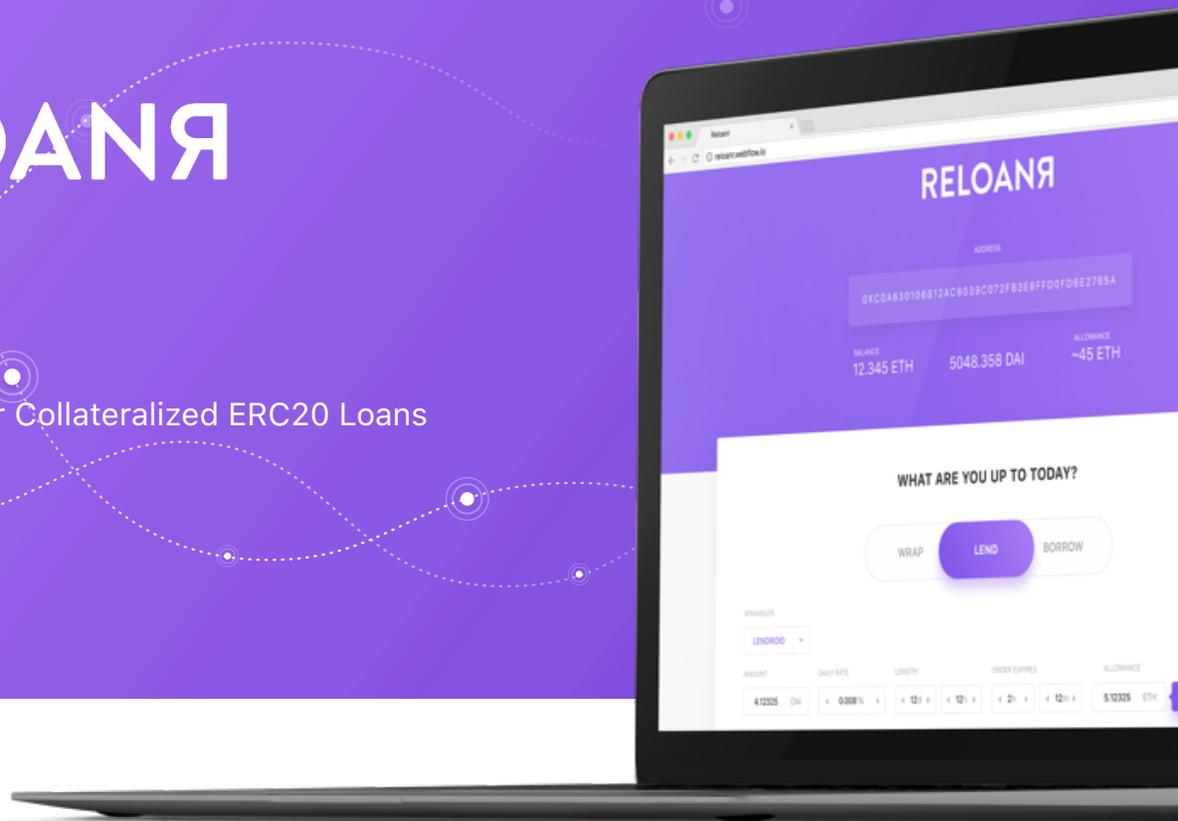


RELOANR

Primer

A New Market for Collateralized ERC20 Loans



RELOANR enables re-lending of the DAI stable-coin. The proposed system adds a utility layer to DAI (you can now lend, not just borrow, this stable currency). This will multiply available liquidity, offset the capital cost of holding DAI, and improve its velocity in the market.

Stable currencies

Stable currencies have begun to be recognized as an essential aspect of the crypto ecosystem. The ETH-collateralized DAI in particular is a frontrunner in creating a viable framework for this concept. However, fully realizing the potential of the stable-coin requires a blend of liquidity, utility and velocity unhindered by unaffordable interest rates. A means to off-set the capital cost of holding an inflationary currency would be an added bonus.

A parenthesis on capital cost.

Currencies like DAI and the USD are inflationary. Which means anyone who holds them incurs a capital cost. One doesn't think about this in the case of conventional currency because it is typically invested, or earns passive interest - like the money in your savings account. On the other hand, you can only hold cryptocurrency, as it gets heavier.

End parenthesis.

Enter RELOANR

RELOANR is a platform to re-lend your DAI for a low-risk interest. It is also a source of DAI that complements the Maker ecosystem. Right now, CDPs are the primary and only source of DAI. This limits available liquidity and, when the demand for DAI is particularly high, the rate of interest for borrowing the currency is likely to spike. RELOANR takes some of the pressure off the primary source. People who already hold DAI can now offer it at a convenient interest; earn a little for themselves, and make DAI available to those that need it.

With RELOANR, you will be able to:

- **Limit Risk**
- **Find Liquidity**
- **Avail Steady Interest Rates**
- **Affect Painless Rollovers**

In a subsequent version, the platform will also serve as another interface for creating DAI CDPs.

Overview

The Key Players

Relayer - A familiar participant in the decentralized trading ecosystem. Provides a smooth, off-chain interface to the instrument of your choice.

Lender - Holder of DAI, source of liquidity. He gets to lend his DAI and earn a low-risk interest on it. The interest is pre-determined and off chain actors are incentivized to monitor loan health and trigger liquidation if it comes to that.

Borrower - Everyone wants DAI. And CDPs were the only way to get it, until now. Borrowers have a secondary source for the stable-coin at a presumably lower interest rate. The mechanics of borrowing are more or less the same - define terms, create loan contract, execute - with added layers of authenticating the loan and monitoring its health.

Wrangler - An entity thus far exclusive to the Lendroid ecosystem. An off-chain actor incentivized to, among other things, authorize orders, monitor active loans, and trigger liquidation or rollovers where warranted.

WETH and The ERC20 Advantage

You'll be using Wrapped ETH for the orders, so that you can make allowances in the collateral, and the lender and borrower don't have to be online at the same time. The WETH contract being used on RELOANR is Canonical. It's what Maker uses, and 0x as well. Canonical WETH, as the reader might know, is a shared implementation to wrap ETH. This goes a long way in standardizing the wrapping process so that the resultant WETH is not exclusive to any single product and can be repurposed anywhere that takes ERC20.

As you will see in subsequent sections, you can wrap and unwrap your ETH on RELOANR.

Time to Use your LST

Fees for all the services on this platform - Relay Fee, Monitoring Fee, Rollover Fee and Closure Fee - are paid in the Lendroid Support Token (LST), the native Lendroid token.

Since a successfully concluded Token Generation Event, there is a large community of LST holders waiting to utilize LST on a Lendroid platform. With RELOANR, the community now has a chance to engage with the concept of utility in a well-defined manner.

The RELOANR Walkthrough

Welcome to RELOANR, your secondary market for DAI loans. RELOANR requires that you have Metamask installed on your browser. The UI will open up only when the user has logged in to his Metamask account.

1. Log in and you see the vital stats of your account - ETH and DAI balance, and the allowance limit. Underneath it, you've got the prevailing median ETH-DAI exchange rate, pulled from coinmarketcap. (this second part hasn't been implemented yet).
2. You can wrap your ETH in the independent tab provided for the purpose. As detailed earlier, the WETH contract is canonical and the resultant wrapped ETH can be used on this platform or any other that supports ERC20 tokens.
3. You can also set your allowance right at the outset, to your preferred levels, for the WETH, DAI, and LST tokens.
4. To create an order - lend or borrow - the required fields are familiar for the most part, consistent with what one would find in contemporary crypto exchanges and trading platforms. The usual loan terms, allowance, right up to the relayer fee. The underlying json form in an order is an elegant piece which can be picked up by any UI provider.

```
{  
  "borrower": "0x597dde0b03039d508fe99a59a31801c25dbe50f2",  
  "collateralAmount": "",  
  "collateralToken": "0xd0a1e359811322d97991e03f863a0c30c2cf029c",  
  "created_at": "Sat, 19 May 2018 07:26:44 GMT",  
  "creatorSalt": "0x061C6ACc2B78A500489C2845D5d7F94847c2F4ba",
```

```

    "ecSignatureCreator": "0x91d43d116801713fa2fbd50370d0528b15834949220bec
        2d1a54d34c9ab3e8b7023047432aa6c138c027775fa4df21cba04917486795ab60
        bf402fcdfbab987e1c",

    "interestRatePerDay": "1",
    "lender": "",
    "loanAmountOffered": "5",
    "loanDuration": "240 hours",
    "loanToken": "0xC4375B7De8af5a38a93548eb8453a498222C4fF2",
    "offerExpiry": "2018-05-19T13:56:40+05:30",
    "rCreator": "0x91d43d116801713fa2fbd50370d0528b15834949220bec2d1a54d34
        c9ab3e8b7",
    "relayer": "",
    "relayerFeeLST": "1",

    "sCreator": "0x023047432aa6c138c027775fa4df21cba04917486795ab60bf402fcd
        fbab987e",
    "vCreator": 28,
    "wrangler": "Lendroid",
    "monitoringFeeLST": "1",
    "rolloverFeeLST": "1",
    "closureFeeLST": "1"
}

```

5. The last three fields are exclusive to RELOANR. The monitoring fee is meant for the Wrangler to, as the name suggests, monitor the loan. The rollover fee too, is meant for the Wrangler to rollover the loan once the loan length is reached.
6. The loan closure fee helps repurpose loan contracts. As you know, creating a contract isn't cheap. To make things economical, when the loan is closed, the contract can be 'orphaned' - wiped clean of details - and reused as a new loan contract with fresh information.
7. Once the order is created, it now sits in the corresponding order book - lend or borrow.
8. Apart from the common order books, your own order books are displayed too.

9. When you fill in an order, it goes to the Wrangler for authentication. This is a swift, light, off-chain process that happens under the hood. It can be initiated multiple times painlessly and without cost to the user.
10. Through a proprietary 'Wrangler Form' designed by Lendroid, enterprising users can register to be Wranglers on the system.
11. The Wrangler first checks if the non-editable elements in the order match the ask. If they do not, an error message pops up. If they do, the user is asked for a final confirmation before the loan is activated. This approval has an expiry period of about two minutes. The loan starts as soon the approval expires.
12. Once confirmed, the approval is sent to the Lendroid smart contract system and the following process takes place:
 - a. The fill() function in the LoanOfferRegistry smart contract is called with both the original order and the approval being sent as input parameters. The purpose of this function is to process the order details and perform sanity checks on the order itself (i.e., if the order can be filled, updates its storage with filled amount accordingly, etc). Furthermore, the relayer is incentivized (in LST) at this stage already for having successfully made it possible to fill the loan.
[View Function](#)
 - b. After processing the order in step a above, the approval is sent to the WranglerLoanRegistry smart contract whose function create() is called with input parameters comprising the loan terms and wrangler signature from the approval. The purpose of this function is to ensure the owner of the Smart contract, i.e the wrangler himself signed the approval, and also update the nonce of the loan (monitored per lender).
[View Function](#)
 - c. After the approval is processed in step b above, an active loan is finally created. Although every loan is a smart contract, it does not mean that a Loan

contract is deployed to the Ethereum network every time a new loan is approved. (Refer to point 6). The loan amount is transferred to the borrower, and the collateral amount is transferred to the Loan smart contract, while the monitoring fee (LST) is sent to the wrangler to ensure the loan does not falter.

- d. Finally, the active loan is displayed under the corresponding 'My Positions' section - lend or borrow.

13. The Wrangler monitors loan health, based on collateral value. And also keeps an eye on the loan term length. As of this writing, the loan health does not update in real time, and the UI needs to be refreshed to view the update loan health.

14. Untouched, one of two things can happen to a loan - it is either liquidated, or rolled over.

15. Liquidation is triggered (by the Wrangler) if the collateral value falls to an untenable level (below the margin level). The collateral is liquidated and the lender is repaid.

16. When the loan term length is reached, it can be rolled over. The Wrangler takes the rollover fee and all the relevant details of the existing contract, including the collateral, are transferred to a new contract, or a repurposed orphan contract.

17. A Borrower may close the loan at any time. The Lender is repaid in DAI, the Relayer and Wrangler have already received their fees, and the Closure Fee is debited from the account.

RELOANR and the Lendroid Ecosystem

Lendroid is building towards a non-custodial protocol for margin trading trading and short selling of ERC20 tokens. Unlike traditional markets, where the trade settlement is typically T+2, Digital asset markets are cash markets and are instantly settled. So a trader who wants to leverage / short should thus source the tokens he wants to sell at the same time of the trade. This is what Lendroid will enable. Even the most basic form of decentralized margin trading - supporting a single collateral and a simple version of Wrangler - requires a complex and comprehensive ecosystem which does not yet exist.

This ecosystem needs to grow on three vital fronts

- User Experience
- Liquidity
- On-Chain Computation

We believe this growth can be achieved only through deploying viable financial instruments with high utility and stickiness. These instruments would stretch the limits of what is currently possible, not just for a protocol, but for the blockchain ecosystem at large.

RELOANR is the first of many elements that will bolster the ecosystem over time and enable a lending engine where everything that can be tokenized, can be collateralized. A global free market for credit providers. The Lendroid team looks forward to your continued support and feedback in this endeavor.