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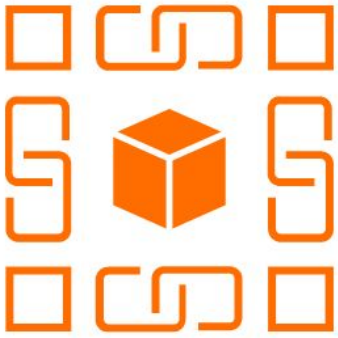

BChain Dynamics

Connect • Learn • Grow

Defipool

Everything is fair in defi and equal share

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1. Abstract

DeFi is one of the fastest-growing sectors in blockchain and cryptocurrency, where the asset holders lend and earn interest on the loan and the borrowers of the pool collateralize their assets above the value of the loan to protect against the price fluctuations.

Defipool aims at using credit delegation by Aave which allows the lenders to add assets to a credit pool to maximize yield. A borrower could borrow funds from the respective pools by participating in a bid, wherein the highest bidder gets the loan amount. Both the lender and the borrower are benefited in this system. Defipool aims at bridging the gap between depositors and investors also to maximize the yield.

2. Introduction

Decentralized Finance is an experimental form of finance that doesn't rely on any centralized financial intermediaries (banks/brokerage/exchanges) instead utilizes smart contracts on Blockchain. DeFi has 3 major functions,

I. Creating monetary banking services such as issuing stablecoins
II. Enabling advanced financial instruments such as DEX, tokenization platforms,prediction markets
III. Providing pooled or P2P lending borrowing Platforms

Defipool aims at creating a platform to incentivise both the lender and the borrower.

The borrower is intended to get some incentive to keep them active on the platform and participate in many more pools. With authentication of both the parties on the platform, legitimacy is upheld.

Also with the introduction of credit scores the lenders are given the flexibility to choose the lending interest. Credit scoring enhances the assurity of a borrower repaying on time.

In case a borrower fails to repay on time, their assets would not only be liquidated but would also have an impact on their credit scores.

3. Problem Statement

A lending pool which aims at providing a fair platform for both the lenders and the borrowers to gain incentives. The borrowers are lended loan via bidding. The credit scores of the borrowers also play a very vital role in this platform. The lender is given the autonomy to fix the interest rates based on the credit score of the participant.

3.1 Existing System

The DeFi lending platforms have promised to bridge the gap in traditional banking. In DeFi lending, investors and lenders issue a loan or deposit fiat for an interest through a distributed system and a decentralized application. While the individual or a business borrows money for interest. The aforementioned transactions make use of some DeFi protocols, dApps and Smart Contracts.
Some of the top DeFi lending platforms include Aave, Maker / Multi-Collateral Dai, Compound, Insta DApp, dYdX etc.

3.2 Limitations of the existing systems.

1. The platform is open to all, meaning the participants are not verified in any sense. The legitimacy becomes a concern.

2. The current platforms are based on the over collateralized model.
3. User experience is very minimal
4. It takes time and experience to understand the nuances

3.3 Proposed System

Both borrowers and lenders get on to the platform, where their identity is verified first. Pools are created by the lender, they can choose between Aave or Compound for creating a pool. The lenders add assets and get tokens in return. A base bid is fixed along with bidding time by the lender. The borrowers pool in collateral. The borrower who bids higher than the stipulated bid gets the loan.The lenders can decide the credibility of the borrower by checking their credit scores. Based on the lenders fix the interest at which they want to lend the loan. The bid amount is distributed among all the borrowers depending upon the collateral that they have pooled in.

What does the lender get to fix an interest mean?

Scenario: Number of people in pool : 3

Base Bid: 10DAI

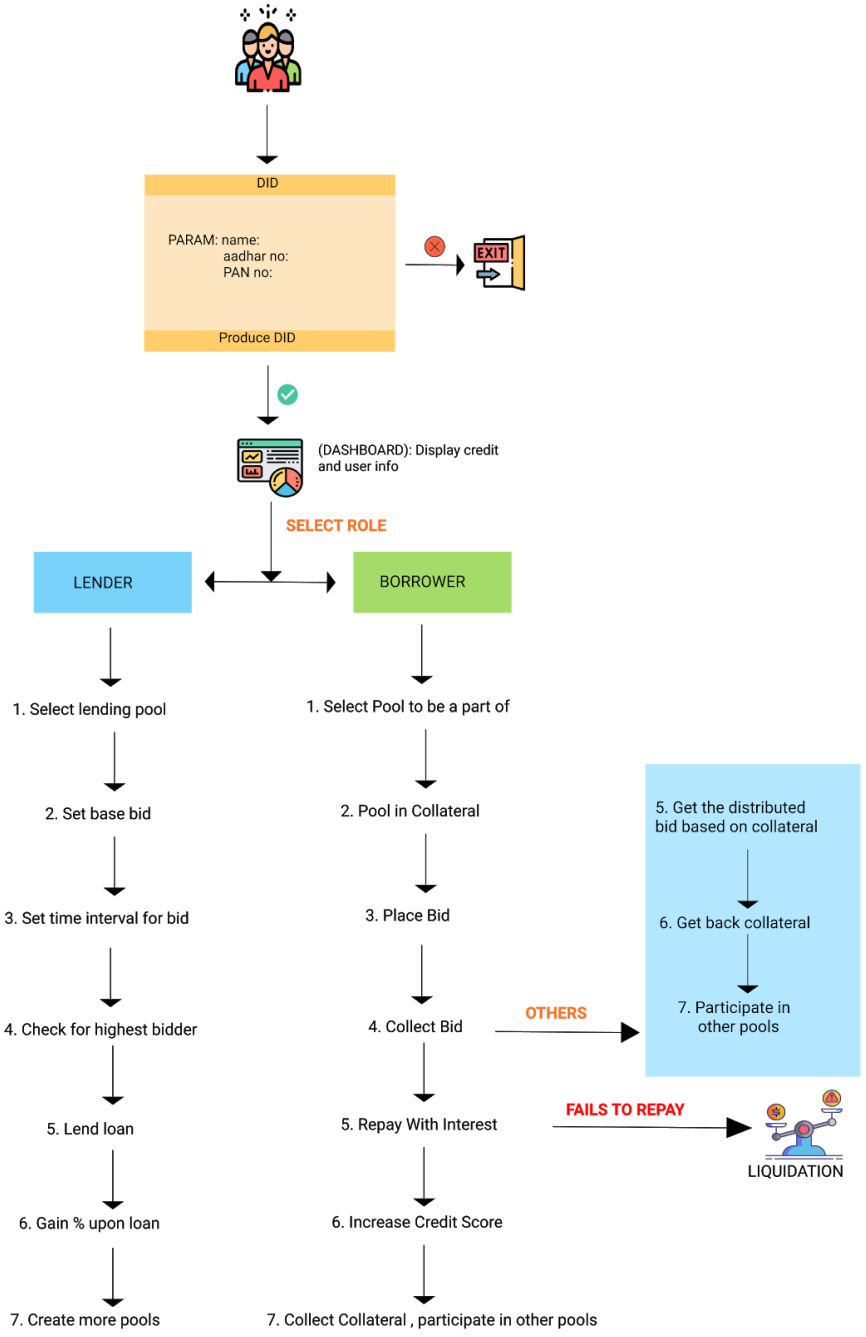
	Credit Score	Bid	Comments
A	860pts	12DAI	High Credit Score
B	610pts	18DAI	Highest Bid
C	700pts	11DAI	

Since, it is a bidding scenario ‘B’ gets the loan but, since the credit score is low, the lender can lend the loan at a higher rate. In case A was the highest bidder, the interest rate would have been lower as the credit score is good.

3.4 Advantages

1. Everyone on the platform is benefitted
2. The lender needn’t wait for an over-collateralized pool to deposit assets
3. Aave has 80% unused assets, this issue is curbed in here as no asset is left unused at any point in time
4. An inexperienced investor could also maximize yields
5. Identity Verification: Ensuring the legitimacy of the users on the platform
6. Easy swapping of tokens

4. System Design



4.1 Software Requirements

1. Aave/Compound : to earn interest
2. Marlin Cache: indexing data from Eth
3. mStable : for swapping
4. Factory Contract: cloning contract for each pool
5. DID: identity management
6. ReactJS: frontend

5. Implementation

MODULE 1 (Deadline: 10th Jan)
Decentralized Identities
To store the - Name, Identification proof (Aadhaar Number / PAN number), Credit Score

MODULE 2 (Deadline: 10th Jan)
Credit Score
- Calculate credit score (dummy scores for now)
- Display the score on the dashboard
- Store in Ceramic

MODULE 3 (Deadline: 27th Dec)
Lender Onboarding
- Identity Verification
- Selecting of platform to form pools
- Selecting base bid and bidding time interval of

MODULE 4 (Deadline: 27th Dec)

Borrower Onboarding

- Identity Verification
- Selecting pools to be a part of
- Pooling in collateral

MODULE 5 (Deadline: 27th Dec)

The Bid

- Borrowers placing bid
- Highest bidder getting selected at the bed of the bidding period
- Remaining participants of the pool getting their share

MODULE 6 (Deadline: 27th Dec)

Loan Lending

- The highest bidder gets the loan on some % fixed by the lender
- Others collateral is freed

MODULE 7 (Deadline: 27th Dec)

The Lender's Pride

- Gets interest on loan
- Creates more pools

MODULE 8 (Deadline: 27th Dec)

Repay Scenario

- The borrower repays with interest
- Increase in credit score

MODULE 9 (Deadline: 4thJan)
What the Liquidity!
- Freezing of assets / assets are locked

MODULE 10 (Deadline: 27th Dec)
Borrower, the free bidder
- Repays the loan, gets back the collateral
- Participates in other pools and the cycle continues...

Testing - from 11th Jan

6. Testing

Mocha - contract testing (truffle allows writing mocha tests)

7. Conclusion

Defipool provides a win-win situation for everyone by incentivizing everyone on the platform. It aims at avoiding the situation of unused assets also. A fair chance is given for the borrowers to bid inorder to emerge as the highest bidders. DIDs along with Credit Scores enhance the whole platform. Also with a fairly simplified UX and an user friendly UI, the platform is extended to people who are fairly new to DeFi to get a hang of the whole system.

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