

### Choosing Currency And A Virtual Currency Name:

The globalAidCoin system uses custom virtual currencies that exist on the Ethereum.org blockchain. If your aid program operates in a geographic area where the most commonly accepted currency is the Iranian “Rial” (iso-code: IRR) we suggest that the virtual currency name to use and display should be “Rial\_IRR\_AidCoin” or similar. While it would be shorter and more intuitive to give the virtual currency the exact same name as the fiat currency it is pegged to (Rial) this is not advisable because financial authority regulations in most countries tightly regulate the use of the name of fiat currencies. An aid entity that uses/prints the name “Rial” on paper and/or displays it in electronic transactions, while operating a voucher program, could be accused of attempting to counterfeit the fiat currency. To avoid this, the name of the virtual currency has to clearly indicate that it is not identical to the fiat currency it is pegged to.

### Choosing The Language:

Beneficiaries and merchants interact with the system through standard SMS/text messages. These messages are sent to and received from a single local phone number called the basestation number. The short phrases that make up these messages are currently available in English, Spanish and French, but can be translated into any other language quickly, given that there is currently only a set of less than 20 short phrases. (See Annex A)

### Choosing A Local Mobile Network Provider:

We can work with any mobile network provider. We recommend that you identify a network provider that offers the cheapest rate for sending local SMS/text messages. The cost of a single SMS/text message should be less than 0.05 EUR (five eurocents) or its local equivalent. Please consult with us before making the final choice! Once the choice has been made we suggest that you purchase two separate SIM cards from the chosen provider. The number of the first SIMcard will be the basestation number used in your program. All beneficiaries and all merchants will send text messages to and receive notifications from this number. It will not be available for making or receiving voice calls since this would interfere with the efficiency of the payment operations. The number will be used exclusively for sending and receiving payment text messages. There is no need to purchase a data-plan for internet connectivity from the mobile network provider. The second SIMcard will serve as backup. Normally we will purchase airtime for the basestation SIMcard through our technical partner. If this is not possible we need to ask you to purchase airtime top-ups locally.

### Setting Up The Basestation:

After the SIMcard for the programs basestation has been purchased it should be placed in a WiFi enabled Android phone (Android Version 4.4 or higher). The phone can be setup in any office location in country. The requirements are as follows.

- A reliable power supply. It is recommended that the phone be connected to a power outlet at all times!
- An internet connection through a local(office) wireless network. Do not use the mobile network providers data plan!
- A mobile network connection to the chosen network operator. Please ensure that the phone is not in roaming mode.
- Download and install the following free App.  
<https://play.google.com/store/apps/details?id=com.rivetlabs.sms>  
For final details of the app configuration please get in touch with us.

This basestation is now able to serve not only one but any number of programs that you may have in the country.

### Providing Beneficiary and Merchant Information:

We require the mobile phone numbers of all beneficiaries and all merchants at least three working days in advance of the launch of the first beneficiary encashment. We do not require any additional information. Please ensure that no beneficiary is accidentally designated as a merchant and vice versa.

### *Note On Initial Encashment:*

During the initial encashment transfer, every beneficiary will be notified via text message that he/she has received funds and is now able to spend them with participating merchants. The merchants will not receive such notification but they can easily verify that they have been included correctly into the program by sending a “bal”(ance) message to the basestation number. The reply will indicate whether they are registered properly and can accept payments (reply:”0 Rial\_IRR\_AidCoin”) or not (reply:”You are not a registered user”). Similarly, if a beneficiary accidentally launches a transfer to a phone number that is not registered in your aid program he/she will receive the reply: “Receiver not registered” and the transfer will be rejected.

## Program Setup Info - globalAidCoin.org

### Live Transaction Monitoring:

Transactions that happen in the globalAidCoin system are immediately recorded on the Ethereum.org blockchain. Since Ethereum is a public blockchain, there are several public webservices that display Ethereum transactions in real-time, one of them is <http://etherscan.io>. The screenshot below shows a list of live transactions in the virtual “SOSTaler” currency that we have used for demo purposes.

The screenshot displays the Etherscan.io interface for the ERC20-TOKEN SOSTaler (\*Unverified). The top navigation bar includes links for HOME, BLOCKCHAIN, ACCOUNT, TOKEN, CHART, and MISC. The search bar shows the token name and a search button. The main content area is divided into two sections: Summary and Misc. The Summary section shows the token's total supply (0 TOKEN), unique addresses (4 accounts), and the number of transfers (12 events). The Misc section shows the contract address (0xd7ec89e19148f7fb79bdf7415fb50c0832977060) and token decimals (1^2). Below these sections is a table of transactions, which is currently empty. The table has columns for TxHash, Block, Age, From, To, and Value. The table is filtered by 'Token Address or Txhash' and shows 'Page 1 of 1'.

TxHash	Block	Age	From	To	Value
0x86b80dce6ff7e56...	3367696	21 days 2 hrs ago	0xaccf4a00f44d5e0...	0xe0021c7cb410daf...	0.16
0x4be90e4a8d05f49...	3367595	21 days 2 hrs ago	0xaccf4a00f44d5e0...	0xe0021c7cb410daf...	0.15
0x7a14d94f3e858e7...	3193370	50 days 2 hrs ago	0xaccf4a00f44d5e0...	0xe0021c7cb410daf...	0.12
0x204a03119983920...	3176410	52 days 22 hrs ago	0xe0021c7cb410daf...	0xaccf4a00f44d5e0...	0.15
0xf0342a1f469536b...	3176356	52 days 22 hrs ago	0xe0021c7cb410daf...	0xaccf4a00f44d5e0...	0.91
0xe3540bd109486bf...	3176334	52 days 22 hrs ago	0xe0021c7cb410daf...	0xaccf4a00f44d5e0...	1.12
0x77e1be32bf417e7...	3162948	55 days 3 hrs ago	0xaccf4a00f44d5e0...	0xa3aad5c3518d590...	4.2
0x89573884820adfa...	3162922	55 days 3 hrs ago	0xe0021c7cb410daf...	0xaccf4a00f44d5e0...	4.2
0x6aedc6916c56b87...	3162859	55 days 3 hrs ago	0xaccf4a00f44d5e0...	0xa3aad5c3518d590...	6.31
0x2ac14aa8f9c9d4b...	3162836	55 days 3 hrs ago	0xe0021c7cb410daf...	0xaccf4a00f44d5e0...	6.31
0xe5fe3c922df88e3...	3159441	55 days 17 hrs ago	0x06a6afc48848123...	0xe0021c7cb410daf...	12.35

The “From” column represents the payer(sender) and the “To” column the payee(receiver) by using unique hash-codes. There is a one-to-one correspondence between the hash-codes and beneficiary/merchant mobile phone numbers. The database containing this correspondence is private and accessible only through our internal transaction viewer. In the screenshot below, our internal transaction viewer displays the same transactions as in the public interface above, but augments it by adding the corresponding mobile phone numbers and user types. (Notice that the decimal point of the transaction values in the internal transaction viewer are displayed differently. This is intentional)

## Program Setup Info - globalAidCoin.org

Transaction Viewer

[Home](#) [About](#) [Contact](#)

**From**

**To**

**From Block**

**To Block**

**Start Date**

**End Date**

Block #	Txn Date	Value	From	From Phone	From Type	To	To Phone	To Type
3367696	2017-03-17T10:41:24.000Z	16	0xaccf4a00f44d5...	41783260842	merchant	0xe0021c7cb41...	33758037823	beneficiary
3367595	2017-03-17T10:16:58.000Z	15	0xaccf4a00f44d5...	41783260842	merchant	0xe0021c7cb41...	33758037823	beneficiary
3193370	2017-02-16T10:28:12.000Z	12	0xaccf4a00f44d5...	41783260842	merchant	0xe0021c7cb41...	33758037823	beneficiary
3176410	2017-02-13T14:55:26.000Z	15	0xe0021c7cb410...	33758037823	beneficiary	0xaccf4a00f44d...	41783260842	merchant
3176356	2017-02-13T14:42:34.000Z	91	0xe0021c7cb410...	33758037823	beneficiary	0xaccf4a00f44d...	41783260842	merchant
3176334	2017-02-13T14:37:31.000Z	112	0xe0021c7cb410...	33758037823	beneficiary	0xaccf4a00f44d...	41783260842	merchant
3162948	2017-02-11T09:32:02.000Z	420	0xaccf4a00f44d5...	41783260842	merchant	0xa3aad5c3518...	41999999001	reimburser
3162922	2017-02-11T09:26:23.000Z	420	0xe0021c7cb410...	33758037823	beneficiary	0xaccf4a00f44d...	41783260842	merchant
3162859	2017-02-11T09:15:22.000Z	631	0xaccf4a00f44d5...	41783260842	merchant	0xa3aad5c3518...	41999999001	reimburser
3162836	2017-02-11T09:10:13.000Z	631	0xe0021c7cb410...	33758037823	beneficiary	0xaccf4a00f44d...	41783260842	merchant
3159441	2017-02-10T19:33:24.000Z	1235	0x06a6afc48848...			0xe0021c7cb41...	33758037823	beneficiary
3159038	2017-02-10T18:00:52.000Z	1234	0x06a6afc48848...			0xe0021c7cb41...	33758037823	beneficiary

/ 1

25 items per page

1 - 12 of 12 items

This internal transaction viewer and other tools allow us to produce the monthly transaction reports on the basis of which the merchants should be reimbursed.

# ANNEX A

## //commands

```
LOCALEFORSEND: {  
    en:"pay",  
    fr:"payez",  
    ar:"",  
    fa:"", //Farsi  
    es:"pagar"},
```

```
LOCALEFORBALANCE: {  
    en:"bal",  
    fr:"solde",  
    ar:"",  
    fa:"", //Farsi  
    es:"saldo"},
```

## //messages - replies to incoming SMS

```
INVALIDAMOUNT: {  
    en:"Not a valid amount",  
    fr:"Pas un montant valide",  
    ar:"",  
    fa:"", //Farsi  
    es:"Valor incorrecto"},
```

```
INVALIDFORMAT: {  
    en:"Not a valid message",  
    fr:"Message non valide",  
    ar:"",  
    fa:"", //Farsi  
    es:"Mensaje incorrecto"},
```

```
SENDERNOTREGISTERED: {  
    en:"You are not a registered user",  
    fr:"Vous n'êtes pas enregistré",  
    ar:"",  
    fa:"", //Farsi  
    es:"Usuario no reconocido"},
```

```
RECNOTREGISTERED: {  
  en:"Receiver not registered",  
  fr:"Destinataire non enregistré",  
  ar:"",  
  fa:"", //Farsi  
  es:"Destinatario no reconocido"},
```

```
TOKENNOTVALID: {  
  en:"Token not valid",  
  fr:"Token non valide",  
  ar:"",  
  fa:"", //Farsi  
  es:"Token no es valido"},
```

```
RECTOKENNOTVALID: {  
  en:"Token of receiver not valid",  
  fr:"Token du destinataire non valide",  
  ar:"",  
  fa:"", //Farsi  
  es:"Token del destinatario no es valido"},
```

```
RECTOKENDIFFERS: {  
  en:"Token of receiver is different",  
  fr:"Token du destinataire est differente",  
  ar:"",  
  fa:"", //Farsi  
  es:"Token del destinatario es diferente"},
```

```
X_IGNORED: {  
  en:"Transaction ignored",  
  fr:"Transaction ignorée",  
  ar:"",  
  fa:"", //Farsi  
  es:"Ignorando la transaccion"},
```

```
X_SUCCESS: {  
  en:"Transaction submitted. Wait for confirmation",  
  fr:"Transaction envoyée. Attendre la confirmation",  
  ar:"",  
  fa:"", //Farsi  
  es:"Transaccion enviada. Espere la confirmacion"},
```

```
X_FAILED: {
  en:"Transaction could not complete",
  fr:"La transaction n'a pas été effectuée",
  ar:"",
  fa:"", //Farsi
  es:"La transaccion no se completo"},

X_ERROR: {
  en:"An error occurred while executing transaction",
  fr:"Une erreur s'est produite lors du traitement de votre transaction",
  ar:"",
  fa:"", //Farsi
  es:"Ocurrio un error al tramitar la transaccion"},

NOFUNDS: {
  en:"Insufficient funds",
  fr:"Fonds insuffisants",
  ar:"",
  fa:"", //Farsi
  es:"Saldo insuficiente"},
```

**//messages - notifications on confirmed transaction**

```
EVM_CONFIRM_TO_RECEIVER: {
  en:"You received {0} {1}. Your new balance is {2} {1}",
  fr:"Vous avez reçu {0} {1}. Solde du compte actuel: {2} {1}",
  ar: "", //ORDER ING OF PLACEHOLDERS!!
  fa:"", //Farsi
  es:"Ha recibido {0} {1}. Su nuevo saldo es {2} {1}" },
```

```
EVM_CONFIRM_TO_SENDER: {
  en:"You paid {0} {1}. Your new balance is {2} {1}",
  fr:"Vous avez payé {0} {1}. Solde du compte actuel: {2} {1}",
  ar:"", //ORDER ING OF PLACEHOLDERS!!
  fa:"", //Farsi
  es:"Ha pagado {0} {1}. Su nuevo saldo es {2} {1}" }
```