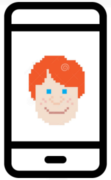


uPort is the digital you

a complete identity and reputation platform on your smartphone

- SELF-SOVEREIGN IDENTITY
- PORTABLE REPUTATION/KYC
- UNIVERSAL AUTHENTICATION (SINGLE SIGN-ON)
- ID FOR PUBLIC & PRIVATE ETHEREUM
- BIOMETRIC TRANSACTIONS
- USABILITY & SAFETY FEATURES

THESIS

Self-Sovereign, Portable, and Persistent

The mobile web is globalizing digital services, and Identity technology must scale to meet the Trust needs of even the most remote users.

Digital services rely on trust.

Trust relies on reputation.

Reputation relies on identity.

VISION

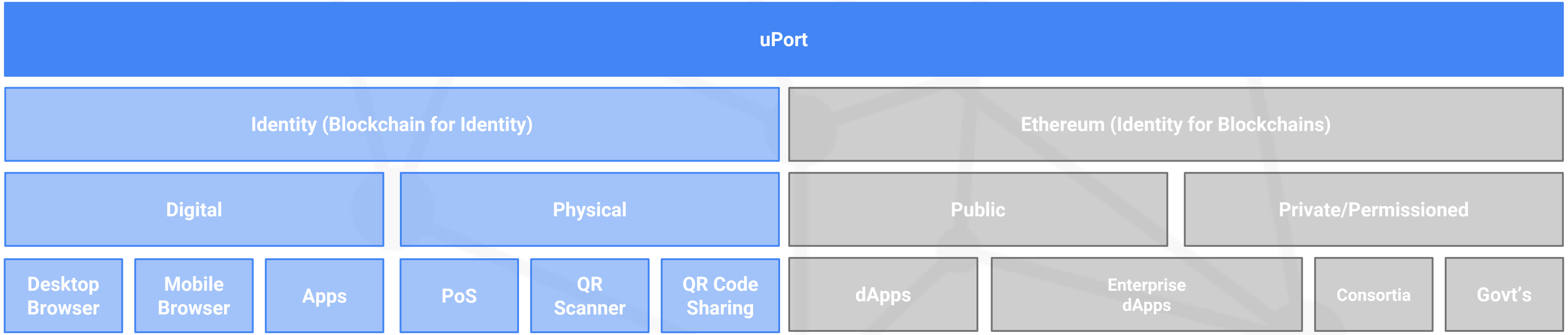
Universal Identity

BLOCKCHAIN FOR IDENTITY

Self-sovereign identity and reputation wallet that enables portable KYC by combining persistent blockchain IDs and atomized credentials.

IDENTITY FOR BLOCKCHAINS

User-friendly Ethereum identity for signing transactions and controlling digital assets across public and permissioned chains.



uPort

Identity (Blockchain for Identity)

Digital

Desktop Browser

Mobile Browser

Apps

Physical

PoS

QR Scanner

QR Code Sharing

Ethereum (Identity for Blockchains)

Public

dApps

Enterprise dApps

Private/Permissioned

Consortia

Govt's

CHALLENGES

Social, Systems, & Technical

BLOCKCHAIN FOR IDENTITY

Identity Ownership

Data Ownership

Reputation Fragmentation

Password Management

IDENTITY FOR BLOCKCHAINS

Key Management
(security v. usability)

Persistent Identity
(exposed pub/priv keys not ideal for persistent identifier)

Authenticating the User
(link ‘real-world identity’ to digital identity)

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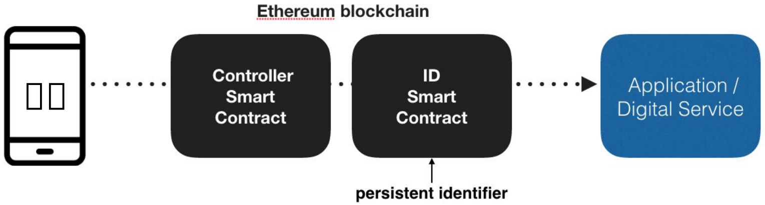
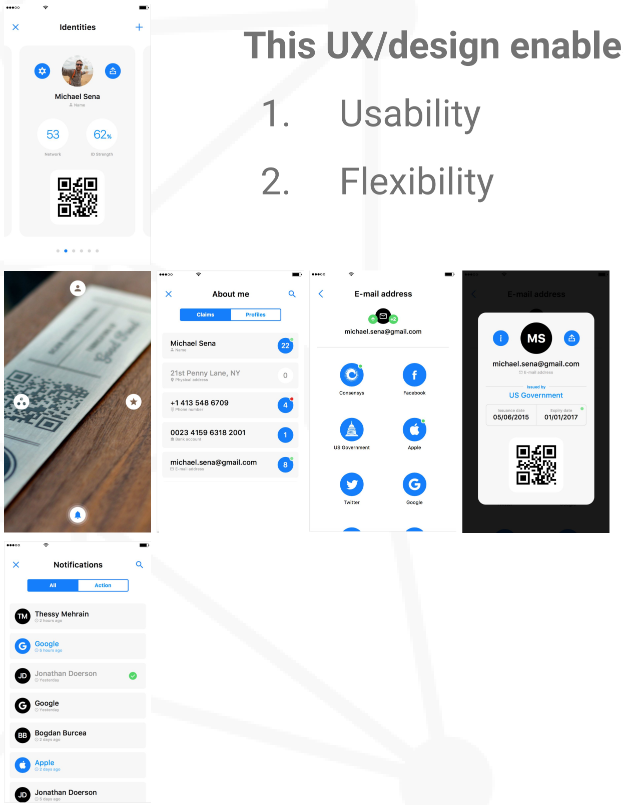
uPort is control at your fingertips.



This architecture enables:

1. Persistent identifier (smart contract address) (Use Case #1)
2. Method to access and control that identifier (phone, smart contracts, biometrics)



Identities

Michael Sena
Name

53
Network

62%
ID Strength

About me

Claims | Profiles

Michael Sena Name	22
21st Penny Lane, NY Physical address	0
+1 413 548 6709 Phone number	4
0023 4159 6318 2001 Bank account	1
michael.sena@gmail.com E-mail address	8

E-mail address

+2

michael.sena@gmail.com

Consensys
Facebook
US Government
Apple
Twitter
Google

E-mail address

MS

michael.sena@gmail.com
E-mail address

Issued by
US Government

Issuance date	Expiry date
05/06/2015	01/01/2017

Notifications

All | Action

- TM Thessy Mehrain — 2 hours ago
- Google — 5 hours ago
- JD Jonathan Doerson — Yesterday ✓
- Google — Yesterday
- BB Bogdan Burcea — 2 days ago
- Apple — 2 days ago
- JD Jonathan Doerson — 5 days ago

This UX/design enables:

1. Usability
2. Flexibility

1. Blockchain for Identity

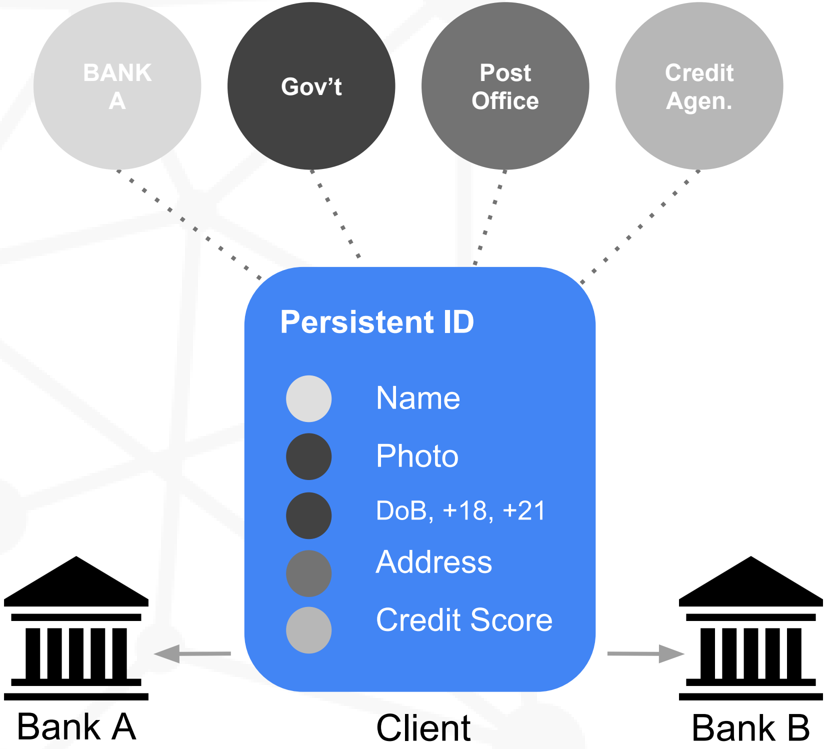
IDENTITY SYSTEM

Portable Reputation & Implicit KYC

How It Works

(Use Case #1, #2, #3)

1. Download the uPort app to claim your self-sovereign digital identity.
2. Collect atomized claims (uFacts) from physical and digital service providers to build your reputation. (No uploaded documents!)
3. Authenticate yourself everywhere using your uPortID & uFacts.



uFACTS

Atomized Identity Credentials

(Use Case #2, #3, #4, #5)

What is a uFact?

Recipient ID + Claim Data + Attester ID + Attester Signature + Timestamp

CLAIMS
Unverified credentials, made by an identity about themselves

- personal information
- educational credentials
- experiences and skills
- personal preferences...

ATTESTATIONS
Verified credentials, provided by trusted institutions, friends/personal network...

- verification of claims
- digital transactions
- confirmation of other txns
- credit score ...

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uFACTS: B2C

Establish Your Verified Identity

(Use Case #2 (but no docs stored in identity), #4)

HUMAN

Face-to-Face Meeting

Collect uFacts from a trusted institution after proving KYC in a face-to-face meeting. Typically a user, shows documents.

Providers:
* notary
* post office

HUMAN

Document Uploading

Upload copies of your KYC compliant documents and submit them to a verification service. Service provides the user with a basket of uFacts representing these credentials.

Providers:
*Traditional KYC

HUMAN

Face-to-Face Video Sharing

Same as the Face-to-Face Meeting, however this is done over video chat with human verification providers. At the conclusion of the meeting, user receives a basket of uFacts.

Providers:
*Traditional KYC providers (Number 26)

MACHINE

Pre-Existing Relationship

Receive uFacts from service providers that have already verified aspects of your KYC identity. User logs-in with traditional username/password, then connects their uPort to collect uFacts the service is comfortable providing.

Providers:
* banks, exchanges

MACHINE

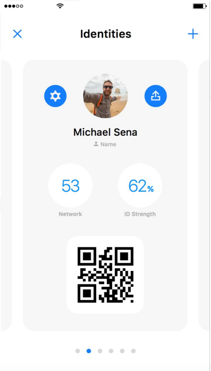
Human-to-Machine Video

Same as the Face-to-Face Video Sharing, however this is done over video chat with computer/AI verification providers. At the conclusion of the meeting, user receives a basket of uFacts.

Providers:
* fintech KYC

uFACTS: APP

Manage uFacts from our mobile app



Identities

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Name

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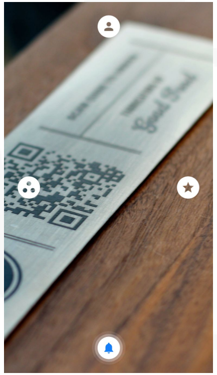
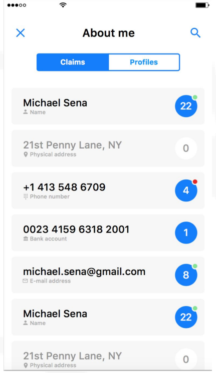
Network

62%
ID Strength

(Use Case #1, #2)





About me

Claims | Profiles

Michael Sena
Name
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Physical address
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+1 413 548 6709
Phone number
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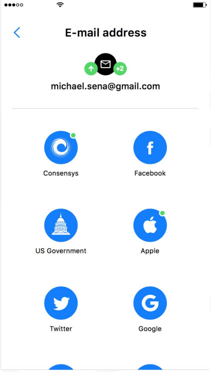
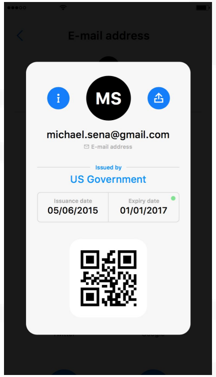


E-mail address

michael.sena@gmail.com



MS

michael.sena@gmail.com
E-mail address

Issued by
US Government

Issuance date
05/06/2015

Expiry date
01/01/2017

Demo:

uFacts - attestation web-interface

uFACT STORAGE

Store Your Verified Identity

(Use Case #2, but no docs stored in identity)

ON-CHAIN

Public Badges

Public uFacts stored in the uPort ID’s contract. Can be read by everyone, including other smart contracts.

Benefits/Use Cases:
- “Proof of” variety
- used without user interaction

Drawbacks:
- privacy

OFF-CHAIN

Public IPFS

Public uFacts stored unencrypted in IPFS. Can be read by everyone.

Benefits/Use Cases:
- ‘Public’ profile information (i.e. nick name, photo)

Drawbacks:
- speed
- cost
- privacy

OFF-CHAIN

Encrypted IPFS

Private uFacts stored encrypted in IPFS. Can be selectively disclosed to counterparties by passing the decryption key.

Benefits/Use Cases:
- privacy
- cloud storage

Drawbacks:
- speed
- cost

OFF-CHAIN

Device Storage

Private uFacts stored locally on the user’s device (optional: backed up to their cloud storage). Can be selectively disclosed to counterparties.

Benefits/Use Cases:
- privacy
- uFact renewal via automated push

Drawbacks:
- need to backup otherwise lose

OFF-CHAIN

Permissioned Environments

Private uFacts stored in private/ permissioned environment (blockchain, database or Storage/IPFS).

Benefits/Use Cases:
- Issuer maintains access control
- Simple revocation
- Secure storage

Drawbacks:
- slightly more complex setup

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uFACT USE

Use Your Verified Identity

(Use Case #3)

SHARING/AUTH

Direct Sharing

Share a single or multiple credentials with counterparty via QR code, link, push message, bluetooth, ...

Example:
* passport @ airport
* add contact

'CASUAL' LOG-IN

Identity Profiles

Share a user-defined subset of uFacts with services that don't have strict ID/KYC requirements.

Example:
* eCommerce sites
* social media sites

STRICT LOG-IN

Selective Disclosure

Share private uFacts required by service provider during log-in/authorization to gain access.

Example:
* banks, exchanges, etc.

SMART CONTRACTS

Automatic Badge Reading

Smart contracts read an identity's on-chain badges and public profile to determine their capabilities.

Example:
* token control

ACCESS CONTROLLED

Request Access

uFacts are stored in private environments, and access control is granted by network operator.

Example:
* governments
* sensitive credentials

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uFACT EXPIRY

Expiry, Revocation, Reissuance

How It Works

(Use Case #6)

Expiry Alerts:

1) push notification

2) within the app

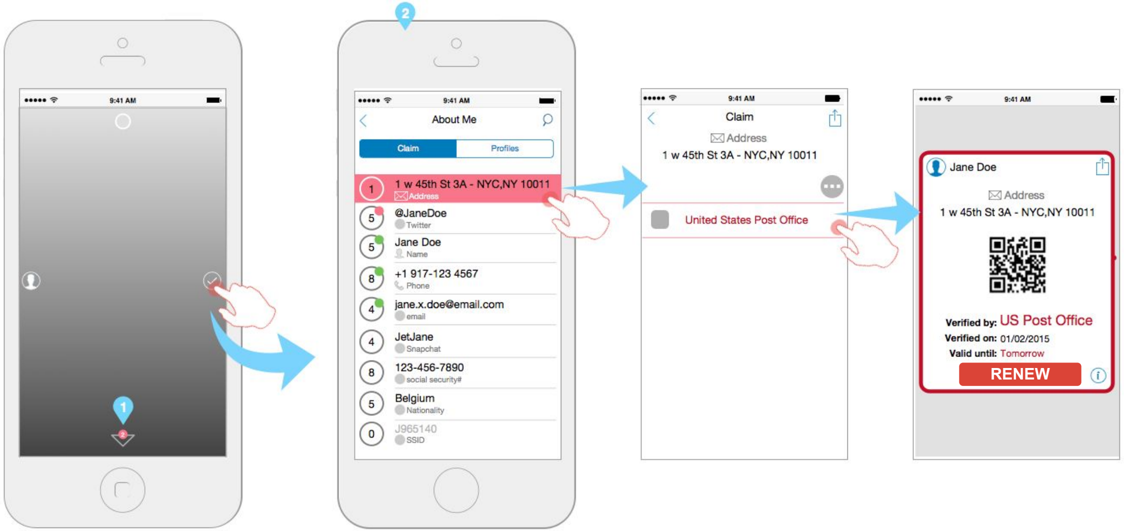
3) rejected log-in

Reissuance Channels:

1) in-app request

2) provider channel

3) auto-renewal



9:41 AM

About Me

Claim | Profiles

1 — 1 w 45th St 3A - NYC,NY 10011 — Address
5 — @JaneDoe — Twitter
5 — Jane Doe — Name
8 — +1 917-123 4567 — Phone
4 — jane.x.doe@email.com — email
4 — JetJane — Snapchat
8 — 123-456-7890 — social security#
5 — Belgium — Nationality
0 — J965140 — SSID

9:41 AM

Claim

Address
1 w 45th St 3A - NYC,NY 10011

United States Post Office

9:41 AM

Jane Doe

Address
1 w 45th St 3A - NYC,NY 10011

Verified by: US Post Office
Verified on: 01/02/2015
Valid until: Tomorrow

RENEW

uFACTS (B2B)

Blended Business Reputation

(Use Case #5, #7)

The identity community and other stakeholders are still deciding how to best handle reputation scores. Since reputation is dynamic and subjective (overall and input metrics), we believe that it should be determined by the institution performing the analysis - in this case, the bank.

Here are 3 initial options of how a blended business reputation score could work:

ON-CHAIN

RepScore Badge

Oracles provide businesses with on-chain reputation score that banks can read.

Ex:
* auditors
* data providers (DnB)

OFF-CHAIN

Selective Disclosure

Banks request for business to submit connections (defined as employees, customers, and investors) and the data points associated with these identities that the bank needs to make their assessment of reputation. (Business or bank sends request to end user's uPort.)

OFF-CHAIN

Permissioned Disclosure

Businesses ask users to grant them permission to share sensitive personal information with trustworthy third-parties, such as banks and governments. When the bank requests data from the business, it can submit it's last known datapoint for these other identities, as long as they're current.

SUMMARY OF BENEFITS

uPort for Identity

Identity Ownership & Data Control

Own your identity for the first time in history, and control your atomized claims.

Implicit KYC

KYC is built into the fabric of your uPort identity. Collect verified data credentials, and use them everywhere. All without uploading a document to your identity.

Universal Single Sign-on

Never enter another username or password. Never fill out a form again.

Personal Information Security

Protection from large-scale data breaches and hacks. No more data honeypots.

Business, Entity, Object, Software, and Other Identity Types

The uPort identity framework can be applied to many other types of identities. Relationships can always be defined between two identities.

2. Identity for Blockchain

SUMMARY OF BENEFITS

uPort for Blockchains

IDENTITY & KEY MANAGEMENT

Universal, Persistent Blockchain Identity
Establish your true identity, add to it, and use it for all types of authorized and verified interactions

Advanced Key Management
Recover your identity with ‘Social Recovery,’ 12-word Seed, or other options

Public + Private Chain Interoperability
Use one uPort application for all of your Ethereum identity needs.

Test Network Compatibility
Use the same identity app on the Ethereum Mainnet or the current test network

TRANSACTION CAPABILITIES

Digitally Sign Transactions on Ethereum
Produce secure biometric signatures that replace the need for passwords.

Clear & Transparent Transaction Cards
Custom cards add clarity to signing transactions and to the security of the contracts you interact with

Transaction History
Go back and review the transactions you have completed with each counterparty from within the app

Store and Control Digital Tokens
Store and move digital assets using your persistent uPort identity and other in-app transaction capabilities.

Demo:

Log-In, Ethereum Transactions, Token Control

BUSINESS MODEL

Monetization Opportunities

Here are just a few from uPort for Identity and uPort for Blockchains...

KYC Marketplace

uPort will collect X% of total value transacted on KYC marketplace.

In-App Marketing

Send push notifications to your users, natively advertise uFacts, and more...

Transaction Cards / uFact Skins

Custom branded transaction and uFact cards in mobile app extends your experience to the users' device.

Enterprise/Government Customization & Licensing

License uPort for deployment on private and permissioned Ethereum.

In-App Purchases

Security upgrades, Ether purchases, ...

Premium uFacts

Collect a platform fee for credentials that users are willing to pay for, or that institutions want to sell.

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Thank you

Andrés Junge

andres.junge@consensys.net

team@uport.me
@uport_me