

The Past, Present and Future of ICOs and Crypto-Economic Token Models

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Agenda



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- Who am I
 - The Past
 - The Present
 - The Future
 - ICO Crypto-Economic Models
 - Security Tokens
 - Demo



Who Am I



- **Nagu Thogiti (督一心)**

- Mathematician, Founder Programfy & 314.AI

- Blockchain Protocols & Security Engineering
- Advisor and Smart contracts auditor (GoToken, Rublix, WandX, Science, Protos, Nuggets, DiamondChain, Xtense, etc.)
- 20+ years in Machine Learning, AI and data systems design
- 15+ years of leadership in scalable data driven marketing and marketing technology systems and data architectures
- Tinkering with DLT since 2012
- Executive Advisor Viking Cruises
- University of Southern California, Los Angeles, USA
 - Ph.D Applied Mathematics (on going)
 - Masters in Applied Mathematics
 - Masters in Computational Science & Engineering
- Indian Institute of Technology (IIT)
 - Bachelor of Technology

Professional Certifications & Associations



- MIT Certifications: FinTech, Cybersecurity, Big Data, IOT
- Ethereum Developer, Blockchain Consultant & Advisor on Cryptoasset projects
- Google/Udacity: Artificial Intelligence, Deep Learning, Self Driving Cars
- School of AI: Computer Vision
- American Mathematical Society Member, IEEE member

Disclaimer



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- This is not a financial advice, or a legal advice or an investment advice.
 - Crypto currencies and tokens are very risky digital assets and you may lose all your money in a very short time period.

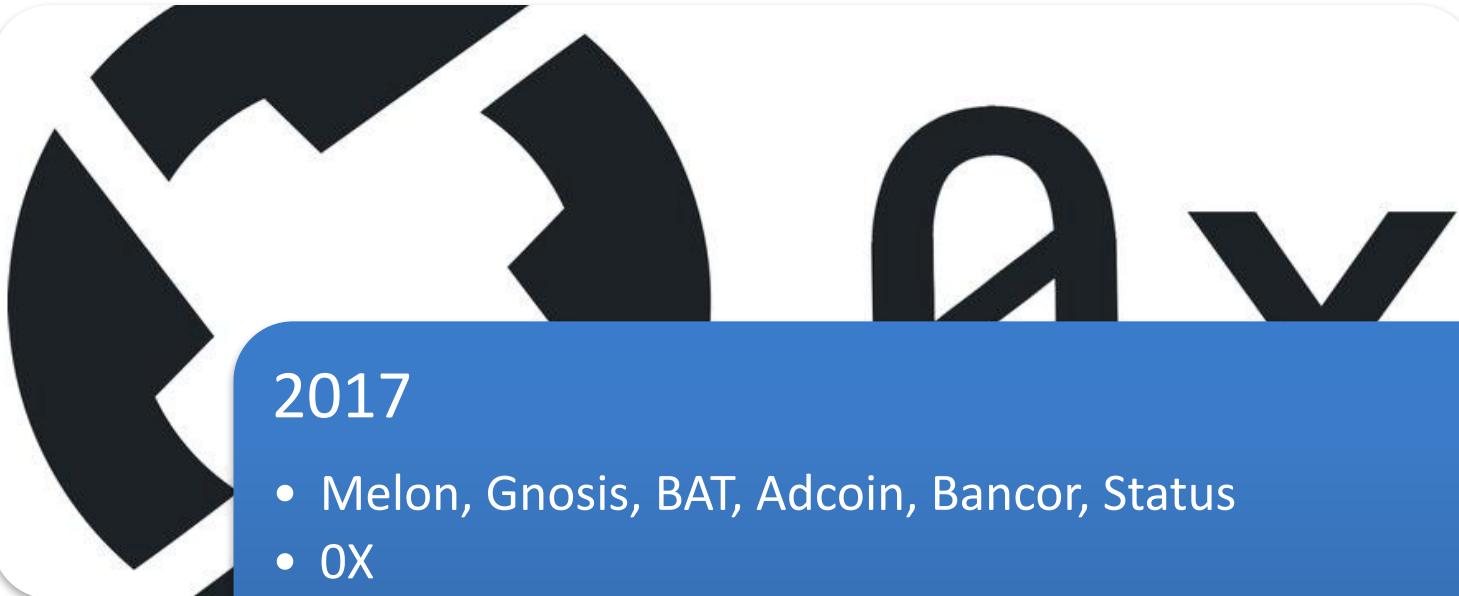
The Past



The Past



The Past



2017

- Melon, Gnosis, BAT, Adcoin, Bancor, Status
- 0X
- VCs, Deep discounts
- A lot of sale mechanics issues
- Focus on compliance (KYC/AML)
- VCs dominance

The Present



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- You raise multiple private sale rounds from VCs, Angels and accredited investors
 - Show case some traction on your blockchain startup
 - Manufacture some utility around the token
 - You do a public sale
 - Exclude USA, China, etc. (depends on the project and jurisdiction)
 - Recreated the current VC startup financing model

The Future



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- Security Tokens
 - Securities
 - Blockchain based representation of value subject to securities exchange laws
 - Two types
 - Tokens as Securities from the beginning
 - Exemptions
 - Regulation D Rule 506(c), Regulation S, Regulation CF, Regulation A+, and Rule 147.
 - If a startup is "offering something that depends on the efforts of others, it should be regulated as a security."
 - Whether a token qualifies as a security could also change as the industry evolves. Just because it's a security today doesn't mean it'll be a security tomorrow, and vice-versa."

The Future - Security Tokens



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- In next ten years, Security Tokens will see a widespread adoption across many asset classes
 - How we claim ownership and transfer ownership claims in the society are going to be revolutionized
 - Important characteristics of a security tokens:
 - 24/7 markets
 - Fractional ownership (more granular and atomic REIT; imagine an atomic long-short strategy: long on Taipei and short on New Taipei city commercial unit fractional ownership)
 - Rapid settlement
 - Reduction in direct costs or issuance costs
 - Increased liquidity and market depth (instantly global)
 - Automated compliance
 - Asset interoperability
 - Expansion of the security contracts (e.g. complete contracts, etc.)

The Future - Security Tokens



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- Exchanges: [Securitize](#), [Templum](#), [Coinlist](#), [Open Finance](#), [tZero](#), [TrustToken](#)
 - Protocols: [Harbor](#), [Polymath](#)
 - Projects: [Science Blockchain](#), [Spice VC](#), [22X Fund](#), [PropertyCoin](#), [Blockchain Capital](#), [Siafunds](#)
 - Note: I did the smart contracts security audit for Science Blockchain. One of the first token to raise security exemption and conduct an ICO.

The Future - Security Tokens



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- Thinking of tokenizing your next funding round?
 - Approximately 4-6 months process
 - Hiring advisors, lawyers, and engaging with them to structure your initial security offering or filing for an exemption
 - Smart Contracts Development
 - Smart Contracts Security Audit
 - Creating marketing materials
 - KYC/AML, tax rules, reporting information, and other compliance
 - Roadshow for both traditional and crypto investors
 - If you want to use Polymath or Harbor for the offering service, consider an additional month to learn their platform

The Future



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- Big problems to address
 - Do you need securities brokerage account to use the security tokens?
 - Most brokers and their custodians don't have any incentives to integrate with blockchains; it means the incumbents can kill the industry by not integrating. They will prevent network effects of use of the tokens.
 - This may lead to huge loss from innovation and market opportunity perspective.
 - Coinbase announcement for trading security tokens
 - Brokerage, ATS and RIA licenses

The Future



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- “Not-security” Tokens
 - They either start as securities or issued under an exemption
 - Pure “not-security” tokens are tokens that aren’t clear securities from the beginning and where the network is already live. There is no promise of offering that depends on others.
 - There is also a proposal for more simplified definition “non-security tokens”

The Future



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- Raise a private sale round from accredited investors then bootstrap your community through bounty/work/rewards token or airdrop
 - Meaningful wider distribution
 - Get your token in the hands of the core target audience/users
 - Examples: Filecoin, Cofound.it, Variabl

The Future



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- DAICO
 - DAO + ICO, best of both worlds
 - DAICO smart contract starts in contribution mode until the fundraising time period runs out
 - Tap (ETH per sec or USD per sec) -> funds released to the development team (say monthly basis)
 - Voting on raising/lowering/closing down the tap
 - Minimize the issues related
 - Fraud, bad actors, game theoretic exploits, bribing, 51% attack damage, etc.
 - Still needs to address
 - Exploits for private sale, public sale, pure evil, automating the tap
 - Variations
 - Based on a stable coin
 - Two separate tokens: liquid token and control token
 - DAO + Iterative Investment with no ICO
 - Design better payoff matrix (incentives matrix) for the team and contributors using game theoretic approaches

The Future



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- Price discovery ICOs
 - Very underutilized
 - Combine Game Theory, Econometric auction models, mathematics to discover price of initial coin offerings
 - Fixed incentive structures VS Time dependent secondary price auction model incentive structures

Regulation - USA



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- Where the US regulation is heading?
 - “Pure Crypto Currencies”
 - Security tokens
 - Not-security tokens
 - Exchanges
 - National exchanges
 - Alternate Trading systems (ATS)
 - Consensus on not to facilitate the transactions of unregulated securities
 - May be a new federal law to replace the state-wide Money Transmitter Business licenses (for each State license) with one federal law
 - New Blockchain task force under FTC

Thailand ICO Guidelines



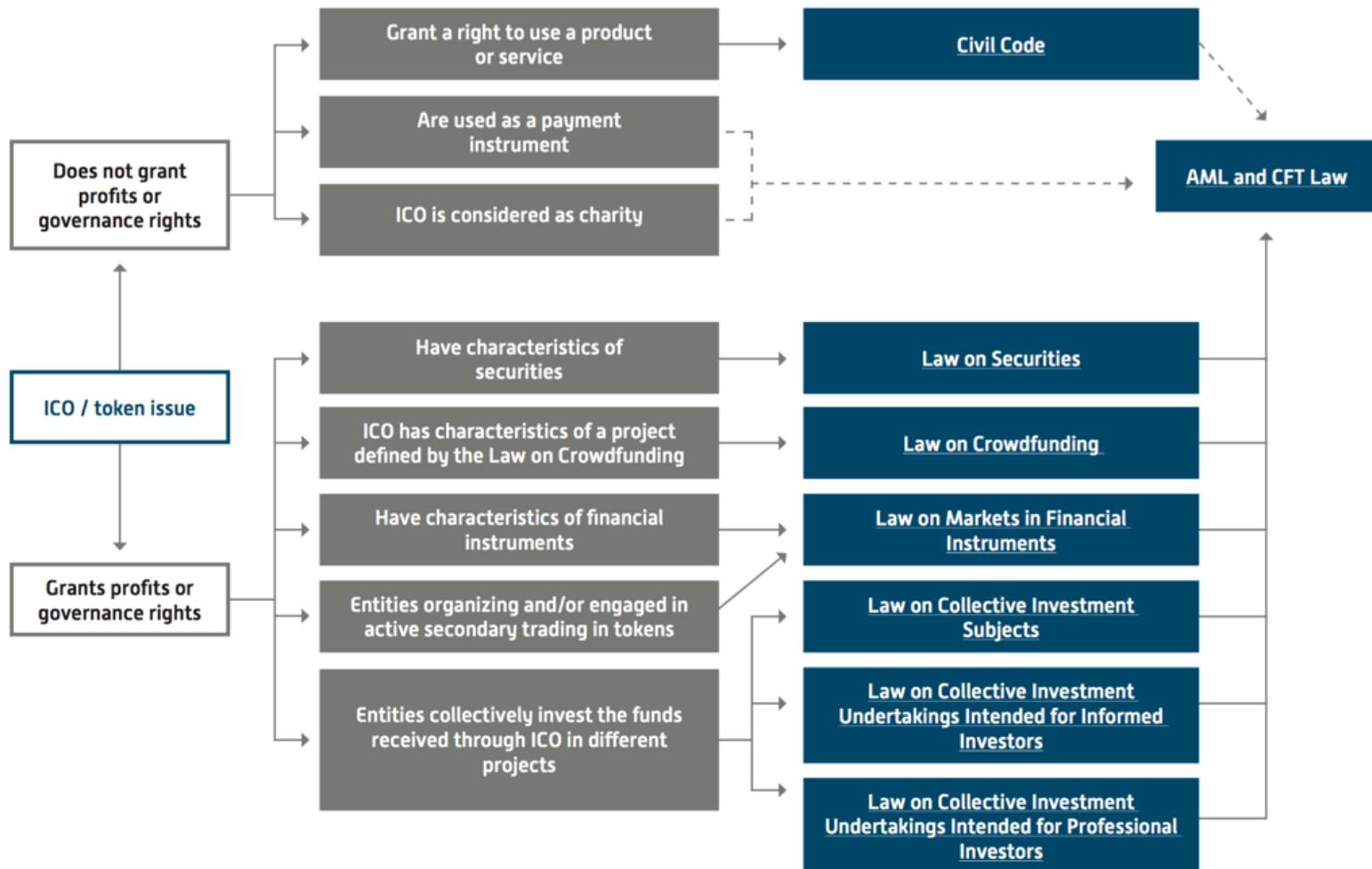
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- Permit trading on seven crypto currency pairs: bitcoin, ethereum, bitcoin cash, ethereum classic, litecoin, ripple, and stellar
 - Licenses:
 - Must be a registered company in Thailand
 - Crypto Exchanges
 - Upfront fee 5 Million Thai baht (USD 150K); 2.5 million baht for token distribution, 2.5 Million for cryptocurrency operations
 - 0.002% commission fee on the total trading volume
 - Mini fee: 0.5 Million baht, Max fee: 20 Million baht
 - Brokers and dealers
 - Fees for brokers and dealers: 2.5 Million baht + 2 Million baht
 - 0.001% commission fee on the total trading volume
 - Mini fee: 0.25 Million baht, Max fee: 5 Million baht
 - ICO
 - 5 Million baht registered capital
 - One year required monitoring
 - No limit to the amount you can raise in an ICO
 - Retail investor contribution is capped at 300k baht (USD 5k) per person or no more than 70% of total value of tokens
 - No VAT on crypto currencies (used to be 7%)

Lithuania ICO Guidelines



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- Organizing ICO is not regulated by specific legislation however there are some exceptions for financial market participants (FMP) use cases
 - If the funds collected for establishing capital for FMP, then capital formation requirements apply depending up on the financial institution
 - Tokens may grant different rights to their owners
 - right to participate in the company management process, receive part of the company's profit, receive part of the company's income, receive interest for invested funds, recover the invested funds and receive additional income through redemption of the tokens, sell the tokens to another person
 - If any of the above is true, it is most likely a security
 - Taxes
 - Virtual currencies are considered same as Euros and Dollars. Hence VAT applies
 - Tokens are also considered virtual currencies
 - No VAT on crypto mining
 - Taxes on security tokens may not be considered same as a non-security tokens
 - Funds collected in ICO not subject to corporate income taxes
 - Personal income taxes from continuous trading of virtual currencies is taxed at 15% fixed rate

Lithuania ICO Guidelines



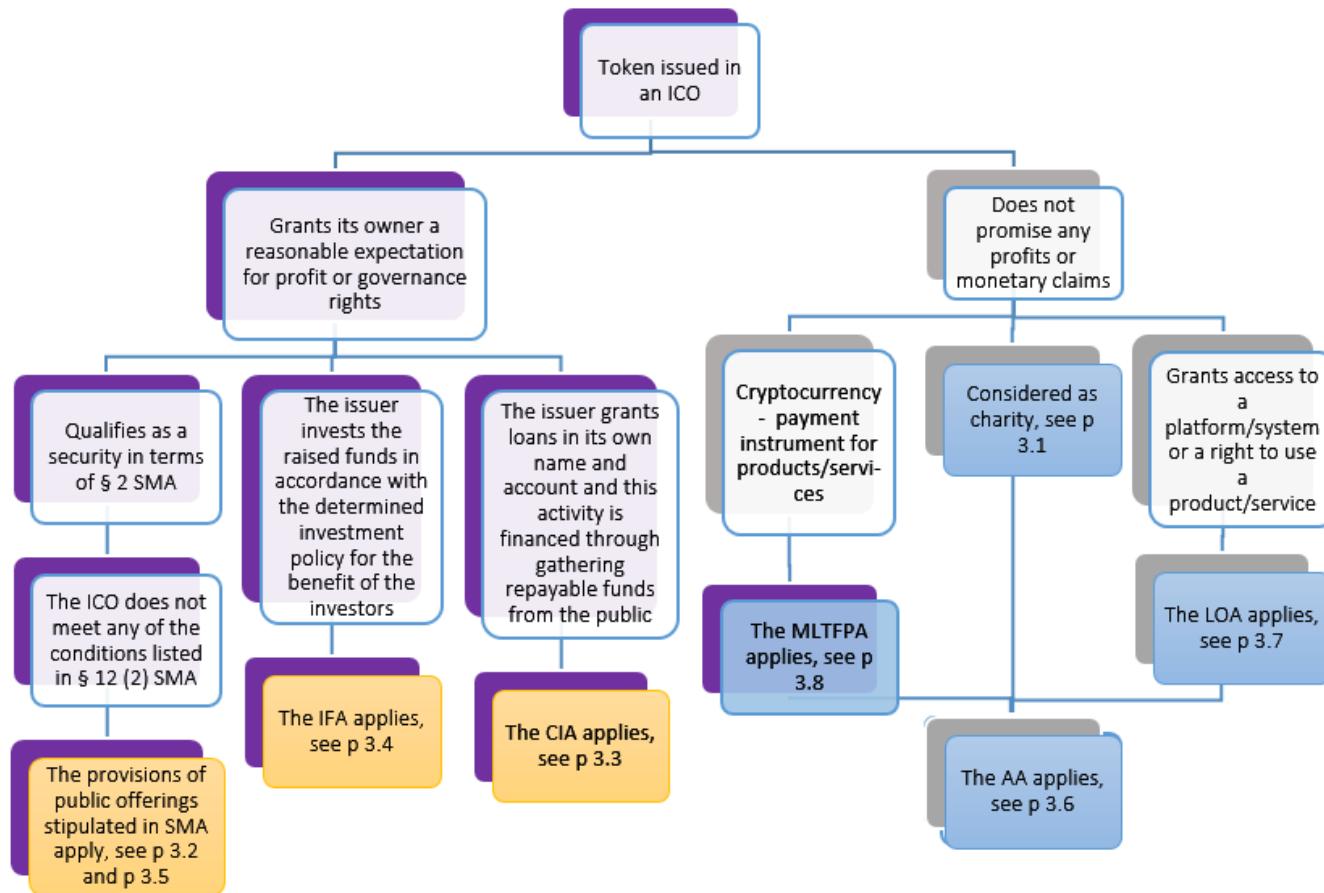
Swiss Legal Framework of ICOs



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- Payment tokens
 - Asset tokens
 - Utility tokens

ICOs Regulatory Framework Estonia

- <http://www.fi.ee/index.php?id=22715>



If I want to hire Nagu, how can I contact you?



- Nagu@Programfy.com

Line chat ID nagu168

Line QR code

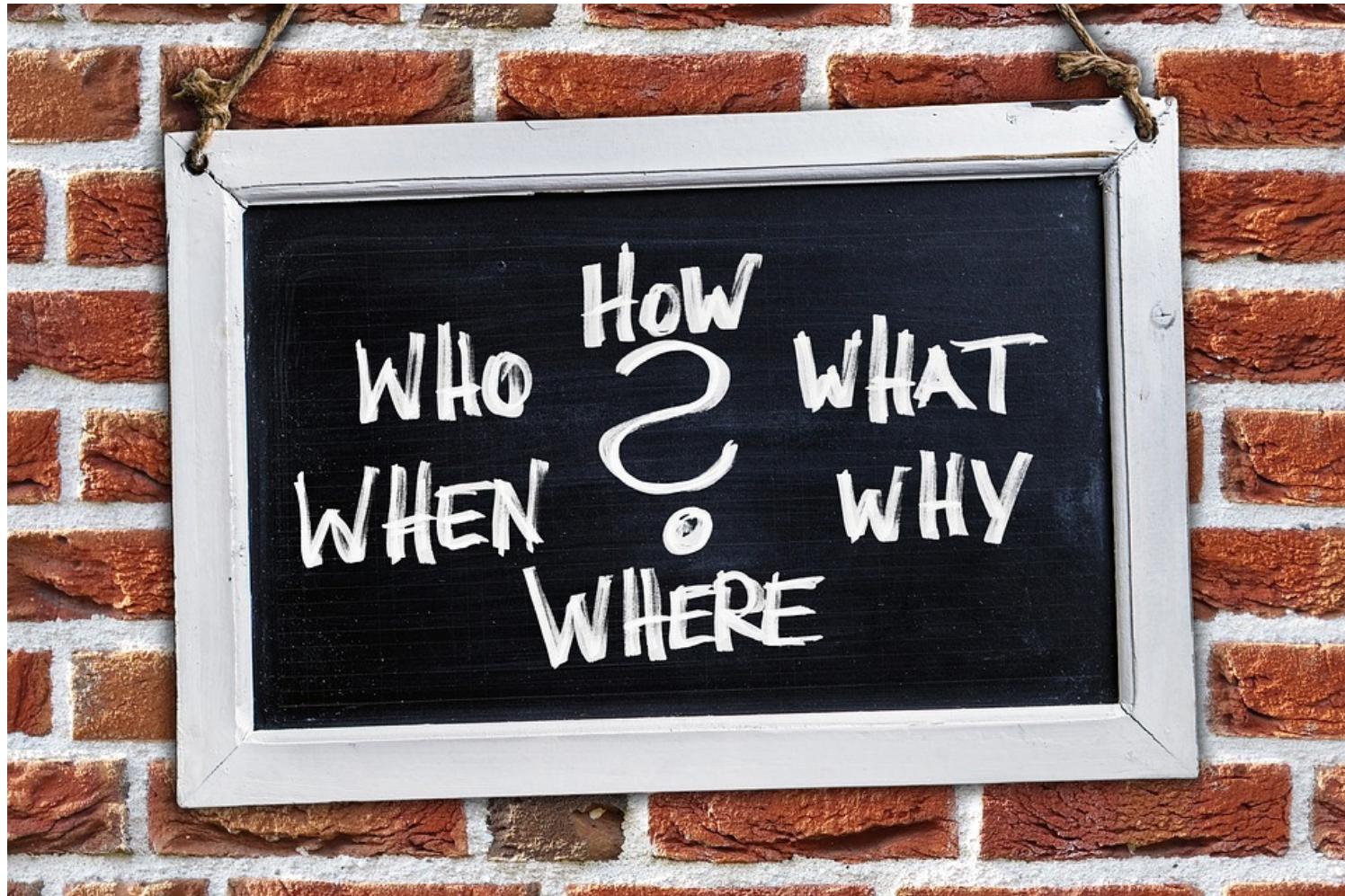


WeChat ID heart1mind1

WeChat QR code



Q&A



Part II - Demo

Uniform Price Dutch Auction Token Model



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- Price discovery
 - Deploy a compliant ERC20 token
 - Deploy a uniform price Dutch Auction for Token Sale
 - Execute the smart contracts
 - Finalize the auction
 - Distribute the tokens