



BLOCKCHAIN
VECTOR SIGN CONCEPT ILLUSTRATION



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Empowering communities in need by harnessing blockchain



Problem

Cash assistance to vulnerable communities

CASH DISTRIBUTION

- Security risk - robbery
- Unintended uses of cash
- Potential local inflation

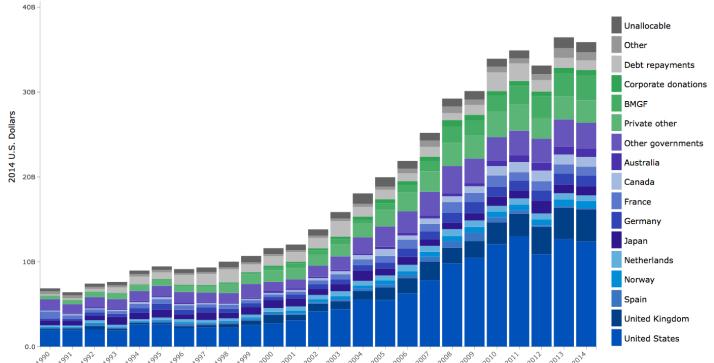


IDENTIFICATION

- Prevent double dipping
- Manual system can't eliminate gaps & opportunities for fraud



CASH ASSISTANCE



POWER SUPPLY

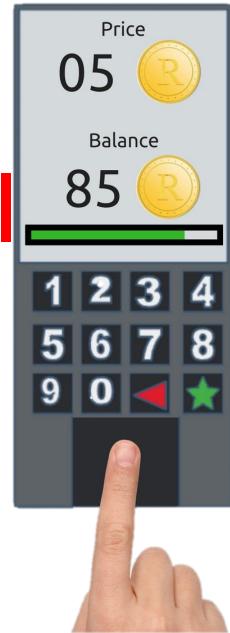
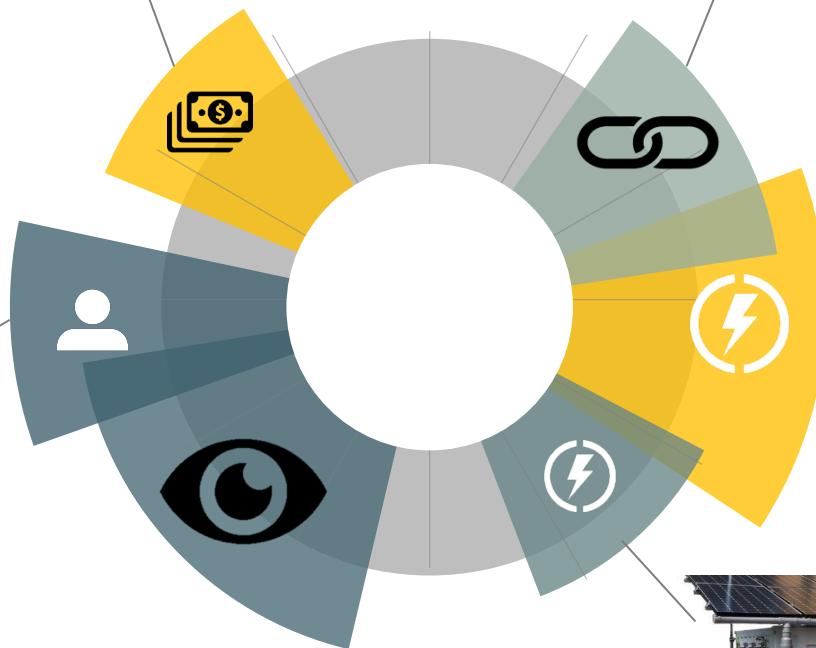
- Often damaged by flood
- No cellphones/computers
- Puerto Rico: still no power (8 months)

Solution

Introduction of credit system using blockchain

CREDIT DISTRIBUTION

- Blockchain
- Credit system
- Only credited stores



IDENTIFICATION

- Biometrics
 - Accountability
 - Reliability
 - Safe
 - Fraud-proof
- Fingerprint



POWER SUPPLY

- External power supply
- Off Grid Box
- Generator/batteries

Red Cross

- Set data collection point
- Ensure power and connection



Stores

- Accept payment with finger scanning devices
- Collecting cash after disaster



People

- Register at Red Cross locations
- Shop at stores spending credits



Technical architecture

- Internal/private blockchain
- All nodes under control of Red Cross
- Encrypted data
- No names attached to fingerprints
- No external access

```
import hashlib, json, sys

def hashMe(msg=""):
    # For convenience, this is a helper function that wraps our hashing algorithm
    if type(msg)!=str:
        msg = json.dumps(msg,sort_keys=True) # If we don't sort keys, we can't
                                            # guarantee repeatability!

    if sys.version_info.major == 2:
        return unicode(hashlib.sha256(msg).hexdigest(),'utf-8')
    else:
        return hashlib.sha256(str(msg).encode('utf-8')).hexdigest()

import random
random.seed(0)

def makeTransaction():
    # Each person in the system has his own ID number according to their
    # fingerprint
    amount   = input("Amount: ")
    payer   = input("Who Pays? (fingerscan ID) ")
    receiver = input("Who Receives? (fingerscan ID) ")

    Cashier1 = 0 #1
    Cashier2 = 0 #2
    p1      = 0 #3
    p2      = 0 #4
    p3      = 0 #5
    p4      = 0 #6

    Id = [0, Cashier1, Cashier2, p1, p2, p3, p4]

    Id[payer] = -1 * amount
    Id[receiver] = amount

    print(Id)
```



LEGAL FRAMEWORK

European Union's General Data Protection Regulation

Right To Be Forgotten

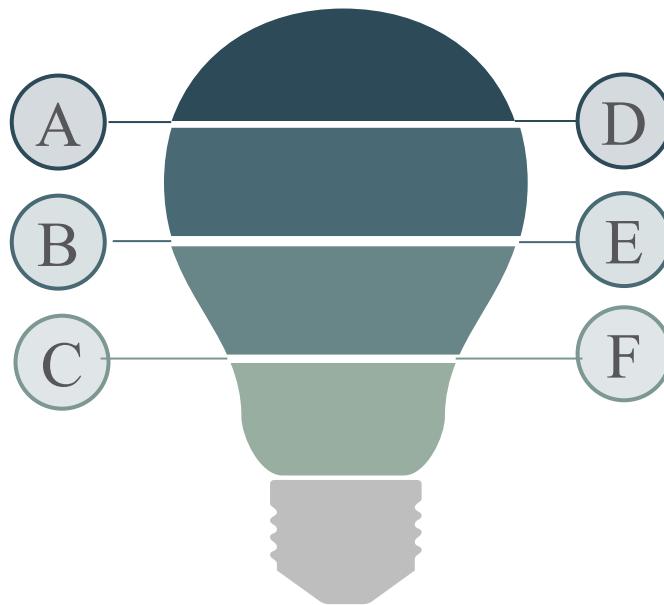
All the data will be deleted once no longer necessary

Data Portability

Data will be provided in PDF format

Privacy By Design

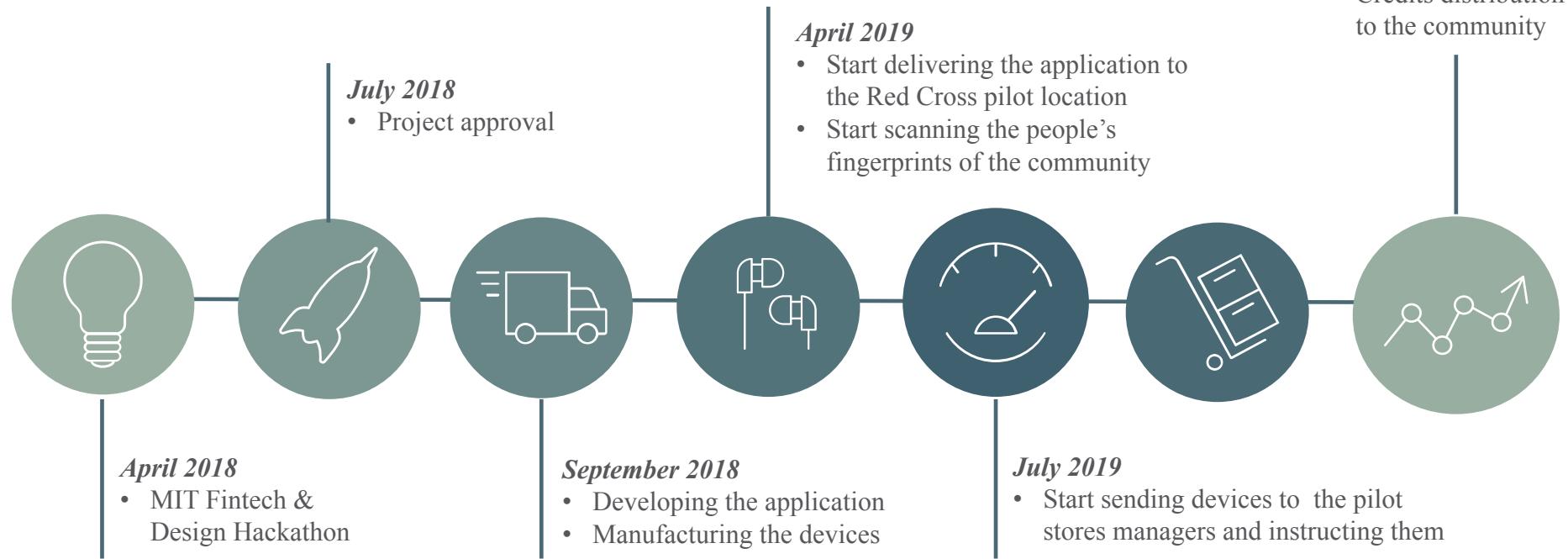
our blockchain network is designed to guarantee privacy



The only data we will be collecting are fingerprints and they will not be associated with other personal information of the customers.

Data will be entered in an internal blockchain, all nodes will be under control of Red Cross preventing any external access.

IMPLEMENTATION



SUSTAINABLE GOALS

TO TRANSFORM OUR WORLD



EXTERNAL SUPPORT

Blockchain & ICO
Co-producer Global
Blockchain Forum



Chief Commercial
Officer at Gimmer
Token.gimmer.net



Blockchain Consulting
BitSystems
Hult Blockchain Center

Behavioral Data scientist
LEAD TCM&L



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Thank you for your attention

Questions?

