

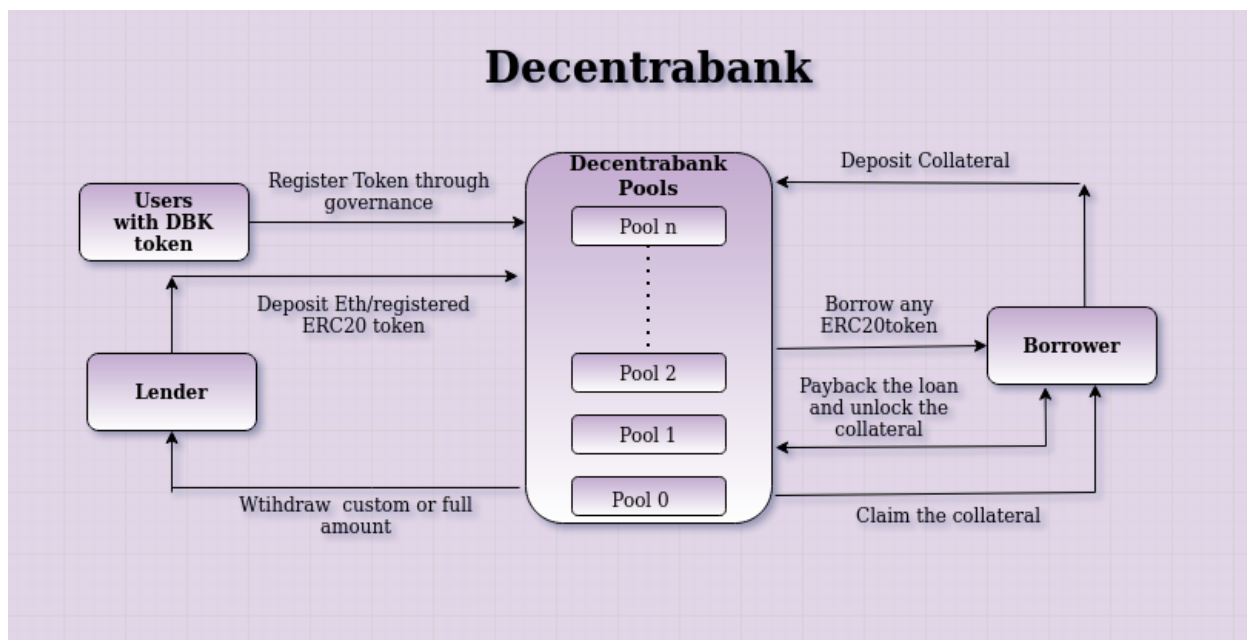
Decentrabank

Overview

Decentrabank focuses on developing a DeFi app which works on Ethereum network and implements the concept of yield farming based Stablecoin. The aim of this platform is to help the users to get loans at dynamic interest rates depending on the demand and supply of the requested token. This platform has 2 roles , the first is lender and the other is borrower.

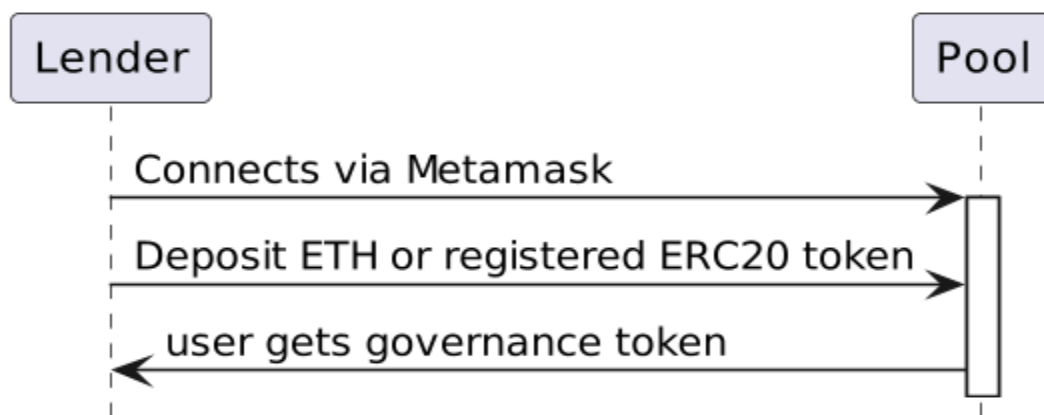
- The Lender can deposit ETH or any other ERC20 token which is registered in the pool and earn interest.
- The other role is, Borrower who can borrow required any registered token from the pool by keeping something of the same or higher value as collateral as crypto and pay back the borrowed amount with interest and gets back his collateral.

Mechanism



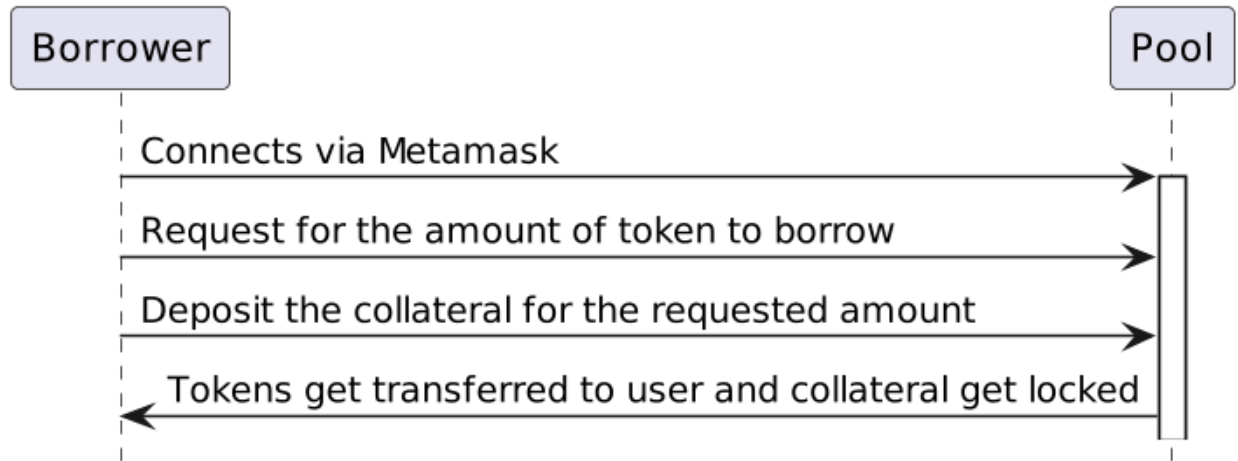
1. **Deposit** : Lender connects using an Ethereum wallet like Metamask, deposit some Ether/ERC20 token , as soon as he deposits he starts earning interest, lender gets the option to deposit more Ether/ERC20 token or withdraw some custom amount of tokens deposited , lender will get rewarded in form of interest for the deposits he made in the pool.

Deposit



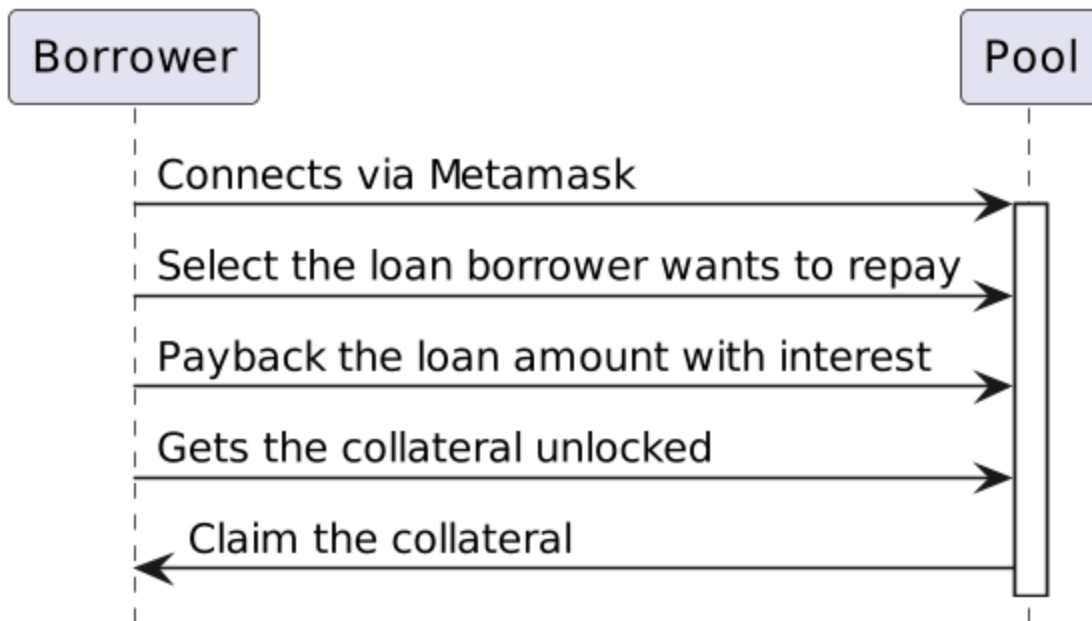
2. **Loan** : Borrower connects using an Ethereum wallet like Metamask and tries to get some token as loan, gets notified to deposit the collateral according to the amount of token he requested, borrower deposits the collateral, deposited collateral gets locked in the pool until the user payback the loan and borrower gets the loan .

Loan



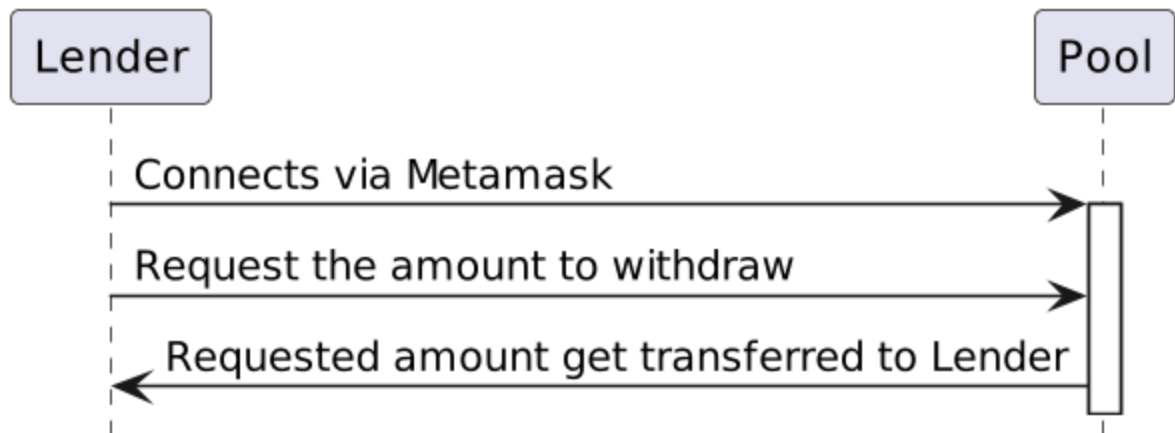
3. **Repay** : Select the loan for which the borrower wants to repay , calculate interest, click on repay to repay the amount with interest as fee ,as soon as repayment gets successful the collateral associated with that loan gets unlocked and borrower can claim the collateral anytime.

Repay



4. **Withdraw** : Check the withdrawable amount i.e the amount you deposited and interest combined, now enter the amount you want to withdraw .

Withdraw



Interest calculation

The interest for fee and reward get calculated based on deposit time & withdrawal time, every time the depositor makes the deposit, the deposit time gets stored and when the depositor withdraws some custom amount or makes a new deposit, the deposit time gets updated, same goes for loan.

$$\text{Utilization ratio} = \frac{\text{Total Borrowed amount}}{\text{Available amount} + \text{Borrowed amount}}$$

$$\text{Borrower interest rate} = 3.5\% + (\text{Utilization ratio} * 20\%)$$

$$\text{Depositor interest rate} = 2.5\% + (\text{Utilization ratio} * 20\%)$$

Price calculation

With the help of **Smartlink price oracle pricefeed** the smart contract is getting the real time price feed from ether to DAI, which helps to calculate the collateral user need to deposit for the requested amount in loan.