

Cobalt Lend



Titanium Protocol

July 6th, 2021

<https://www.cobaltlend.io/>

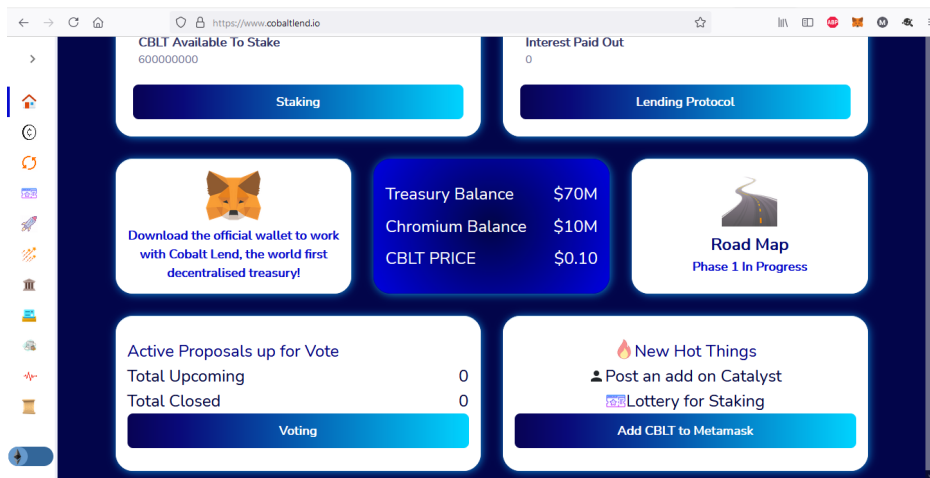
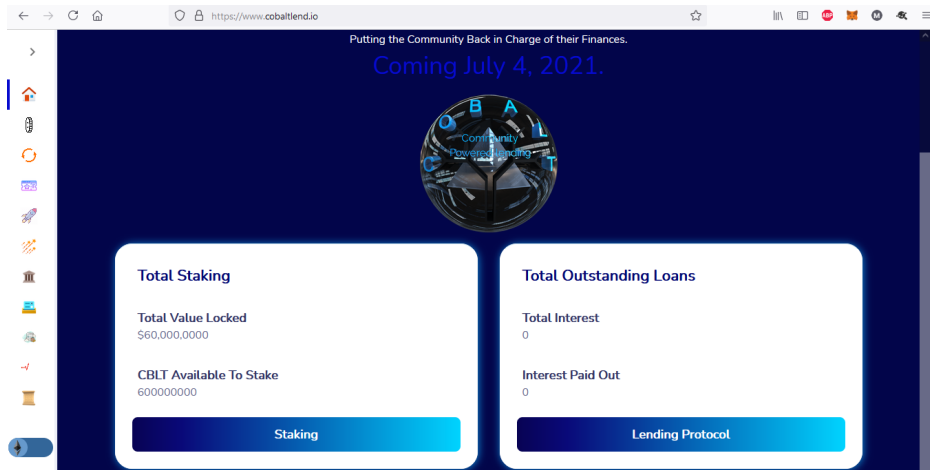
Introduction:

Cobalt Lend has developed a truly decentralized and community governed financial ecosystem called "Titanium". Titanium will facilitate UNDER-collateralized borrowing & Lending on the blockchain, with true Decentralised Identification (DID) based on relevant real-world data and specific blockchain data processed through our sophisticated machine learning AI and ultimately fed to our revolutionary Cobalt Oracle. This protocol will be deployed to the Ethereum Virtual Machine (EVM) and the code will be open source for all the world to use and adapt to their own individual needs. The Titanium ecosystem will consist of a trustless community treasury that contains funds in various types of cryptocurrencies that can only be retrieved through community vote and staking rewards. This trustless and completely decentralized ecosystem will have its own crypto swapping feature called "Chromium" when fulfilling trades. The Titanium ecosystem will completely REMOVE the need for traditional banking, by making everyone who participates in the ecosystem their own fully functional entrepreneur with unlimited shared resources and capital.

Titanium Ecosystem

1. **Break down of the ecosystem:**

Below you will find an example of the landing page that all users will see when entering the Cobalt lending system. This is the first introduction to the user of the Cobalt treasury, showing the running balances of all financial instruments within the ecosystem. The user will also have the opportunity to connect a variety of web3 wallets. For example, the browser extension and mobile app MetaMask will allow the client to connect to the ecosystem, with support for more wallets coming soon! Cobalt will use its own API to constantly call the price of the CBLT from a variety of sources after consulting our own "Oracle" in order to ensure accuracy being displayed on the landing page. Return users will be able to see their "Staking & Loan" status and all other areas of the Cobalt Lend ecosystem they are participating in at a glance.



2. Treasury:

The main Cobalt treasury smart contract is responsible for controlling the Staking protocol that will ultimately contribute funds to the lending protocol. The staking protocol will be the first phase launched in the Titanium ecosystem allowing the community to start earning the Cobalt token that will be used as the collateral mechanism that will be instrumental to the lending protocol itself. Cobalt has allocated a hundred million Cobalt tokens to be sold directly through the Chromium exchange via its own smart contract. The main cobalt treasury smart contract will be responsible for all allocation and distribution of funds moving through the Titanium ecosystem,

including all fees and rewards for both the client and the ecosystem as a whole. The treasury contract itself is scalable and can be updated by a panel of developer votes at any time from within the Cobalt core team. The developers must have a majority vote approved in order to make any changes to any aspect of the Cobalt ecosystem (please reference Github for all Cobalt code made public and open source).

Staking

3. Staking or Lending to treasury: Cobalt has enabled a system where anyone can connect with our decentralized treasury and “Stake” your crypto assets to be lent out to borrowers in the same ecosystem. All staked assets can be retrieved at the end of the “Agreed Contract” and the “Stakers” rewards will be loaded to a virtual wallet account that can be claimed and sent to the stakers wallet once a minimum balance has been reached. A Virtual account will be created for each “Staker” while holding locked funds, the “Staker” may still be able to use these funds as a means of payment in other areas of the Cobalt ecosystem such as Catalyst.

Staking in COBALT is split up into categories, five tiers based on the amount staked and five tiers based on the amount of time staked. Staking costs \$3 at the time of writing which will be subtracted from the amount returned at the end of staking.

Staking amount options range from 0.15 to 0.4 ETH, 0.40001 to 2 ETH, 2.0001 to 5 ETH, 5.0001 to 25 ETH, and 25.0001 ETH and up.

Time to stake options includes 30 days, 60 days, 90 days, 180 days, and 365 days.

All stakes who stake for 180 days get 25% of their CBLT rewards up front and remaining 75% at the end of the contract

All stakes who stake for 365 days get 50% of their CBLT rewards up front and remaining 50% at the end of the contract

All other stakes will receive their interest owed at the end of the agreement.

Interest rates & date ranges are shown in the table below

	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
Staking Period			Amount of ETH		
	.015 to .4	.4xxx1 to 2	2.xxx1 to 5	5.xx1 to 25x	25.xxx1 & UP
30 days	3.00%	4.00%	5.00%	6.00%	6.00%
60 days	3.00%	4.00%	5.00%	6.00%	6.00%
90 days	3.00%	4.00%	5.00%	6.00%	6.00%
180 days	10.00%	11.00%	13.00%	17.00%	19.00%
365 days	12.00%	15.00%	17.00%	21.00%	22.00%

4. Borrowing:

DeFi in the crypto space has gotten a bad name for providing over collateralized loans in order to obtain some newly created token as a reward mechanism for participating in this process. This system is not conducive to any lending protocol to be implemented in blockchain technology. So Cobalt has come up with a new way of translating “Real World Data” to identify an individual and assess their credit to the blockchain. Cobalt has achieved this by instituting new social scoring methods that takes into account the user’s wallet data, along with the data generated from our sophisticated machine learning AI and generates an overall risk factor of default on the loan. Our sophisticated machine learning AI will collect the borrower's financial details through the front-end dashboard client along with verifying the borrower's identity. Once this has been done an overall risk factor of default on the loan will be generated for the borrower. All this information will be fed to the backend to be turned into an NFT for the borrower along with being passed over to the Cobalt credit Oracle. The information translated to the NFT will be the borrower's risk factor and collateral rating, along with his ownership of the loan proposal. Pertinent information from this loan proposal will be sent to the voting platform minus any “Legally Forbidding” identifying data. All information will be encrypted and sent to the Cobalt credit Oracle for analysis and future consideration. Once the loan proposal information has been sent to the voting platform it will be available for voting by the community for 7 days. If it does not meet the necessary votes to be funded it will be automatically renewed for another 7 days to see if this time it can receive the proper amount of votes and extra marketing. In the event that 14 days have

expired and the loan proposal has not received the minimum number of votes, the loan proposal will be terminated and any collateral collected will be returned to the borrower. In order to ensure a higher ratio of successfully funded loans Cobalt will set up strict guidelines for the loan proposal itself along with providing mentorship, before, during, and after the loan proposal. Guidance is the most important aspect of any successful financial relationship. Although Cobalt is creating a decentralized community to borrow and lend within, it will still be pertinent to set up a system of checks and balances or community review for all loan prospects.

5. Voting:

Voting within the Cobalt ecosystem will be much different than voting in any other crypto platform. Cobalt will not take your tokens from you, instead reading the number of tokens you have present in your wallet to determine the types of loans and other things an end-user can vote on. The more cobalt tokens you have the bigger the loans you can apply for or vote on.

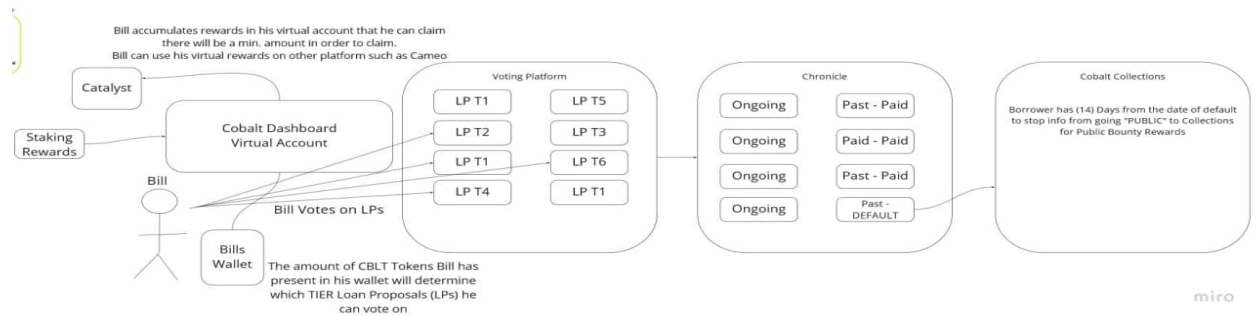
The CBLT tokens act as a tier system that allows voters to participate in different loans. For instance to participate in a tier 1 loan vote. The voter must have at least 100 CBLT in their wallets to participate. Then for a tier 2, the voter must have 10,000 CBLT in their wallets to vote on a tier 2 loan (These amounts will be adjusted as we refine the ecosystem).

Voting will be crucial when it comes to giving loans to our clients. To ensure everything runs smoothly we do a count of the votes. We look for about 75% of voter participation. With voting completed the voters will earn crypto from the loan every time the borrower pays off a loan. The power is to the people when it comes to voting. They will have the ultimate choice when looking at a client's risk score to decide whether or not to give them a loan.

All voters will be incentivized whether they say yes or no on a vote. The reason we are doing this for our ecosystem is to reward participation in the Cobalt ecosystem. With this in mind, it will also help mitigate which borrowers are bad.

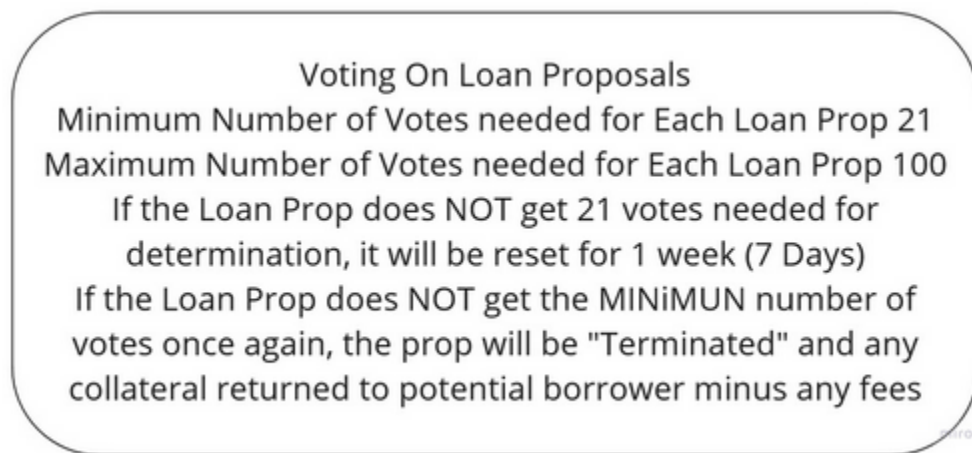
Security in the voting ecosystem is the voting. Votes will ensure which wallet addresses will get funded for borrowers. This is a community effort; the risk score will help voters in their decision. This will help ensure a safe environment in which everyone can enjoy.

Picture shows an example of voting on different loan proposals.



All voters (community members) will see the “potential borrowers” business plan & risk score for a minimum of 7 days and maximum of 14 days to ultimately decide if the loan in question deserves funding.

Picture details the required number of votes and time length for each loan.



6. Breakdown of Cobalt CBLT & nCBLT Tokens

Ethereum

70% of the total CBLT supply will be locked into the treasury at launch.

24% of the total CBLT supply will be reserved for future development.

6% of the total CBLT supply is already in circulation.

NULS Partnership

Cobalt has formed a partnership with NULS in order to provide their customers with the ability to stake within their ecosystem and receive a token (nCBLT) that can be swapped out 1:1 for the native Cobalt token that operates on the Ethereum blockchain. Cobalt has reserved 50 million CBLT tokens for these customers to ultimately swap out their tokens through a mechanism that will be provided at a future date.

7. The Cobalt Lottery

Cobalt has developed a decentralized lottery function with many inclusive games for the registered community member to partake in. The lottery will only be accessible like many other functions in the ecosystem to registered community members who have Cobalt tokens present in their wallets along with the required NFT. The lottery will include a proprietary function that Cobalt has built called “Lottery Multiplier” which will give the winner the right to claim double interest on any tier he/she stake in for their next staking contract. Cobalt has pioneered a series of other prizes and games to go into the lottery function including the winning of other cross-chain assets such as BTC and NULS that will be released in phases as they are thoroughly tested.

8. Utility of the Cobalt token

The Cobalt token will be the main driving force of the entire protocol, in which:

- a) it will be used for the collateral to secure a loan
- b) the ability to vote on loans according to size
- c) the ability to access the ecosystem and its entirety
- d) voting rights on CIPs (Cobalt improvement proposals)
- e) business registration and insurance
- f) rights to access the Cobalt Oracle as an outside entity
- g) the ability to operate within the Catalyst platform (feedback and karma)
- h) insurance for NFT distribution on a business level
- i) Payment mechanism for the Catalyst platform

Cobalt Oracle

The Cobalt Oracle is revolutionary in many aspects, in that it will not only be keeping track of the Cobalt token but also the entire Cobalt ecosystem as a whole. The Cobalt Oracle will act in conjunction with the Artificial Intelligence Protocol to determine and assess client data and ultimately credit scoring. The Oracle will also work in conjunction with the NFT's that are loaded into the end-users wallets for verification and scoring purposes. These NFT's will be pertinent to the Cobalt ecosystem as they will provide identification and credit verification on the blockchain and will need a reliable method of maintaining and updating them. The Cobalt Oracle is essential in our efforts to solve the long-standing DID (decentralized identification) conundrum, which is transferring a client's real-world identity and credit to a decentralized blockchain to be used in their financial endeavors moving forward.

Cobalt API Bridge

Cobalt is developing a very unique way of using APIs in combination with MULTISIG wallets in order to communicate and execute commands amongst various blockchains. Cobalt will concentrate heavily on Ethereum development primarily as we move to integrate connections between the Binance Smart Chain for our NFT's and lottery function to the NULS blockchain for private data storage.

Financial Analysis (Tokenomics)

The total supply of COBALT tokens (Held by Cobalt Lend) amounts to 94% or about 910 million tokens of the 964,584,000 Total Supply

<https://etherscan.io/token/0x29a99c126596c0Dc96b02A88a9EAab44EcCf511e>

The financial breakdown of allocated COBALT tokens shall be as follows:

- 62% Allocated for staking (600M)
- 3% Allocated for the developers
- 5% Allocated for future development of CobaltLend
- 10% Allocated for Chromium (100M)
- 3% Allocated for insurance fund
- 5% Allocated to NULS Staking Platform POCM (~50M)
- 1% Allocated to AirDrop / Social Media Campaigns
- 5% Allocated for marketing & development
- 6% Already in circulation

Staking Breakdown of Interest Owed: A Projection

With staking being capped between 3000 to 4000 available contracts upon launch and assuming each staking contract is filled at launch, we can project how much interest would be owed for all staking contracts. With COBALT token treasury allocating 62% or 600 million CBLT tokens for staking, we can see that if every contract was filled at the earliest possibility and there is no reduction to the staking cap, the staking allocation fund will run out somewhere between the first and second year of having staking live. Again, Cobalt would like to reiterate that this is an extreme scenario where we have 4000 staking contracts filled upon the first day

and every subsequent contract filled at the earliest possible date (e.g. new contracts added or old contracts are fulfilled and are available immediately).

We are able to project this by taking the amount of interest owed per stake measured with the time necessary to fulfill the contract multiplied by varying amounts for each tiered contract. Our projection is measured assuming the highest possible staking amount for each tier and the lowest possible staking amount for each tier, as well as averages in-between these boundaries. Totalling up every possible contract (e.g. 1000 available contracts for tier 5 at 180 days, 1000 available contracts for tier 4 at 365 days, etc.) that we are allowing and multiplying that by the estimates of interest owed shown at the beginning of this paragraph gives us an estimate as to how our treasury will perform with staking interest.

Interest rates at launch given relative tier and staking times

	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
Staking Period			Amount of ETH		
	.015 to .4	.4xxx1 to 2	2.xxx1 to 5	5.xx1 to 25x	25.xxx1 & UP
30 days	3.00%	4.00%	5.00%	5.00%	5.00%
60 days	3.00%	4.00%	5.00%	6.00%	6.00%
90 days	5.00%	4.00%	5.00%	6.00%	6.00%
180 days	10.00%	11.00%	13.00%	17.00%	19.00%
365 days	12.00%	15.00%	17.00%	21.00%	22.00%

Projections are computed under the assumption that there will be a continuous amount of contracts always available; HOWEVER, there will be fluctuations in the amount of staking contracts available based upon treasury funds to ensure the upkeep of CobaltLend.

Example Projection with 3000 Contracts Available at Launch

Totals are shown in the number of Cobalt Tokens needed to pay back interest rates at the end of contracts. Assumes all contracts are filled at the earliest of availability. *Reminder:* CobaltLend has allocated 600,000,000 (600 Mil) Tokens for staking contracts.

	Interest Owed (After Stake)				
	First Day Total	30 Day Total	60 Day Total	90 Day Total	120 Day Total
LOW	140,160,875	140,233,750	140,379,500	140,525,500	140,671,250
AVG(LOW)	208,296,500	208,417,500	208,659,500	208,903,000	209,145,000
AVG(HIGH)	355,151,000	355,297,500	355,590,500	355,887,000	356,180,000
MAX	510,242,500	510,425,000	510,790,000	511,160,000	511,525,000

	150 Day	180 Day	365 Day	2 Year	5 year
LOW	140,744,125	205,093,000	345,837,125	691,674,250	1,729,185,625
AVG(LOW)	209,266,000	305,190,500	514,456,500	1,028,913,000	2,572,282,500
AVG(HIGH)	356,326,500	513,689,500	870,016,000	1,740,032,000	4,350,080,000
MAX	511,707,500	746,410,000	1,258,117,500	2,516,235,000	6,290,587,500

Catalyst A “Fixed Listing Platform”

How does it work

The Catalyst platform allows buyers and sellers to come together and safely exchange goods or services for the cryptocurrency of their choice under the umbrella of Cobalt. Cobalt facilitates these transactions by holding the “payment” in escrow while the transaction is being completed. Once the transaction is complete the “payment” will be released to the appropriate party assuming both individuals involved confirm a positive transaction. In the event of a dispute, Cobalt will step in and arbitrate for a fee (set by the community) and determine who should receive the “payment” in question. There will be a ranking system where buyers or sellers that have too many consecutive disputes will be “warned” and then ultimately expelled from the platform. The seller holds CBLT tokens as collateral with the Cobalt Treasury to ensure they act in a way that protects their feedback rating. An abundance of negative transactions or an action that ultimately has the community remove this individual from the platform will reduce or all together eliminate the amount of collateral the seller will be able to retrieve from the Cobalt Treasury when they close their account or surpass the year point on the platform.

Escrow

1. The buyer and seller confirm and agree on the terms of the trade.
2. The seller places the selected cryptocurrency into the specifically developed Cobalt smart contract (with one click). This provides proof-of-funds and allows for a much safer trade.
3. Next:
 - a. The seller successfully performs services or ships/transfers goods
 - b. The buyer confirms the receipt of goods or services, and the Cobalt Smart Contract releases the escrow. Trade complete!
 - c. In the event a party raises a dispute in which case a third-party arbitrator (Cobalt), already possessing the keys to decrypt the messages and work with both parties to resolve. (See Disputes & Arbitration)

The smart contract allows users to safely exchange cryptocurrencies with one another, and to name a trusted third-party (Cobalt) to mediate a trade if a dispute arises. The

MAIN difference between traditional methods of writing escrow smart contracts and the ones developed here at Cobalt is that the funds are held by Cobalt until the transaction is complete to ensure absolute “Fairness” in transactions amongst the community.

Escrow Contracts Used In Other Parts Of The Ecosystem:

Cobalt will also use an Escrow contract to pay all back-end developers that will continue to work on the Cobalt ecosystem, meaning: their allocated Cobalt tokens will be dispersed slowly over time for the next several months.

Disputes & Arbitration

In the case of a dispute, either party needs to give us their signed dispute token. With a signature of this dispute token, which is simply the output of `sha3(Trade ID, 0x06)`, so the arbitrator (Cobalt) can resolve the dispute in either party's favour.

To do this, we call the external *resolveDispute* function with the trade's static properties, the signed dispute token, and the percentage of the escrow's balance that will be sent to the appropriate party. It is impossible to have the disputed cryptocurrency sent to anybody else, ONLY one of the two original parties involved in the disputed transaction.

We also expect to receive the trade conversation's “shared secret” at the same time, which gives us the ability to decipher and read encrypted message history between the buyer and seller.

Listing Review for Community Standards

The community will have the opportunity to review and “FLAGG” any listing deemed inappropriate for the Catalyst platform. All listing will undergo a review process before going live to ensure that the listing for “Buyer” or “seller” meets community guidelines

Prohibited

Users must comply with all applicable laws, the Cobalt Lend terms of use, and all posted site rules.

Here is a partial list of goods, services, and content prohibited on Catalyst:

- weapons; firearms/guns and components; BB/pellet, stun, and spear guns; etc
- ammunition, clips, cartridges, reloading materials, gunpowder, fireworks, explosives
- offers, solicitation, or facilitation of illegal prostitution and/or sex trafficking
- exploitation or endangerment of minors; child pornography
- recalled items; hazardous materials; body parts/fluids; unsanitized bedding/clothing
- prescription drugs, medical devices; controlled substances, and related items
- alcohol or tobacco; unpackaged or adulterated food or cosmetics
- pet sales animal parts, stud service
- endangered, imperiled, and/or protected species and any parts thereof, e.g. ivory
- false, misleading, deceptive, or fraudulent content; bait and switch; keyword spam
- offensive, obscene, defamatory, threatening, or malicious postings or email
- anyone's personal, identifying, confidential, or proprietary information
- food stamps, WIC vouchers, SNAP or WIC goods, governmental assistance
- stolen property, property with serial number removed/altered, burglary tools, etc
- ID cards, licenses, police insignia, government documents, birth certificates, etc
- US military items not demilitarized in accord with Defense Department policy
- counterfeit, replica, or pirated items; tickets or gift cards that restrict transfer
- lottery or raffle tickets, sweepstakes entries, slot machines, gambling items
- spam; miscategorized, overposted, cross-posted, or nonlocal content
- postings or email the primary purpose of which is to drive traffic to a website
- postings or email offering, promoting, or linking to unsolicited products or services
- affiliate marketing; network, or multi-level marketing; pyramid schemes
- any good, service, or content that violates the law or legal rights of others

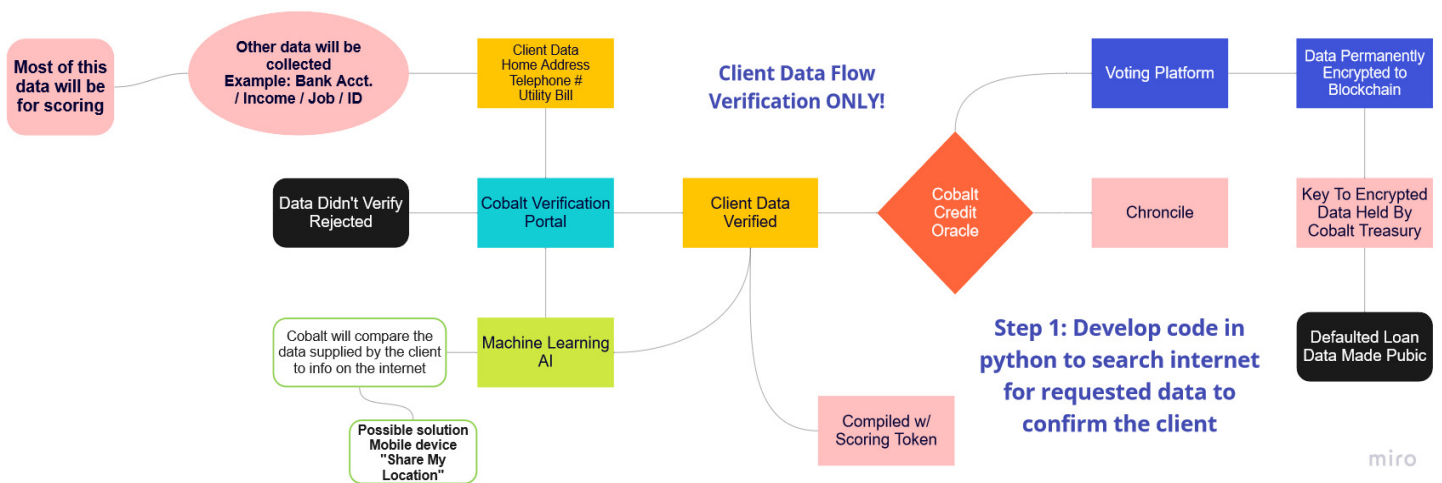
Decentralized Identification (DIDs')

Decentralized identification and verification is achieved by determining two very basic things:

- 1) Who the client (borrower) is?
- 2) What is the statistical probability that the borrower will default on the proposed loan?

Cobalt will use a combination of data supplied by the client (borrower) and data pulled from various online sources to be fed into our unique machine learning AI to verify the accuracy of the data provided by the client along with their overall "Risk Score" or risk of default on a loan. This information will then in turn be translated into an NFT to be placed in the client's wallet showing proof to the ecosystem of their verification and risk score, so that they may participate in the Cobalt Lending ecosystem. A portion of the borrower's data will be sent along with the business plan to the voting platform for the community to approve or deny funding based on the community's vote. Although the client's data is encrypted in the NFT, an "Unlock Key" will be retained by the treasury in the event of default on the loan. At this point, the information will be made public on Chronicle and labeled as a "Defaulted Borrower". A portion of the borrower's data, along with loan progress to date, will be constantly reported to the Cobalt Credit Oracle.

Flow of Client Data



NFTs'

Cobalt has implemented a very simple use for NFT's, it will serve as the scoring token present in a borrower's wallet proving that they have been verified through the Cobalt Verification Portal and have been assigned an overall "Risk Score". The NFT can be read by the Cobalt Treasury and also verifies the amount of collateral the borrower is required to supply the Treasury for the loan in question. This will provide an extra layer of security as the borrower can only participate in the Lending protocol after receiving an NFT generated by Cobalt and they are NOT transferable. NFTs' will be used all throughout the Cobalt Lend ecosystem and will be assigned to voters to "Register" them to vote on loan proposals, this will ensure that potential borrowers can not vote on their own loan and each wallet will only be able to vote on each loan proposal one time.

Generating A "Risk Score"

Risk Factor / Collateral
Collateral is 1.5X Risk Score
Repeat borrowers will have their collateral reduced as follows:
1st Loan 1.5X
2nd Loan 1.4X
3rd Loan 1.3X
4th Loan 1.2X
5th Loan 1.1X
6th Loan 1X (Can Not Go Below)

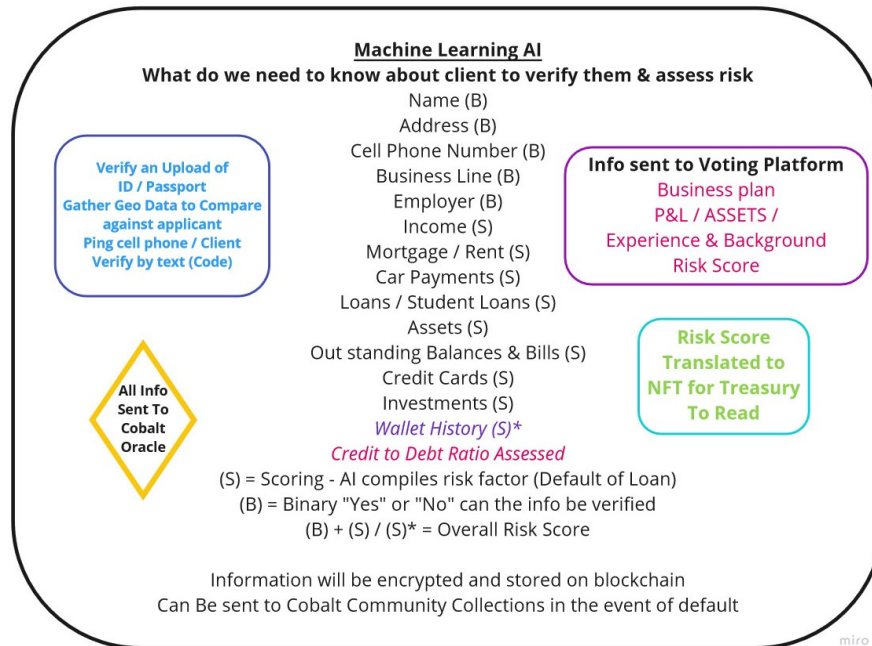
Interest Rate

Min. Interest Rate 2%
 Max Interest Rate 20%
 Min Risk Factor 10
 Max Risk Factor 66

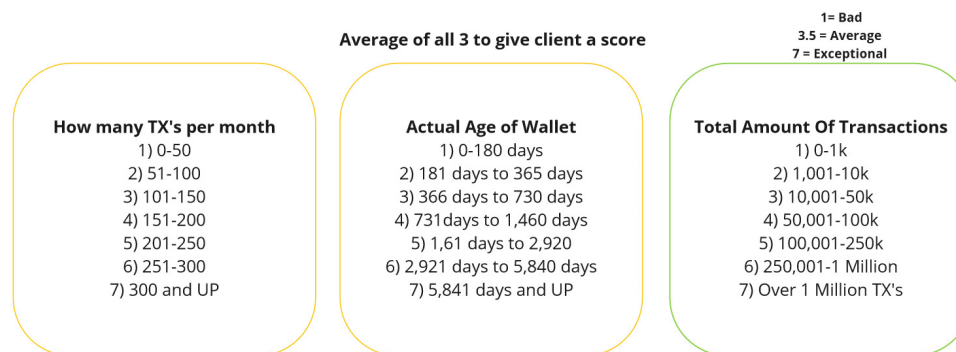
Scale:

61-66= 20% Interest Rate
 56-60= 18% Interest Rate
 51-55= 16% Interest Rate
 46-50= 14% Interest Rate
 41-45= 12% Interest Rate
 36-40= 10% Interest Rate
 31-35= 8% Interest Rate
 26-30 = 6% Interest Rate
 21-25 = 4% Interest Rate
 16-20 = 3% Interest Rate
 10-15 = 2% Interest Rate

Scoring Chart Based On Client Data

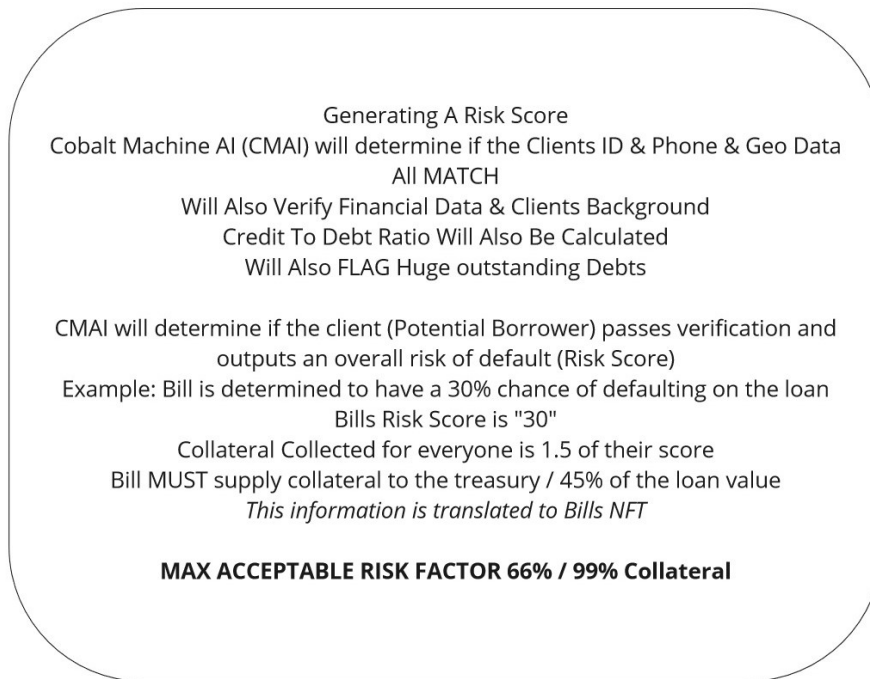


Scoring Chart Based On Client Ethereum Wallet Data



Wallet history will be an important part of the scoring factor as it will display the users complete financial history on the Ethereum blockchain. This information will also be a vital part of the Cobalt Credit Oracle, therefore allowing the Cobalt Community to start making more accurate determinations of potential borrower loans.

Final Product Converted To NFT



Machine Learning / Artificial Intelligence

Purpose

Cobalt has developed a sophisticated Machine Learning AI that uses a combination of factors to determine the validity of a client's identification and statistical probability of repaying a loan. The purpose of the creation and development of the machine learning/AI team is to spearhead the continuous integration of accurate prediction models, and verification checks. Since data is always coming in and being updated, our models should act the same way. With the use of machine learning algorithms, we strive to always have the most up-to-date predictions.

Areas of Interest

Cobalt and the machine learning/AI team rely on a strong emphasis of not collecting and retaining data by any means to protect the integrity, security, and intellectual property of any individual associated with the Cobalt Lend name. Due to this, any software utilized within Cobalt will never store user data. The machine learning/AI team has developed methods and processes to efficiently and effectively verify a client's incoming real-world information without the need or utilization of an internal database. Multi-point verification is implemented throughout the entirety of a new client's onboarding process (see *Verification*).

Verification

To effectively verify a user's data, Cobalt Lend utilizes a wide array of a user's data from a myriad of information sources that can be traced back to the user. As aforementioned, none of the following data is stored in any database to any degree; however, the processes implemented in such verification and flow of information allow for the complete distinction between individual customers while maintaining absolute security throughout its entirety. The customer(s) can rest assured that his/her information will remain confidential and safe, not to be seen by any entity without appropriate access control. The following areas of development and scrupulous deliberation are factored:

- Valid form of ID
- Physical Address
- E-mail Address
- Telephone Number
- Facial Identification

These processes are accomplished through the brief snippets of the following code:

Photo manipulation for cropping and rotation of images

[illegible]

Optical Character Recognition used in identifying key components of identification

```
#DL IMAGE
reader = easyocr.Reader(['en'], gpu=True)

#all of the OCR data
result = reader.readtext(IMAGE_PATH)

result_list = []
#append to results list for each result line in the OCR returned data
for detection in result:
    text = detection[1]
    result_list.append(text)
```

```
#get dates
dates = []
for i in range(len(result_list)):
    if len(result_list[i].split()) == 1:
        if '/' in result_list[i] or '-' in result_list[i]:
            reference = result_list[i].replace('/', '-')
            if reference[-3] != '-' and len(reference) > 9:
                dates.append(reference)
    elif len(result_list[i].split()) > 1:
        reference = result_list[i].split()
        for j in range(len(reference)):
            if '/' in reference[j] or '-' in reference[j]:
                reference[j] = reference[j].replace('/', '-')
                if reference[j].count('-') > 1:
                    if reference[j][-3] != '-' and len(reference[j]) > 9:
                        dates.append(reference[j])
```

Facial comparisons using the users' webcam

```
while True:
    # Grab a single frame of video
    ret, frame = video_capture.read()

    # Resize frame of video to 1/4 size for faster face recognition processing
    small_frame = cv2.resize(frame, (0, 0), fx=0.25, fy=0.25)

    # Convert the image from BGR color (which OpenCV uses) to RGB color (which face_recognition uses)
    rgb_small_frame = small_frame[:, :, ::-1]

    # Only process every other frame of video to save time
    if process_this_frame:
        # Find all the faces and face encodings in the current frame of video
        face_locations = face_recognition.face_locations(rgb_small_frame)
        face_encodings = face_recognition.face_encodings(rgb_small_frame, face_locations)
```

Number verification for the 50 states in the U.S. and District of Columbia

```
#UTAH, TENNESSEE, VERMONT, NEW MEXICO, WASHINGTON, MANITOBA
elif state_abbr in ['UT', 'TN', 'VT', 'NM']:
    #Utah
    if state_abbr == 'UT':
        results = utah_is_valid(dln, DOB, expiration_date, eyes, hair, height, issue_date, sex, weight)
    #Tennessee
    elif state_abbr == 'TN':
        results = tennessee_is_valid(dln, DOB, expiration_date, eyes, hair, height, issue_date, sex, weight)
    #Vermont
    elif state_abbr == 'VT':
        results = vermont_is_valid(dln, DOB, expiration_date, eyes, hair, height, issue_date, sex, weight)
    #New Mexico
    else:
        results = new_mexico_is_valid(dln, DOB, expiration_date, eyes, hair, height, issue_date, sex, weight)
```

Scoring Model

In order to assess a customer's risk factor, we use the borrower's own supplied financial information along with information we accumulate on the borrower and feed it into our custom built artificial intelligence protocol to ascertain the probability of default. Once a score is determined the financial data is destroyed, and only the score is saved.

Chronicle

How does it work

Chronicle is a Snap-Shot of the entire Cobalt Lend ecosystem with a heavy emphasis on the lending platform. The information from the borrower will be split between Chronicle and the Cobalt credit oracle and will continuously feed each other information. The Chronicle platform is meant to be the public viewing area for ongoing consumer data related to the Cobalt ecosystem. The community will be encouraged to check the Chronicle platform on a regular basis to see the social standing of all current and past borrowers within the ecosystem. The data that will be available to the public on this platform will be a "stripped down" version of the actual data provided by the client and accumulated by our AI, as to protect the identity of the borrower. All sensitive personal information about the borrower that is reported to Chronicle and from Chronicle to the Cobalt credit Oracle is encrypted end to end and only viewable by the Cobalt treasury and the borrower.

What is social credit

Cobalt has devised a method of scoring and verifying potential borrowers through their blockchain transactions along with real world verification. Cobalt's sophisticated AI will examine the potential borrower's wallet history and derive a risk factor based on this information along with other criteria collected on the borrower from real world and online sources. All the accumulated information and statistical data on a potential borrower is

reported to the Cobalt credit orical in order to start feeding a self sustaining and aware credit predictability analysis engine that can reliably predict the probability of successful repayment of a loan.

Cobalt Credit oracle

The Cobalt Tungsten team has developed a credit oracle that will be accessible not only to our community but to the rest of the blockchain ecosystem as well. Our oracle will be fed data directly from our highly sophisticated artificial intelligence sourcing engines in order to start keeping track of social credit on the blockchain. Initially Cobalt will rely heavily on it's AI implementation in order to derive risk factors on potential borrowers for the community to vote on, all the while feeding information to the cobalt credit oracle to one day shift reliance to the oracle.

Cobalt Collections

Cobalt will devise a platform for defaulted loans to be collected for the community. These defaulted loans will have a bounty on them for collection just like in the real world, whereas the person collecting the bounty could have access to the borrower's business telephone and personal telephone for collection efforts. Any potential collection efforts will have to be done by trained and screened personnel authorised and contracted by the Cobalt community. The main purpose of this platform besides collecting any unresolved debts would be to serve as a threat mechanism to protect against potential defaulted loans. All potential borrowers will agree upfront in their terms and conditions that their personal information can be handed over to the collections platform in the event of a default.

Cobalt Launch Pad

What is it

Cobalt has built a platform to actually help small businesses get started in the world of crypto and blockchain by providing vital resources and much needed guidance. Small businesses will have access to undercollateralized loans on our lending platform or a mix of “open lines of credit” or direct donations more like a kick starter program directly through CLP. More importantly Cobalt will provide guidance and mentorship in the form of code review, business plan construction and overall mission execution. Cobalt will also collaborate with the company to determine if a token is needed for your business and if one is needed we will help the company construct and build whatever standard “token/coin” is needed. In the event that the new company does need a utility token/coin to be minted we will also provide them with an avenue to sell/trade this token/coin through the Chromium Exchange. Cobalt has developed many partnerships in the crypto world and we will use all of our resources to further any project that is deemed necessary by the community.

How we actually help

First step, we will slow the process down, there are too many company's trying to make a token and getting in a hurry to launch it out to the public and the utility of the token is often never considered. Guidance is the one thing that is heavily missing in the crypto world and the only way to truly have unbiased guidance is to have a community platform that controls and dictates business development.

Access to resources

Resources available to new projects:

- 1) Code review
- 2) Executive Summary of the business plan
- 3) Financial Analysis
- 4) Financial Aid
- 5) Plug and play code for blockchain applications
- 6) Development of token/coin
- 7) Education/training through our University program
- 8) Cross promotion through various partnerships

Mentorship & Code Review

Cobalt has several operating teams with a vast array of industry professionals at our disposal. Our highly qualified staff and team members will assist all onboarding efforts of new projects the community has voted for that needs our assistance. Our full stack developers are some of the most highly qualified blockchain developers in the world and their code in previous work along with current projects can be viewed on the main Cobalt GITHUB profile. Cobalt also employs some of the world's foremost experts in fintech and they will always be at the disposal of the new projects entering the Cobalt atmosphere as well.

Generate ERC20/ 721

Cobalt will assist new projects entering the ecosystem of the development and maintenance of Ethereum and other blockchain protocol tokens, coins, and NFTs'. Cobalt has developed an easy system for deploying a coin/token as well as generating NFTs', if the project needs their own functional NFT generator we can assist with that as well. Cobalt can go as far as to offer consultation when setting up a network node Infrastructure on a variety of blockchains, or even help set up their own blockchain.

Conclusion

So what is Cobalt Lend? Cobalt lend is the next step solution when it comes to providing financial services to the community. Making a difference in bringing a revolutionary change to finance. We are here for the community, to provide a better fintech solution than the common banking institution. We will provide safe, secure, and community-based finance for all. Anyone from the common individual to businesses can participate.

Within our ecosystem not only will individuals be able to participate, they will be able to learn about how cryptocurrencies work. We firmly believe in not only helping others within our ecosystem, but to educate them in any and everything related to cryptocurrencies. We are Cobalt Lend: won't you come join us in making a change in finance?

Github

<https://github.com/cobaltlend>

<https://github.com/CobaltTeamN/TungstenGroupProject>

<https://github.com/CobaltTeamN>

<https://github.com/CobaltAI> (Private / Proprietary)

Smart Contract in Phase 1

<https://etherscan.io/address/0xc4f3d91afd93293a4ee854bfe1df5240cecf698e>

<https://etherscan.io/tx/0x06c881019495e164e82ff4a3e658a02ae8becc75f8bc96f23d89ce147cd99321>

<https://etherscan.io/tx/0x266dc18a035847998ec05e8c3be922f74f1d49ab8a49f19214270c21d1c90147>

Cobaltlend.com Cobaltstudent.com Cobaltlend.io