**Defi**

Transferring money

(<https://www.youtube.com/watch?v=btB__oHQ0sU>)

Liquidity pool

<https://www.youtube.com/watch?v=cizLhxSKrAc&t=7s>

# <https://www.youtube.com/watch?v=k9HYC0EJU6E&t=240s> 🡪 What is DEFI? Decentralized Finance Explained

# <https://www.youtube.com/watch?v=8XJ1MSTEuU0> 🡪 Impermanent loss

**The Graph 🡪** <https://www.youtube.com/watch?v=7gC7xJ_98r8&t=581s>

<https://www.youtube.com/watch?v=Cbtvc8Eso_g> 🡪 sushi

<https://www.youtube.com/watch?v=cizLhxSKrAc> 🡪

(fiat currency 🡪 paper currency , gold and silver)

Decentralised financial system

By using Defi we build exchanges, lending services, insurance companies and other organizations that don’t have any owner.

1. In order to create a decentralised financial system, we need infrastructure, for programming and running decentralised services. Which is done by Ethereum
2. Ethereum Provides a platform to write your own decentralised programs or Dapps.
3. Smart contracts helps to create any financial services we’d like to create in decentralised manner.
4. Once the rules are deployed on Ether network say EtherScan we do not have any control over them. They are immutable.
5. Once we have this system we can start building our decentralised financial system.  So the main components for Defi are:
   1. Decentralised infrastructure - Ethereum (we cannot use Ether or bitcoin because - bitcoin it is indeed are destabilized and is not compatible with Ethereum platform Ether - is compatible and programmable but also volatile if we more reliable financial services we want to people to use more stabilise version this is where ***stablecoins*** comes in )
   2. The Stablecoins are cryptocurrency that are pegged to the value of a real world asset, usually some major currency like the US dollars.
   3. Defi purpose is want to use the stable coin that doesn’t use fiat money reserves for maintaining peg. Since this will require some central authority .
   4. This is where DAI stableCoin(algorithmic ) comes into play it is pegged against the USA dollar. 1 DAI = 1 USD
   5. Other stable coins are backed directly by US dollar reserves whereas, The DAI is backed by cryptocurrency collateral. That can be viewed publicly on Ethereum blockchain.
   6. DAI is overcollateralized 1 dollar in ETH collateral = 0.66 in DAI, if you want your ether back need to give the DAI back and the Ether will be released. DAI is over collateral.  (The practice or process of placing an asset as collateral on a loan where the value of the asset exceeds the value of the loan. For example, a person could pledge a farm (worth $10 million) on a loan for $5 million.) even if the ether price becomes extremely volatile, the value of the locked Ether backing the DAI in circulation will most likely still remain at 100% or more.
   7. The DAI stablecoin is actually also a smart contract DAI is built on ETH (ERC-20 token)

**DEX –**

decentralised exchange this operates on set of rules or smart contract. They operate acc

DEFI 🡪

1. Open to everyone
2. Does not require trust
3. DeFi rely heavily on cryptography, blockchain and smart contract.
4. Smart contract is main budling block on defi

Important oarts of Defi

1. Lending and borrowing 🡪 compound, Aave , MakerDAO
2. Stablecoin 🡪 MakerDAO , DAI (algorithmic stable coin) (non-algorithmic stable coin) USDT, USDC or PACs 🡪 these are centralized.
3. DEX decentralized exchange
4. Derivatives
5. Margin trading
6. Insurance
7. Lending and borrowing

Lending and borrowing is very common like borrow money as a student loan, car loan , home loan etc . The people pay interest rates to get the lumpsum amount at once which is available immediately. Which is taken from the banks. In the terms of Ethereum the lendinga and borrowing of money is available by **Defi** companies such as🡪 Compound or AAve or **Cefi** companies such as 🡪 Block5 or Celsius. Centralized finance Cefi operates in very similar way a bank operates. But Cefi are crypto banks. It takes custody over deposited assests and lend them out to either institutional player such as market makers, hedge funds or other user of platform. This does not provides sef custody of your asset.

This is where DeFi comes in it allows user to become borrowers or lender in a very decentralized and permissionless way. Providing full custody of their coins. Defi runs on contracts that run on open blockchain on Ethereum . defi lending is accessible to everyone.

Aave and Defi two main lending protocol.  
Create money market for particular tokens Eth, stable coins like 🡪 Dai , usdc,.  
  
Now users who want to become the lenders supply there tokens to particular money market (The money market is a component of the economy which provides short-term funds.). And then start receiving interest on their tokens according to their supply APY (Annual percentage yield). The supply tokens are sent to the smart contract and become available to other user to borrow.

In exchange to supply tokens the smart contract issues other token that represents other **tokens + interest 🡪 this is called C tokens in compound and A tokens in aave**   
  
   
compound biggest defi project - $630 Million Locked in the protocol (it is an algorithmic autonomous interest rate protocol)

1. Stablecoin: <https://www.youtube.com/watch?v=J9q8hkyy8oM>

This is pegged to various fiat currency and in effort to keep the crypto tokens price stable coins are used.

The benefits to a business that stable token could provide are great,

MakerDao 🡪 The stable coin designed by Ethereum project MakerDao is DAI. It is a decentralized finance application on Ethereum.

MakerDao consists of two tokens –

1. DAI (Stable Coin)
2. MKR (Governance token )

Maker Dao is a lending platform. Both the tokens can be purchased on the exchanges. DAI is created when users of the system locks up Ether. When user locks up Eth they can withdraw DAI which maintains a soft peg to the USD. Users can withdraw upto 2/3rds of the value of Ether that was locked up. There are currently over 400 million dollars in Ether locked up in makerDAO. Someone depositing 300 in ETH at todays prices

Graphical user interface, application

Description automatically generated

The above shoes the ETH to DAI which is 300 ETH 🡪 645, 036 DAI 🡪 645, 036 dollars. As the price of Ether fluctuate so much makers of DAI encourages the user to overcollateralize. Meaning they will have to lock up more ether then that they will get in DAI. The minimum a user must collateralize their DAI alone with ETH is 1.5x . But people usually collateralize much more. Much like a traditional credit card DAI loans accrue interest these interest is called stability fee.

1. DEX 🡪

allows exchanges in completely decentralized and permission less way. There two main types of DEX

1. Liquidity pool DEX 🡪 Uniswap, kyber, Balancer and Bancor
2. Order book DEX 🡪 Loopring and IDEX
3. Derivatives 🡪 are those who derive their value from the performance of an underlying asset. Synthetics
4. Margin trading 🡪 practice of using the borrows funds to increase a position in certain asset.

Ex : when you want to buy certain asset and you do not have that kind of money you can buy partial of it and rest will be paid by margin trading platforms.

Dy/dx and fulcrum

1. Insurance 🡪 It provides guarantees

crop huge return order bicycle slow write elder group kidney erase delay

4411breezy!