,"inputs":[{"name":"_to","type":"address"},{"name":"_value","type":"uint25
6"}],"name":"transfer","outputs":[],"payable":false,"type":"function"},{"constant":false,"inputs":[{"name":"_s
pender","type":"address"},{"name":"_value","type":"uint256"},{"name":"_extraData","type":"bytes"}],"name":"app
roveAndCall","outputs":[{"name":"success","type":"bool"}],"payable":false,"type":"function"},{"constant":true,
"inputs":[{"name":"","type":"address"},{"name":"","type":"address"}],"name":"allowance","outputs":[{"name":"",
"type":"uint256"}],"payable":false,"type":"function"},{"inputs":[{"name":"initialSupply","type":"uint256"},{"n
ame":"tokenName","type":"string"},{"name":"decimalUnits","type":"uint8"},{"name":"tokenSymbol","type":"string"
}],"payable":false,"type":"constructor"},{"payable":false,"type":"fallback"},{"anonymous":false,"inputs":[{"in
dexed":true,"name":"from","type":"address"},{"indexed":true,"name":"to","type":"address"},{"indexed":false,"na
me":"value","type":"uint256"}],"name":"Transfer","type":"event"}])
i = o.at("0x6363af576cBC122283070173Fb3412E084eFE712")
```

Transfer a token (to my status.im account):
i.transfer("0x069c1194f34fc83c17c7d6584c7fcf630868b1d9", 1)
(works only if eth.defaultAccount is set)

Can be added to Mist custom tokens as described here (however I can't select it in send view for unknown reason, pending question in Gitter.

#4 - 13.01.2017 22:22 - didi

- Subject changed from Local coin (Graz-Coin) to Local coin (Grazcoin)

#5 - 14.01.2017 01:48 - didi

There's also a [Token Factory](#).

#6 - 14.01.2017 03:07 - didi

> Cryptocurrencies are not seen as e-cash, because there is no central coordinator.

How do you know? As far as I see it's not directly mentioned in that law.
And then there's the question if an Ethereum token still qualifies as crypto-currency. It's not inherently decentralized like mined coins - except if explicitly made so by the controlling smart contracts (e.g. how is issuance controlled? how can the rules be changed (smart contract upgrade) etc.)
Lots of grey imo.

Also I think the distinction between currency and voucher is also potentially blurred. Depends on how strict you are in enforcing the one-time use rule.

How much of some more radical ideas (see [Dezentrales_Geld](#)) we can apply here?
I guess we should at least make sure the coin is prepared for later upgrades in such ways :-)

#7 - 14.01.2017 03:20 - didi

- Related to Research #40: Research Raiden (state / payment channels) added

#8 - 14.01.2017 09:49 - leantom

Decentralized Capital just announced their IDEX Exchange on Ropsen Testnet:
https://www.reddit.com/r/ethereum/comments/5nro31/decentralized_capitals_exchange_idex_is_live_on/

#9 - 14.01.2017 09:54 - leantom

Dietmar Hofer wrote:

> Cryptocurrencies are not seen as e-cash, because there is no central coordinator.

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In my interpretation - cryto is excempt from beeing E-Money through:

(3) Kein E-Geld im Sinne dieses Bundesgesetz ist:

2.ein monetärer Wert, der für Zahlungsvorgänge verwendet wird, die über ein Telekommunikations-, ein Digital- oder IT-Gerät ausgeführt werden, wenn die Waren oder Dienstleistungen an ein Telekommunikations-, ein Digital- oder ein IT-Gerät geliefert werden und mittels eines solchen genutzt werden sollen, vorausgesetzt, dass der Betreiber des Telekommunikations-, Digital- oder IT-Systems oder -Netzes nicht ausschließlich als zwischengeschaltete Stelle zwischen dem Zahlungsdienstnutzer und dem Lieferanten der Waren und Dienstleistungen fungiert (§ 2 Abs. 3 Z 12 ZaDiG).

#10 - 15.01.2017 02:03 - didi

What a sentence.
That seems however to apply only to digital goods and services.

#11 - 18.02.2017 23:10 - didi

Also see Gibling (local currency for Linz)