Choosing Currency And A Virtual Currency Name:
The globalAidCoin system uses custom virtual currencies that "live" 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:
Beneficiciaries 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 beneficiares 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 parter. 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 <u>not</u> 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.

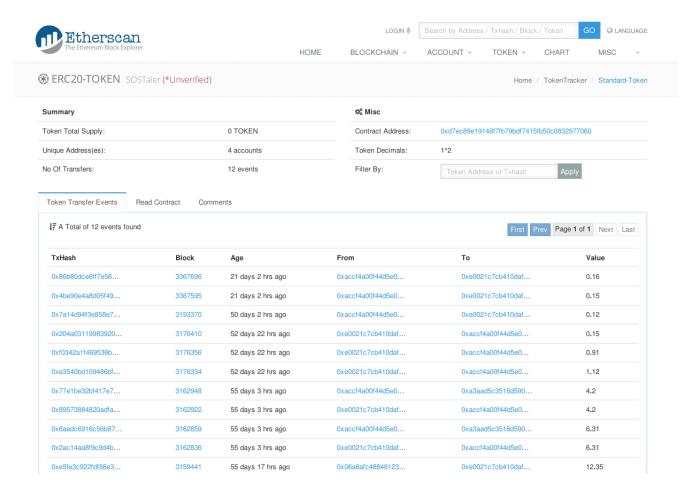Providing Beneficiary and Merchant Information:
We require the <u>mobile phone numbers</u> of all beneficiaries and all merchants at least three working days in advance of the launch of the first beneficiary encashment. We do not require any additional information. Please ensure that no beneficiary is 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 <u>not</u> 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.

<u>Live Transaction Monitoring:</u>
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 "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)

Transaction Viewer
⚷ Home   ⛉ About   💬 Contact

From
`address or phone`

To
`address or phone`

From Block
`3100000`

To Block
`latest`

Start Date
`2017-02-07T14:00:09.294Z`

End Date
`2017-04-07T13:00:09.294Z`

Get Transactions

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

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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:"xxxxxxxx1",
        fa:"",     //Farsi
        es:"Token no es valido"},

RECTOKENNOTVALID:  {
        en:"Token of receiver not valid",
        fr:"Token du destinataire non valide",
        ar:"xxxxxxxx2",
        fa:"",     //Farsi
        es:"Token del destinatario no es valido"},

RECTOKENDIFFERS:  {
        en:"Token of receiver is different",
        fr:"Token du destinataire est differente",
        ar:"xxxxxxxx3",
        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}" }
```