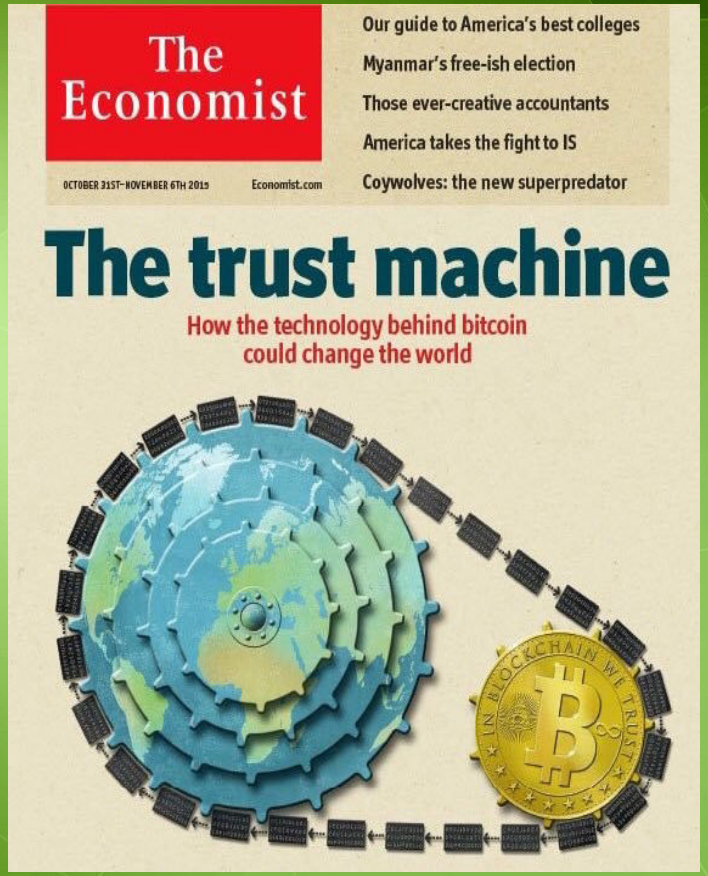
Blockchain and smart contract applications
区块链和智能合约应用

What is a blockchain?

区块链是什么？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Economist.com
The trust machine
How the technology behind bitcoin could change the world
IN BLOCKCHAIN WE TRUST

So what is a blockchain, really?

区块链到底是什么？

A blockchain is... 区块链是 ...

- Decentralized computer network
  去中心化的计算机网络
- Keeps track of and processes “transactions” sent by users
  追踪和处理用户发送的”交易”
- Consensus algorithm ensures that the network agrees on the order of the transactions and the result
  共识算法保证整个网络同意交易的顺序和结果
- Once the consensus algorithm confirms a transaction, it cannot be reverted
  共识算法敲定一个交易以后，不可能撤销它

Benefits 好处

- Single database with rapid consensus - allows for extremely fast clearing and settlement (eg. 3-60 seconds, instead of 1-3 days)
  统一的数据库和快速的共识算法允许快速的清算和结算 (3-60 秒代替 1-3 天)
- Massively fault-tolerant (even if many nodes go offline or are hacked, the system continues to work)
  非常容错：即使很多节点离线或者被黑，系統继续运行
- Not dependent on any single administrator or organization
  不依靠与一个管理人员或公司

Applications 应用

- Three major categories of applications:
  大概有三种应用
  - Timestamping / data irrepudiability
    时间戳 / 数据不可否认性
  - Digital assets (incl. cryptocurrencies, digitized fiat currencies, stocks, etc)
    数字资产（包括数字货币，数字化的法币，股票，等等）
  - Smart contracts and complex business processes
    智能合约和复杂的业务流程

What are smart contracts?

智能合约是什么？

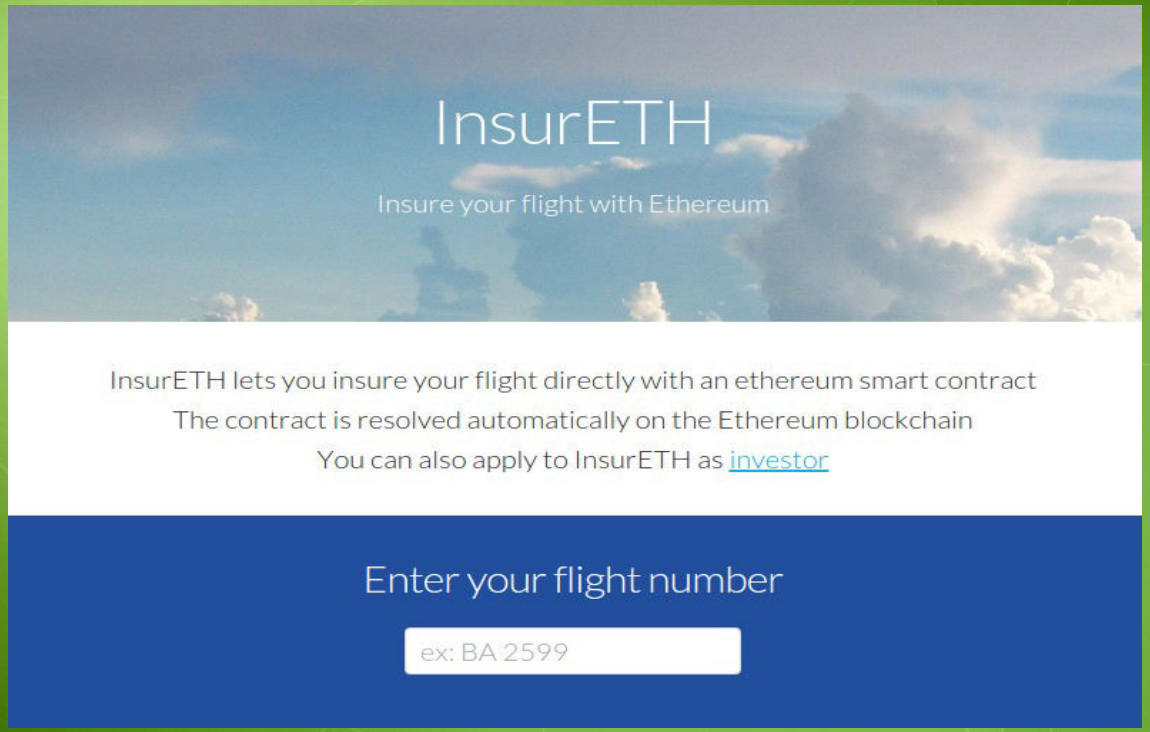
Smart contracts 应用

- Concept originally invented by Nick Szabo in the 1990s
  概念 Nick Szabo 1990 年代发明的
- Computer code that directly controls digital assets or business processes
  代码直接控制数字资产或业务流程
- Like a vending machine, but for the digital world and essentially unbreakable
  类似与自动收货机，但是运行在数字世界和实质上牢不可破

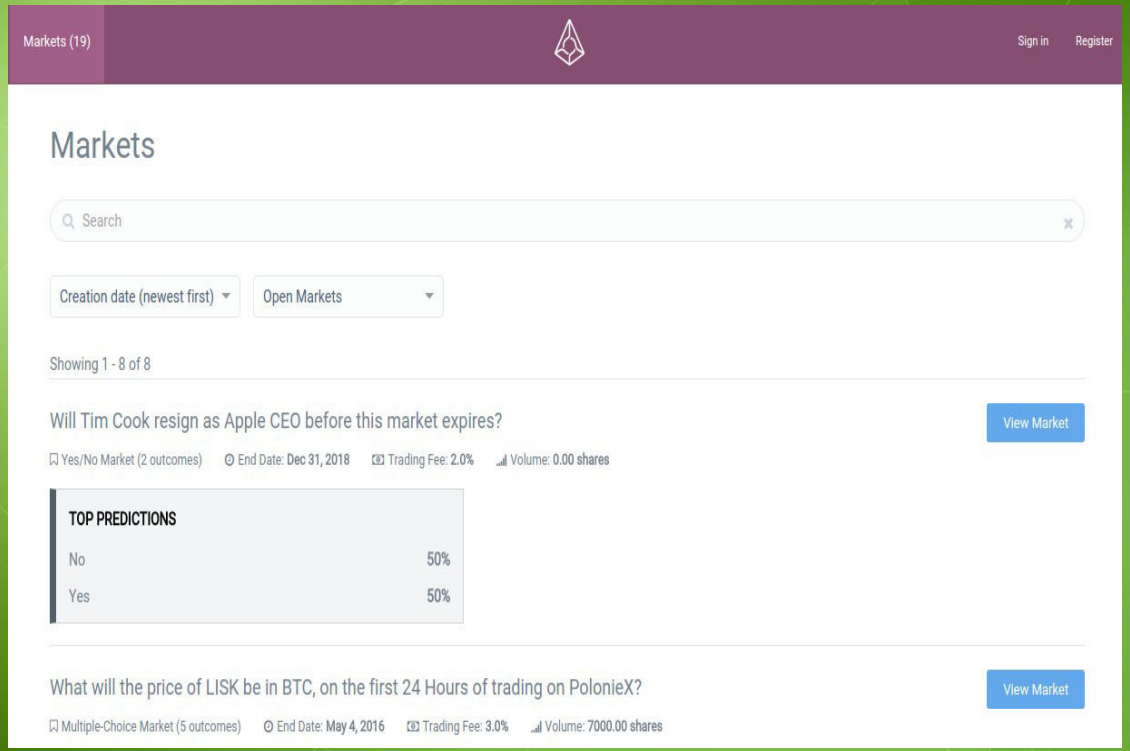
Note 注释

- Smart contracts are not legal contracts
  智能合约不是法律合约
- Smart contracts are not “smart” in the sense that AI is smart
  智能合约的“智能”不是人工智能的“智能”
- They can encode complex rules and conditions, but do not understand their creators' intentions, unexpected conditions, etc
  他们可以包含复杂的规则和条件，但是他们不能了解他们制造者的意图，意外情况，等等

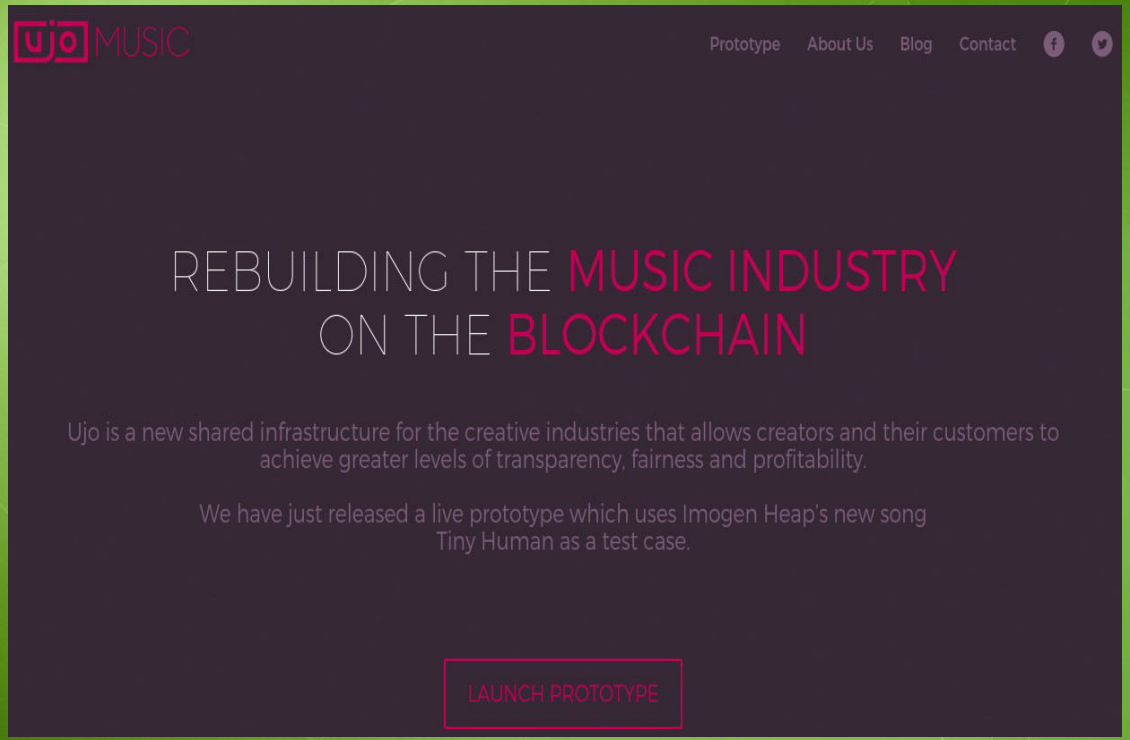
Example: Smart contract based flight cancellation insurance
例子：基于智能合约航班取消的保险



Example: Prediction markets (Augur)
例子：预测市场 (Augur)



Example: Music industry (Ujo)
例子：音乐行业（宇宙）



Financial industry examples
金融行业的例子

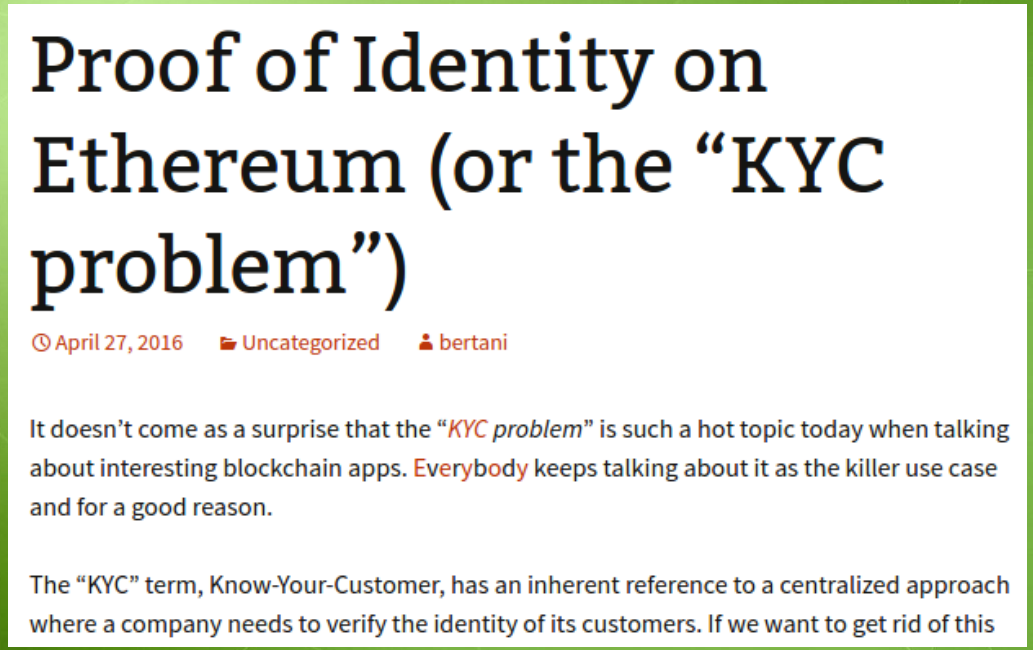
- OTC financial derivatives trading
  场外金融衍生品的交易
- Equity crowdfunding
  股权众筹
- Insurance (incl mutual insurance, etc)
  保险（包括互助保险等等）

Non-financial applications useful for smart contracts
非金融应用用于智能合约

- Identity verification
  身份验证
- Credit rating
  信用评级
- Smart contract data sources (“oracles”)
  智能合约的数据来源（“神谕”）

Example: Estonian E-Residency verification on Ethereum

例子：基于以太坊爱沙尼亚的“电子居留”计划的验证

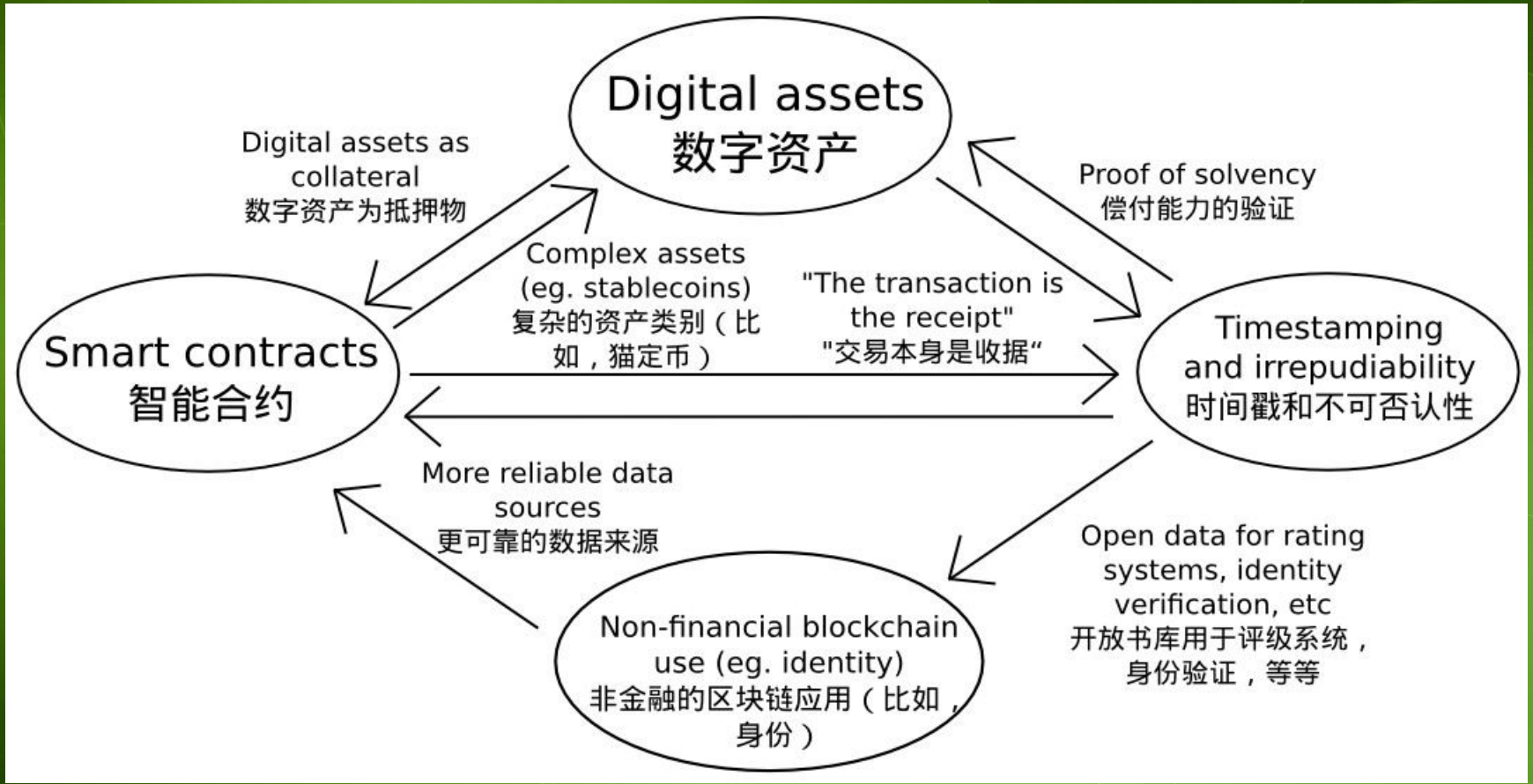


Proof of Identity on Ethereum (or the “KYC problem”)

April 27, 2016 Uncategorized bertani

It doesn’t come as a surprise that the “*KYC problem*” is such a hot topic today when talking about interesting blockchain apps. Everybody keeps talking about it as the killer use case and for a good reason.

The “KYC” term, Know-Your-Customer, has an inherent reference to a centralized approach where a company needs to verify the identity of its customers. If we want to get rid of this


Digital assets
数字资产
Digital assets as collateral
数字资产为抵押物
Complex assets (eg. stablecoins)
复杂的资产类别（比如，猫定币）
Proof of solvency
偿付能力的验证
"The transaction is the receipt"
"交易本身是收据"
Smart contracts
智能合约
Timestamping and irrepudiability
时间戳和不可否认性
More reliable data sources
更可靠的数据来源
Open data for rating systems, identity verification, etc
开放书库用于评级系统，身份验证，等等
Non-financial blockchain use (eg. identity)
非金融的区块链应用（比如，身份）