Possibilities of Decentralized Finance

people are not truly free unless they have complete financial liberty

Presenter(s): Founding Team

Virtual Meet-up

decentrum Community

Connect | Collaborate | Create

About DCentrum

375

MEMBERS

15

EVENTS

3

TECHNOLOGIES

7

USECASES

Our founding members

Deepak Bhattad

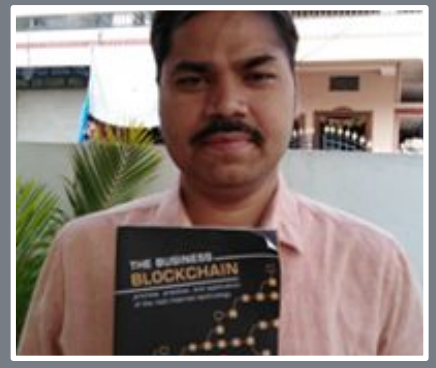
Dharmen Dhulla

Mahesh Wankhade

Mohit Bathla

Rishi Cherukuri

Sam Naidu



Sreenivas Chinni

Typical Cohort from DCentrum

DCentrum's 4-month Blockchain co-learning series:

IOTA

Join to experience perfect way to learn and solve real world problems using IOTA Tangle with a group of highly motivated Decentralization enthusiasts

registration

http://bit.ly/IOTAHydMeetups

** Venue will be announced via Slack and confirmations after curation based on responses on above form

Hyderabad, India

Meeting Frequency
Bi-Weekly

Total Series Duration
3 Months

23 March 2019 – 6 July 2019

First thru Third Meetings:

- ✓ **Level Setting**
- ✓ **Foundation**
- ✓ **Concepts**

During initial two meetings we all will get to know each other and understand the foundational aspects to **Tangle** & **IOTA**. How is it different from Blockchain. Learn to document a use-case and Business Model.

Bring together and build a solid foundation

Fourth Meeting:

- ✓ **Real World use case selection**
- ✓ **Architecture, Scope Decisions**

Members will propose ideas to implement and we will together pick one or more use cases by looking at domain expertise and interest from majority of the participants. Idea(s) selected will provide choice to members to form groups and brainstorm about the scoping and architecture for the use case.

Encourages ideation and innovation from community

Fifth thru Seventh Meetings:

- ✓ **Building Solution by collaboration**

During this 45 day period we all will participate to build the end-to-end solution that will enable everyone coming together to build the chose use case(s)

Put the big picture in view and encourage team members to play various roles

Conclusion Workshop:

- ✓ **Condensed Version Workshop**
- ✓ **Showcase of Solutions built**

One day workshop for the open community to learn in a condensed approach what was done over a period of 3 months.

During this workshop, the ideas built will be showcased to the open community to help increase the connect and spread the idea.

Typical format of each meeting:

- Welcome & General Discussion [30 mins]
- 2 Presentations from members [30 min each]
- Shared Learning & Discussion [60 min]
- News Briefs [10 min]
- Open Discussion & Networking [20 min +]

7 Use Cases we have executed

Krishi Chain	• A De-Centralized, Autonomous Marketplace for trading of agricultural commodities
Good Char	• Last mile donation tracking using Blockchain
B'Lock'	• Distributed Logistics with proof of origin and tracking etc
Identity Management	• Managing Self sovereign Identity on Blockchain
Cold Chain	• Bringing transparency to Cold Supply Chain (Vaccines, Food etc)
Smarter Law Violation Prevention System	• Focus on Traffic Violation Challan Management
DisNE	• Easy and trusted way to share unused assets paving path for truly shared economy

Agenda

- ❑ What is Money?
- ❑ Current Financial System and the Gaps
- ❑ Building Blocks of the DeFi World
- ❑ DeFi ecosystem
- ❑ Prominent use cases of DeFi
- ❑ Deep Dive into one of the DeFi use cases - MakerDAO
- ❑ Next Steps

MONEY - What is MONEY?

Ideal Characteristics

- Purchasing Power
- Easily exchangeable
- Eternal
- Easily Safeguarded
- Easily Stored
- Maintain its value

Money is “Credit” and “Credit” is Money

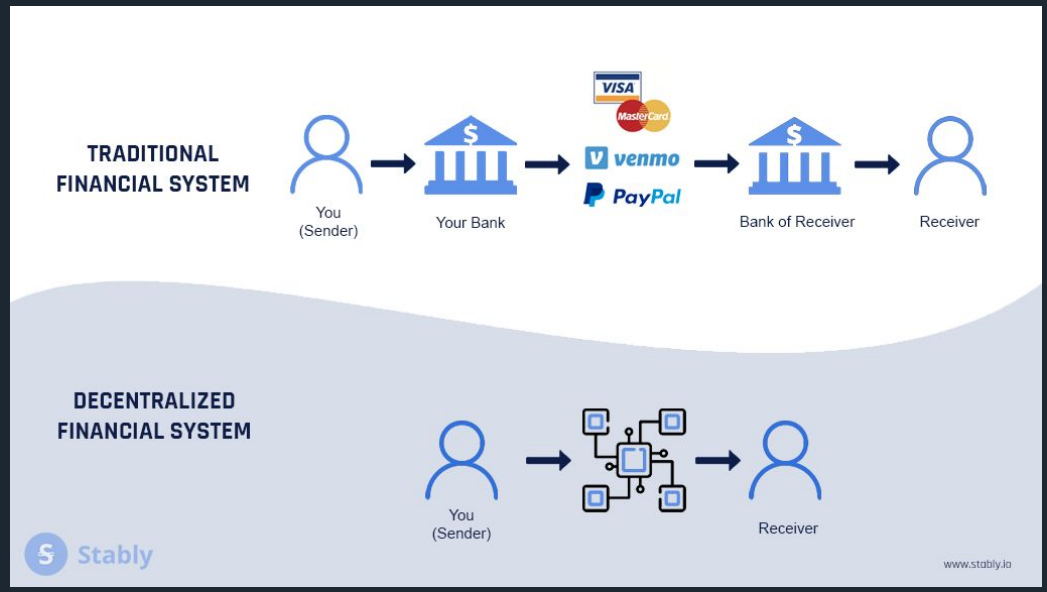
Our Current Financial System

THEN

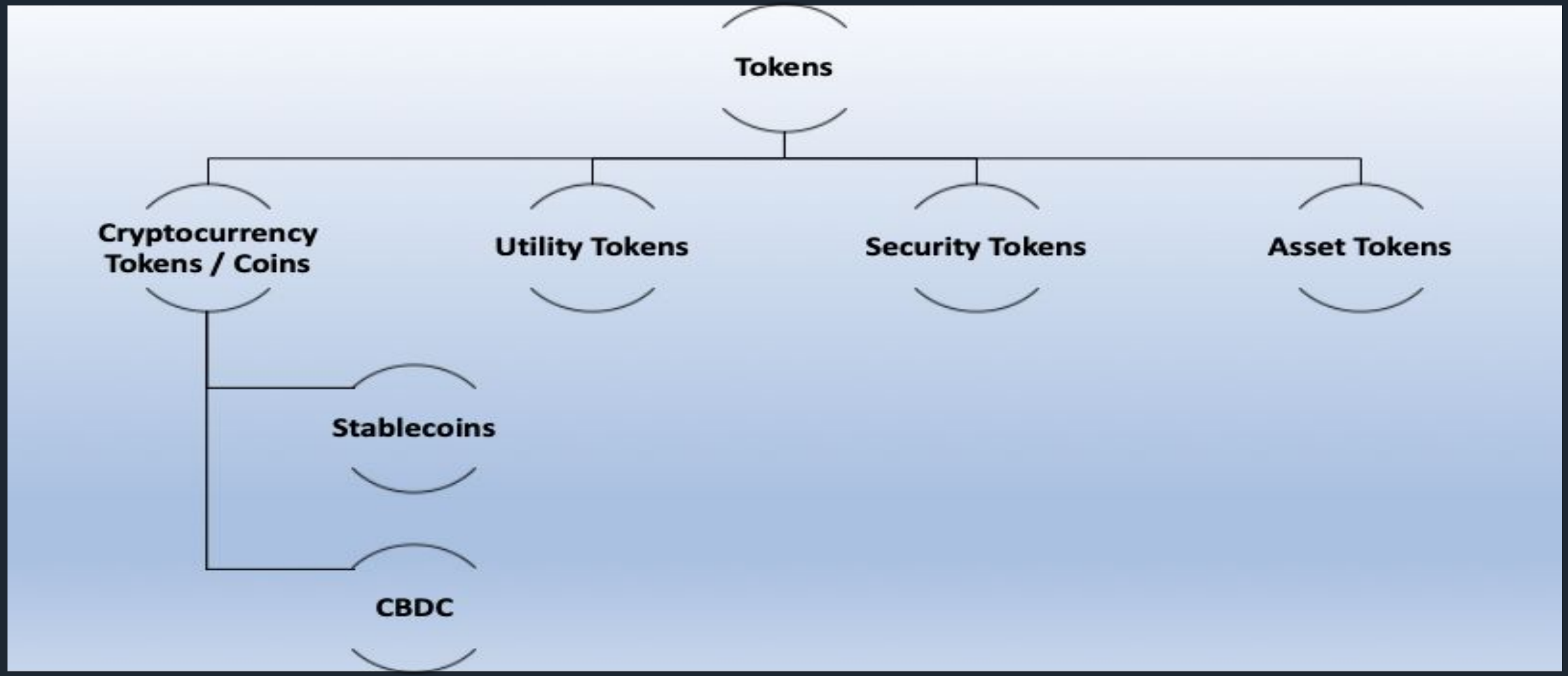
NOW

Gaps in the current Financial System

- Entry Barriers
- Highly Taxing
- Lack of Transparency
- Single Point of Failure



Building Blocks of the DeFi World



Blockchain + Crypto-Wallets + Tokens

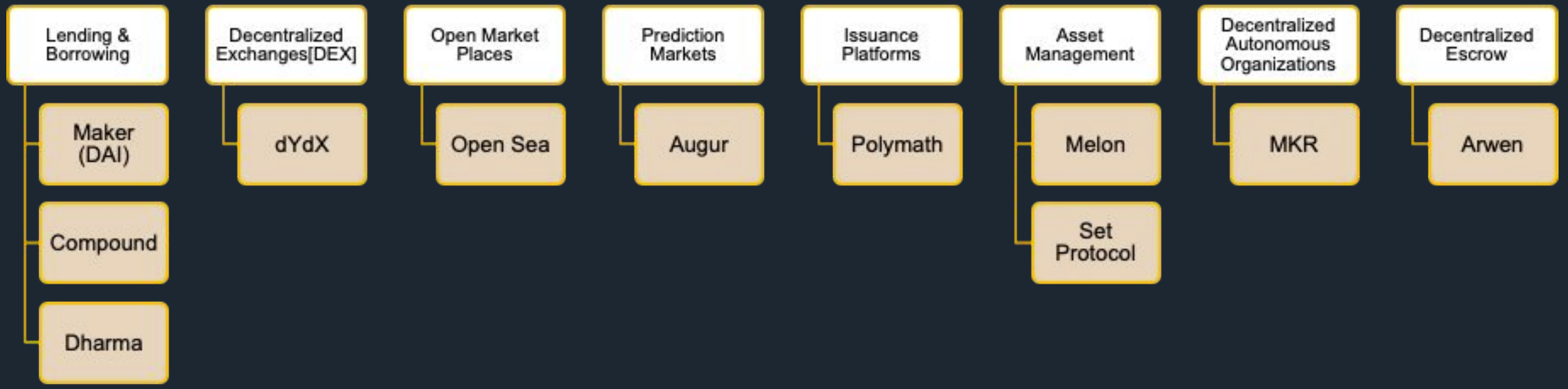
DeFi Ecosystem

True Open financial system

- Decentralized
- Open
- Borderless
- Neutral
- Censorship resistant

 # no centralized custodian

ecosystem for an Open financial system i.e DeFi



Interoperability for the Blockchain/DeFi ecosystem

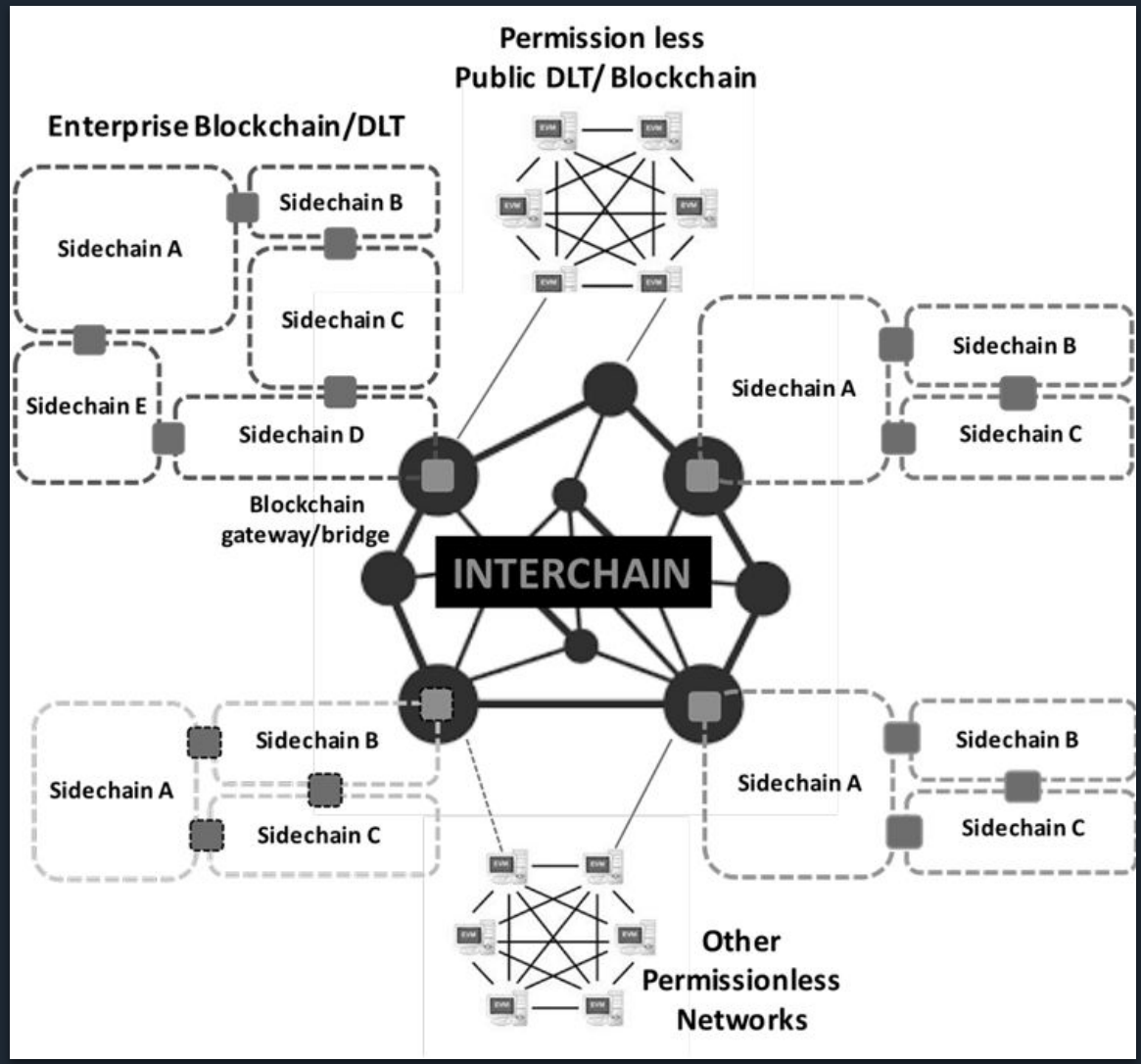
- An ecosystem to work much like the internet where TCP/IP and HTTP helps build several applications

- Smart Contracts and Modules on one Blockchain can talk similar entities on an other Blockchain

- Interoperability platforms

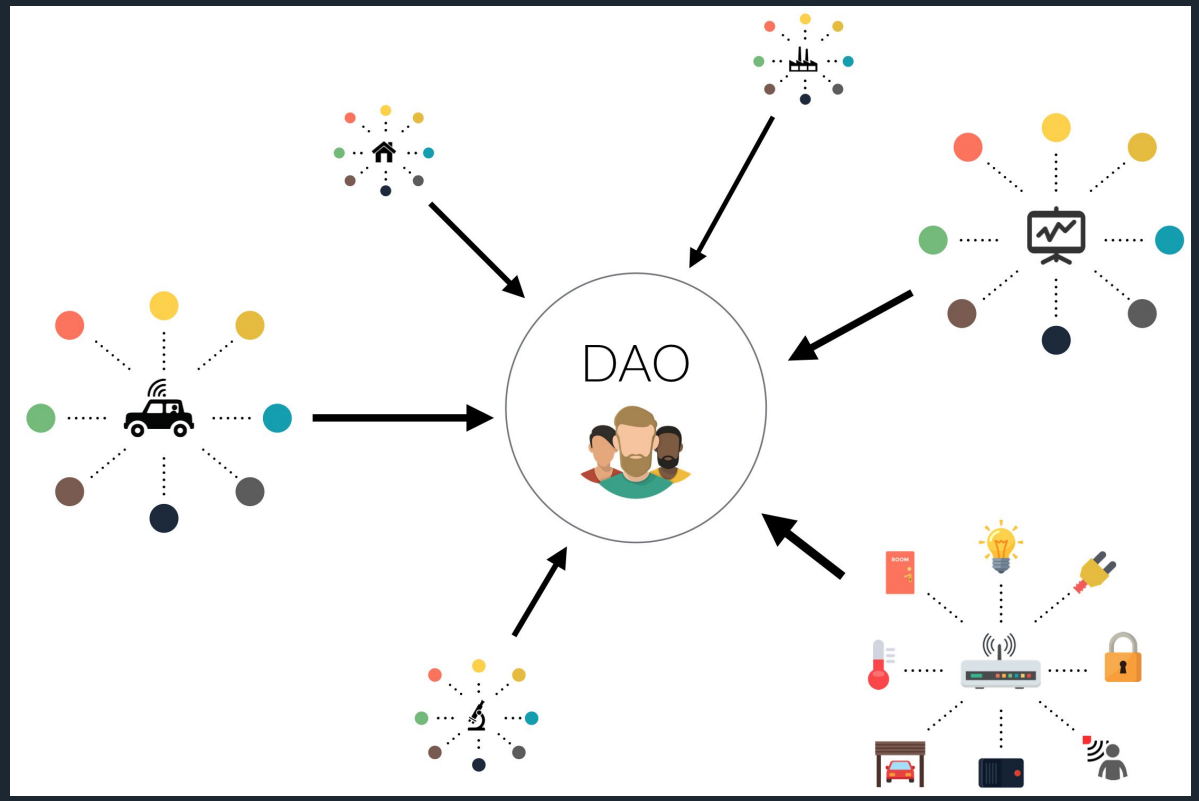
  Polkadot,Cosmos,Chainlink,

  Wanchain,Quant

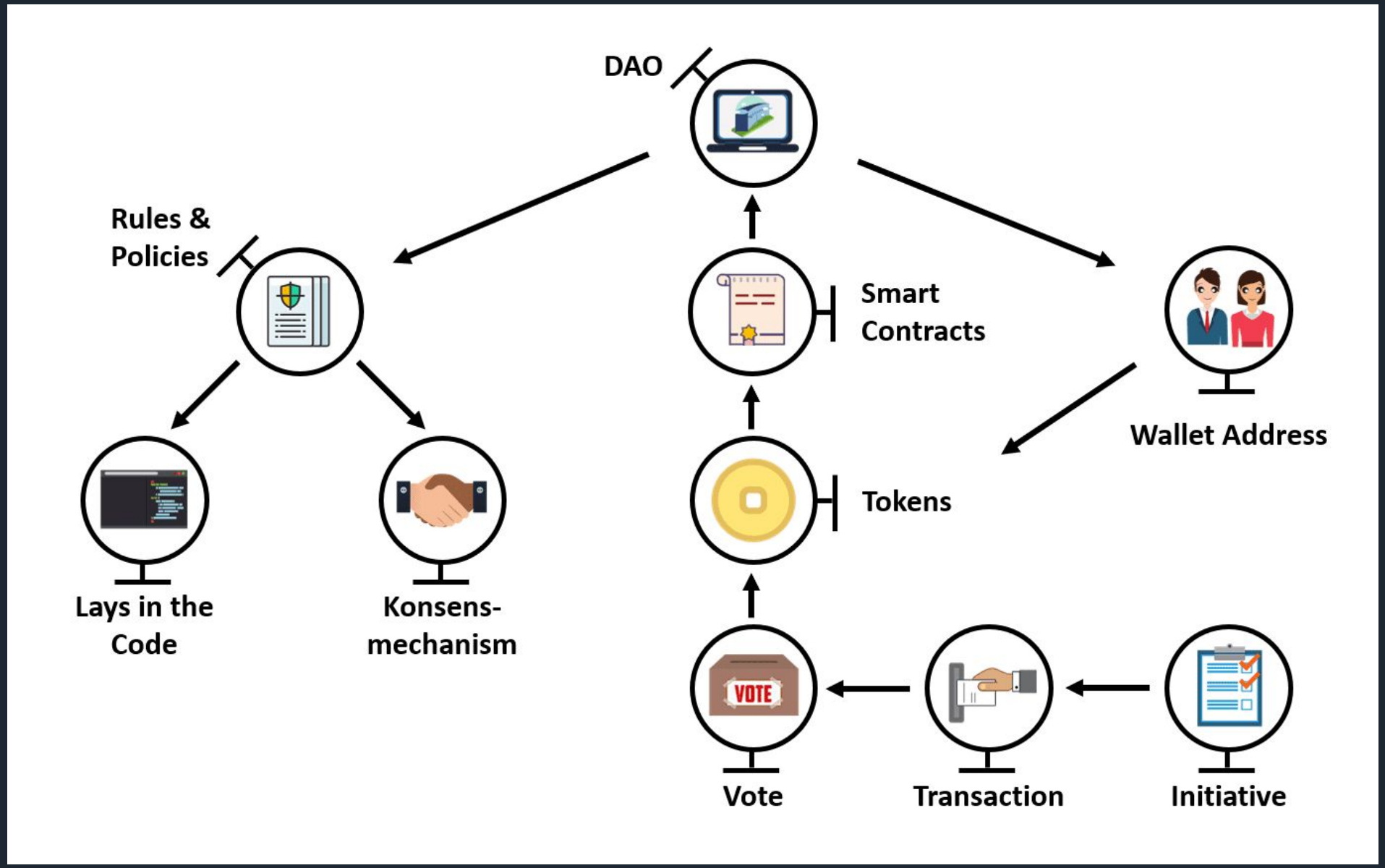


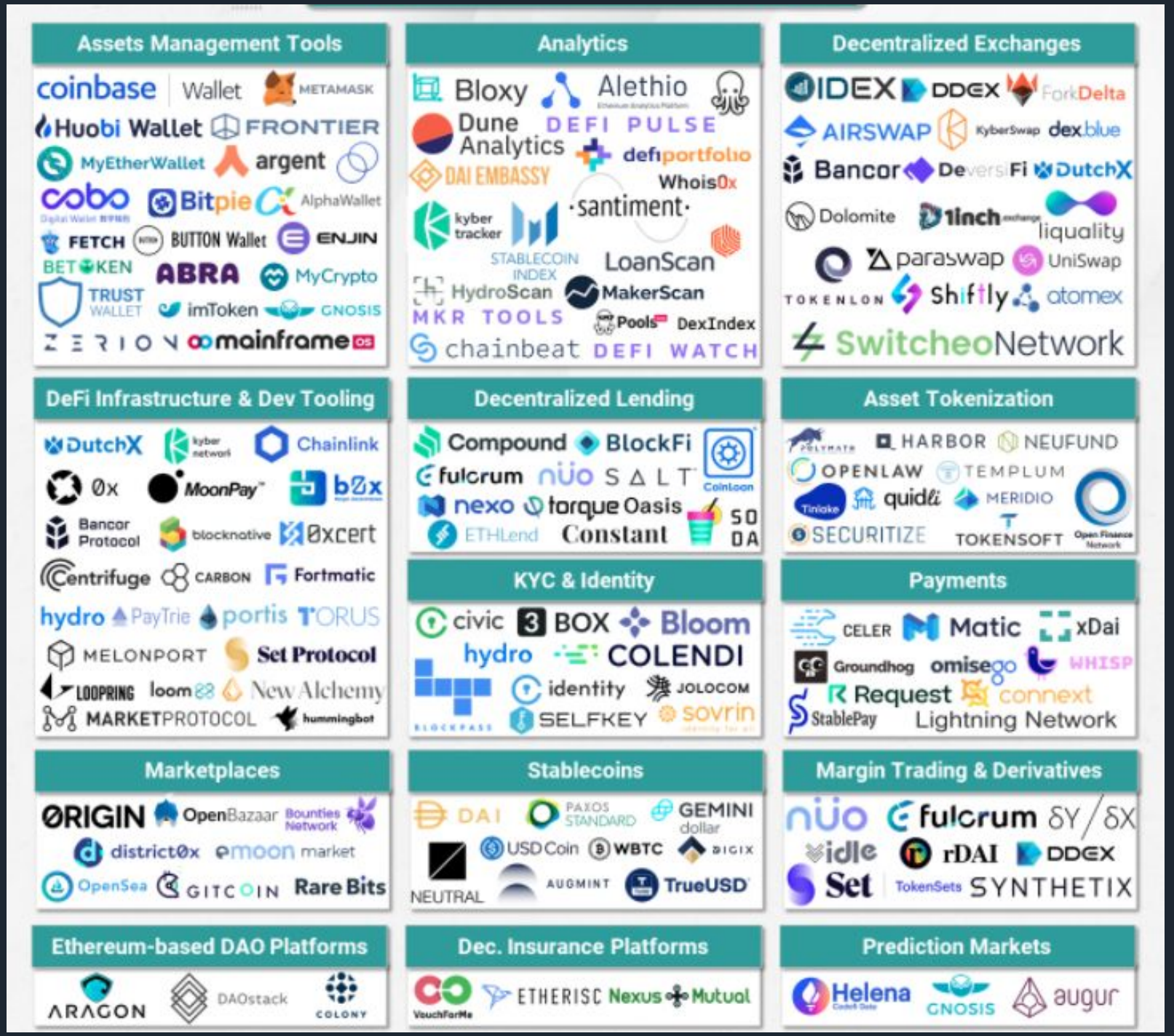
DeFi and Decentralized Autonomous Organizations

- Money without Banks and Bank Managers
- Machines coming to consensus using Smart Contracts
- The highest form of a Smart Contract is a DAO which is collection of Smart Contracts
- DAO ensures governance auto enforcement and compliance
- DAO protects the democracy and uses mechanisms like voting



DeFi and Decentralized Autonomous Organizations

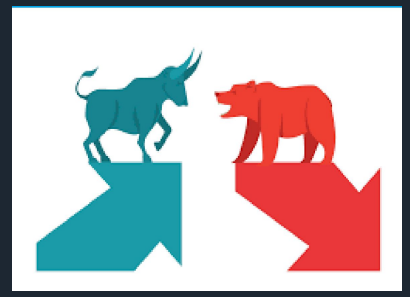



Assets Management Tools
coinbase Wallet
METAMASK
Huobi Wallet
FRONTIER
MyEtherWallet
argent
cobo
Bitpie
AlphaWallet
FETCH
BUTTON Wallet
ENJIN
BETOKEN
ABRA
MyCrypto
TRUST WALLET
imToken
GNOSIS
ZERION
mainframe
Analytics
Bloxy
Alethio
Dune Analytics
DEFI PULSE
defiportfolio
DAI EMBASSY
WhoisOx
kyber tracker
santiment
STABLECOIN INDEX
LoanScan
HydroScan
MakerScan
MKR TOOLS
Pools
DexIndex
chainbeat
DEFI WATCH
Decentralized Exchanges
IDEX
DDEX
ForkDelta
AIRSWAP
KyberSwap
dex.blue
Bancor
DeversiFi
DutchX
Dolomite
1inch
liquality
paraswap
UniSwap
TOKENLON
Shiftly
atomex
SwitcheoNetwork
DeFi Infrastructure & Dev Tooling
DutchX
kyber network
Chainlink
0x
MoonPay
bZx
Bancor Protocol
blocknative
0xcert
Centrifuge
CARBON
Fortmatic
hydro
PayTrie
portis
TORUS
MELONPORT
Set Protocol
LOOPRING
loom
New Alchemy
MARKETPROTOCOL
hummingbot
Decentralized Lending
Compound
BlockFi
fulcrum
nüo
SALT
CoinLoon
nexo
torque
Oasis
ETHLend
Constant
SODA
Asset Tokenization
POLYMATH
HARBOR
NEUFUND
OPENLAW
TEMPLUM
Tinlake
quidli
MERIDIO
SECURITIZE
TOKENSOFT
Open Finance Network
KYC & Identity
civic
3BOX
Bloom
hydro
COLENDI
identity
JOLOCOM
BLOCKPASS
SELFKEY
sovrin
Payments
CELER
Matic
xDai
Groundhog
omisego
WHISP
Request
connext
StablePay
Lightning Network
Marketplaces
ORIGIN
OpenBazaar
Bounties Network
district0x
moon market
OpenSea
GITCOIN
Rare Bits
Stablecoins
DAI
PAXOS STANDARD
GEMINI dollar
USDCoin
WBTC
DIGIX
NEUTRAL
AUGMINT
TrueUSD
Margin Trading & Derivatives
nüo
fulcrum
δY/δX
idle
rDAI
DDEX
Set
TokenSets
SYNTHETIX
Ethereum-based DAO Platforms
ARAGON
DAOstack
COLONY
Dec. Insurance Platforms
VouchForMe
ETHERISC
Nexus Mutual
Prediction Markets
Helena
GNOSIS
augur

DeFi Use cases

Crypto Lending & Borrowing

Decentralized Exchanges



Crypto Derivatives

Crypto Wallets

&

Asset Management

DeFi Insurance

Crypto Wallets and Asset Management Tools

CUSTODIAL WALLET

CUSTODIAL WALLETS ARE THIRD PARTIES SUCH AS EXCHANGES AND BROKERAGE SERVICES. THESE SERVICES HAVE CONTROL OVER YOUR COINS.

NONCUSTODIAL WALLET

NONCUSTODIAL WALLETS GIVE USERS 100% CONTROL BY PROVIDING OWNERS WITH THE PRIVATE KEYS

Bitcoin.com

Crypto Wallets and Asset Management Tools

Custodial Wallets

Custodial wallets are wallets where third-parties keep and maintain control over your cryptocurrencies on your behalf.

Examples: Coinbase, Kraken, Coinex, Bitstamp, Poloniex, Bittrex, Bitfinex, Binance

Non-Custodial Wallets

Non-custodial wallets are wallets where you take full control and ownership of your cryptocurrencies (mnemonics etc)

Examples: Metamask, Argent

Crypto Wallets and Asset Management Tools

Crypto Asset Management apps

Fund management is the process of overseeing your assets and managing its cash flow to generate a return on your investments.
The Dapp will have algorithms to conduct trades for you automatically instead of doing it yourself.

Example: **TokenSets**
Others: CryptoCompare, CoinTracking, BlockFolio, Delta, Crypto Graphite

Crypto Asset dashboards

A dashboard is a simple platform that aggregates all your DeFi activities in one place. It is a useful tool to visualize and track where your assets are across the different DeFi protocols. The dashboard is able to segregate your assets into different categories such as deposit, debt and investments

DeFiSnap, Frontier, InstaDApp, MyDeFi and Zerion

Traditional Lending & Borrowing

Traditional lending and borrowing of funds: credit and collateralization through Banks

Entrepreneurs : borrow the upfront capital for a business by collateralizing Businesses

Common man: Mortgage for a house by using house as collateral

Challenges and shortfalls of the current lending and borrowing system:

- Restrictive funding criteria
- Geographical or legal restriction to access banks
- High barriers to loan acceptance
- Exclusivity of only the wealthy to enjoy the benefits of low-risk high-returns lending

Decentralized Lending & Borrowing

Decentralized Lending and Borrowing:

- With enough collateral, anyone can have access to capital to do whatever they want.
- Capital lending is also something that is no longer enjoyed only by the wealthy, everyone can contribute to a decentralized liquidity pool of which borrowers can take from and pay back at an algorithmically-determined interest rate

Popular Cryptocurrencies Used in Decentralized Lending: Dai, USDC, Ether

Popular Cryptocurrencies to Collateralize Loans: Ether, Bitcoin

Centralized Crypto Lending and Loans

Centralized lending protocols are largely characterized by fixed interest rates in which assets must be transferred and locked for a predefined period of time.

- Bitfinex
- Binance
- BlockFi
- Coinbase
- Poloniex

Decentralized Crypto Lending and Loans

DeFi lending protocols are largely characterized by dynamic, floating interest rates which do not require custody to be transferred.

- Aave
- Compound Finance
- Dharma
- dYdX
- Fulcrum
- Nuo

Crypto Lending & Borrowing

Custodial Type of Lending Platforms:

Dharma, Compound, Maker, Nuo Network, dYdX, Fulcrum, ETHLend, etc

Non Custodial Type of Lending Platforms:

BlockFi and Nexo

Crypto Lending and Borrowing

Advantages of Crypto lending

- Transparency in fund movements and the underlying smart contract
- Price efficiency as prices are subject to market demand
- Much easier access for users
- Greater platform utility, speed, and flexibility in lending/borrowing
- Censorship resistance and immutability

Disadvantages

- Smart contract risk replaces the counterparty risk of traditional lending
- Low liquidity limits to borrowing and lending at current interest rate without materially affecting the equilibrium interest rates

Decentralized Exchanges

Centralized Exchanges (CEXs) allow for large trades to happen with plenty of liquidity, it still carries a lot of risks because users do not have ownership of their assets in exchanges

Examples: Coinbase , Binance

Decentralized Exchanges(DEXs) work by using smart contracts and on-chain transactions to reduce or eliminate the need for an intermediary. Some popular Decentralized Exchanges include projects like Kyber Network, Uniswap, Dex Blue and dYdX
Examples:

Types of DEXs

- Order book-based DEXs : dYdX, dex.blue
- Liquidity pool-based DEXs : Kyber Network, Bancor, and Uniswap

DEX aggregators: take care of liquidity and split the orders across DEXs for best possible prices
Examples: 1inch, Paraswap, DEX.AG

Crypto Derivatives

Derivative is a contract whose value is derived from another underlying asset such as stocks, commodities, currencies, indexes, bonds, or interest rates

Types of Derivatives: Futures, Options, Forwards, Swaps

Examples: Bitcoin Futures, Bitcoin Futures & Options, Bitcoin Forwards, Bitcoin perpetual swaps

Top reasons to trade derivatives:

- To hedge against the volatility of the underlying asset
- Speculate on the directional movement of the underlying asset or leverage their holdings.

Example Crypto Derivative platforms:
Synthetix, bZx, Augur, dYdX, Erasure, Opyn, Swap Rate, Uma

Decentralized Insurance

Decentralized insurance protocols allow its users to take out insurance policies on smart contracts, funds, or any other digital asset through pooling individual funds to cover any claims. Though the crypto-insurance space is small, the market is untapped and as the need grows, more insurance applications would emerge in the future

Popular Platforms:

Nexus Mutual

Etherisc

CDx

Decentralized Lottery

PoolTogether is a decentralized no-loss lottery or decentralized prize savings application where users get to keep their initial deposit amount after the lottery prize is drawn.

Prize money is funded using the interest earned on Compound by the pooled user deposits

For each round of PoolTogether, all the user deposits will be sent to Compound to earn an interest and one lucky winner will be selected at random at the end of each interval to win the entire interest prize money

Decentralized Payments

Sablier is a payment streaming application—meaning that it allows payment and withdrawals to be made in real time and in small increments (by the second!) between different parties.

- Payments for hourly consultation work, daily contract workers
- Monthly rent payment made in real time as work/progress is being made.

Streaming Payment:

Instead of having to wait for a fixed period of time (eg. monthly, biweekly) for pay, payments are sent in real time in periods defined and agreed upon by both parties. Through Sablier, payees can now receive their pay in real time and withdraw it whenever they want to.

Just like you can stream music on Spotify, so you can stream money on Sablier!

DeFi application model of MakerDAO

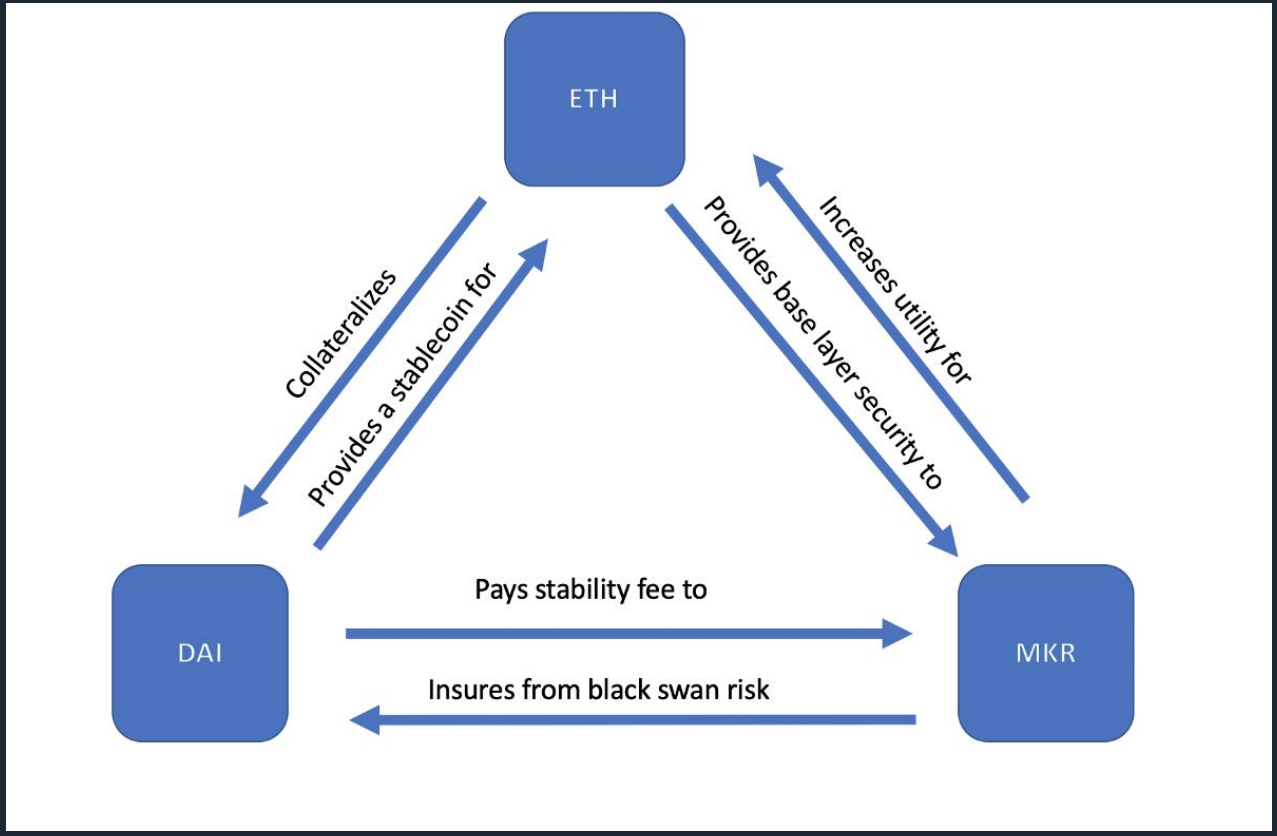
MakerDAO

- MakerDAO (stable coin project) is a decentralized lending facility built on the **ETH** blockchain. This project includes two tokens: **DAI** (stable coin pegged to USD), **MKR** (governance token)

- MakerDAO platforms allows to generate **DAI** against the collateral (**ETH**) by creating a Collateral Debt Position (**CDP**)

- MakerDAO uses the MKR token and **CDP** smart contracts to stabilize the **DAI** token to $1

MakerDAO



- DAI is a stablecoin, that is pegged to the US dollar.

  1DAI ≈ $1

- MKR is the governance token for the DAI credit system
- Offers transparent stablecoin system on ETH
- MKR holders have the responsibility of making decisions around risk that will impact the future of the system

Collateralized Debt Position (CDP) Smart Contracts

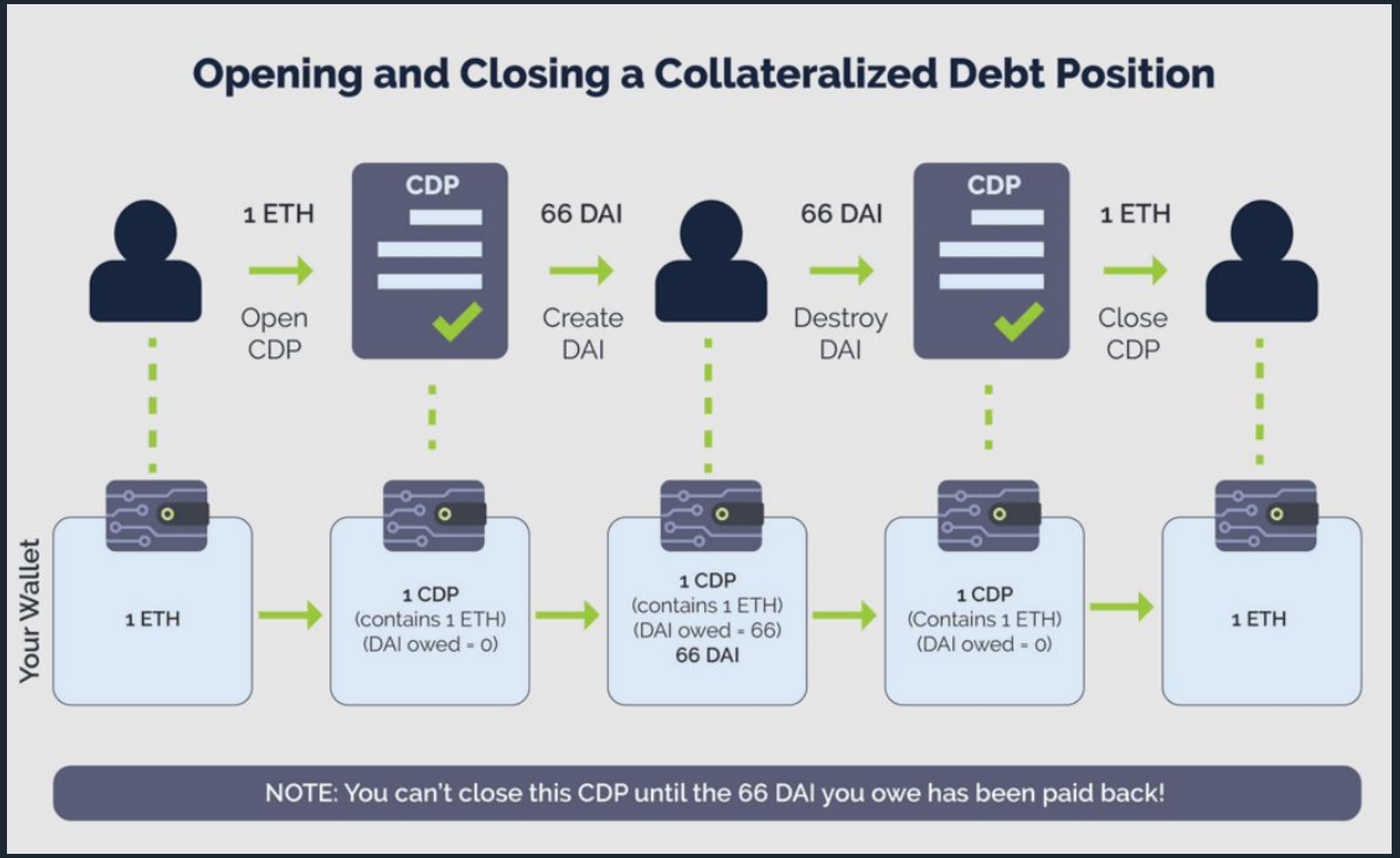
- CDP's are stored in smart contract. CDP is the debt in DAI leveraged by ETH. The smart contract ensures that DAI can only be created when users lock up collateral.

- Collateral must be always more than 150% of the amount of DAI generated

- CDP's remove DAI from the market when users return DAI tokens together with a minor stability fee to free up their collateral

- If the price of collateral drops below a certain position CDP liquidates along with liquidation penalty of 13% and one needs re-collateralize or sellback some DAI and remove from circulation in order to maintains the stability of DAI

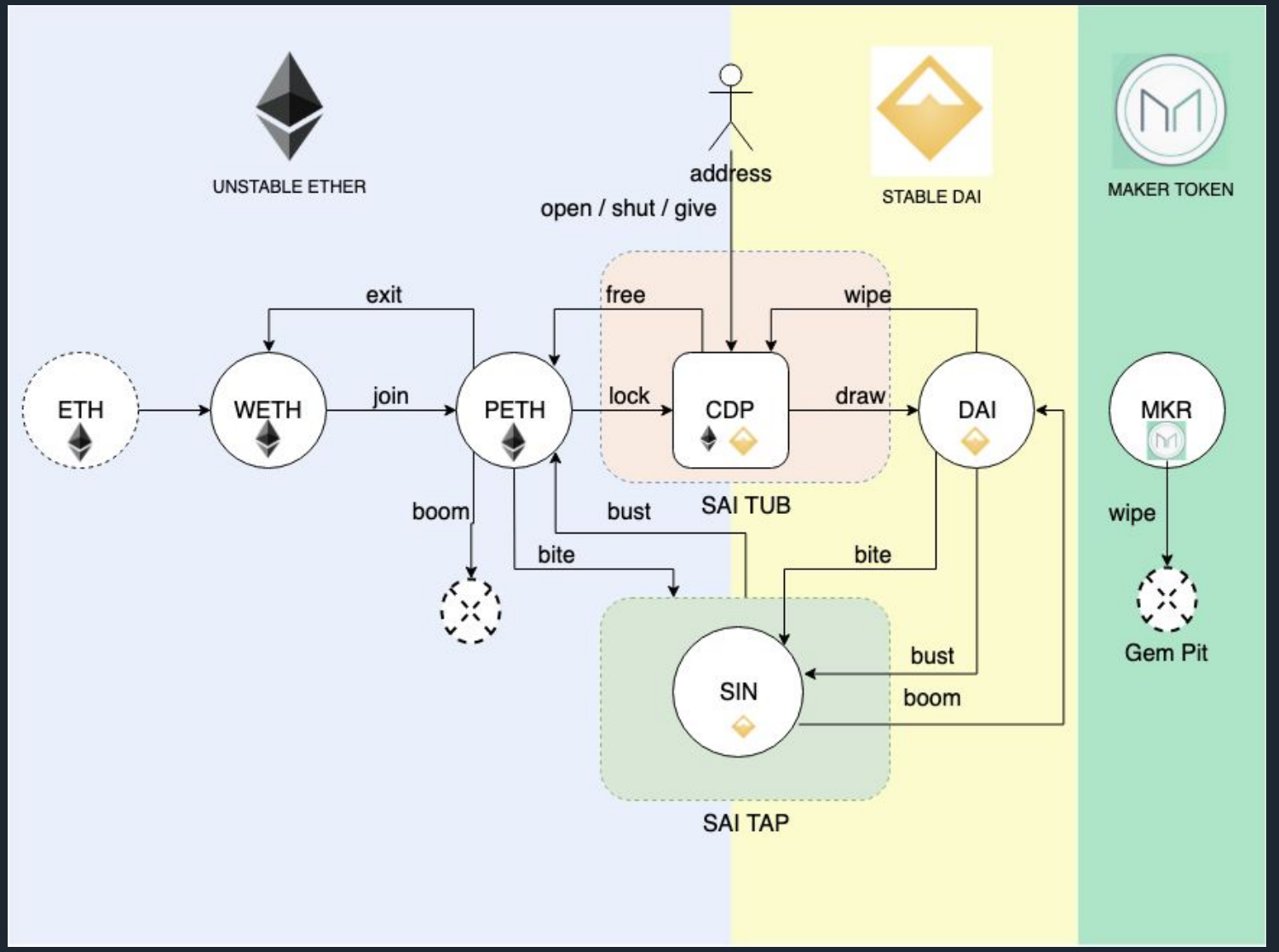
How CDP Works?



Governance through MKR

- Voting rights on the proposals
- Interest rates i.e. stability fee
  - If there is more DAI in the market, the price of the DAI would drop. MKR would increase the interest rate to encourage pay back the loan or close CDP's to reduce the supply of DAI and bring stability
- Goal 1DAI ≈ $1
- Deals with collateral risk and irrational market without sacrificing its decentralization

How MakerDAO works?



https://medium.com/coinmonks/makerdao-tokens-explained-dai-weth-peth-sin-mkr-part-1-a46a0f687d5e

MakerDAO - Use cases

- Complete Financial Independence. ...
- Self-Sovereign Money Generation. ...
- Savings. ...
- Stable Amidst Volatility. ...
- Convenient, Fast, Low-Cost Remittance. ...
- Service Anytime. ...
- Convenient On/Off Ramps.
- Transparency Above and Beyond Traditional Financial System

Possibilities & Risks

DeFi downsides and risks

- Smart contracts hacks
- Data feed centralization
- Capital inefficiency of DeFi loans

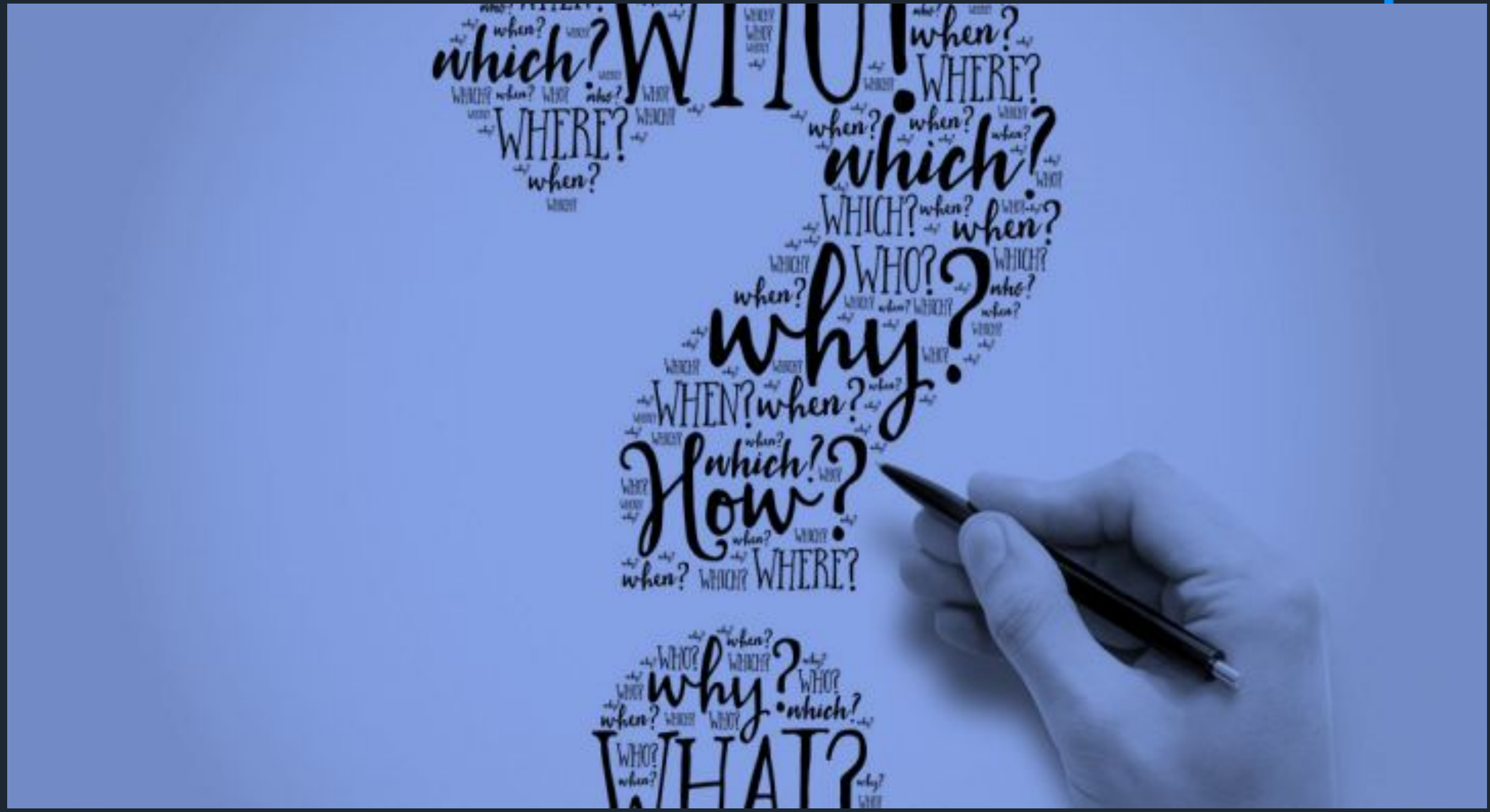
Possibilities with DeFi

- Near instantaneous loans without the need of bank approval / paperwork
- Earn good interest on the assets instead of low or negative interest rates
- Ability to issue stock for a company with no need deal with bankers , lawyers and exorbitant fees
- Financial Inclusion - Small / Micro Loans
- Crowdfunding
- Faster and Cheaper Money Transfers

Next Steps

Next steps

- Fill the Survey Form
- Collate Ideas pertaining to the DeFi Space
- Come together to build the Solution
    - Idea Validation
    - Architecting the Solution
    - Build the PoC
- Ready to take it to the next stage


WHERE?
when?
which?
WHO?
why?
WHEN?
How?
WHERE?
WHAT?

Supported by

nagarro

GOVERNMENT OF TELANGANA

bradsol
SIMPLIFYING BUSINESS

Annexure

Supported by

nagarro

bradsol
SIMPLIFYING BUSINESS

Resources that can help

What is money

5 Key Trends in Decentralized Finance

The Complete Beginner's Guide to Decentralized Finance (DeFi)

DeFi Hackathon — The Top 7 Projects Changing the Game in Finance

DeFi Use cases: The Best Examples of Decentralised Finance

https://github.com/zeriontech/awesome-decentralized-finance

https://blog.zerion.io/what-is-defi-and-why-do-we-need-it-d4dc797d490a