

MacroBlock:

A global, decentralized open, and fair Market-leading cross-chain platform.

Convergence - Serum & Wormhole Hackathon

Abstract

MacroBlockchain is a decentralized platform that provides open access to marketplace and lending services, in which institutional and individuals investors can fund lending pools according to their risk/reward incentive, additionally, borrowers can apply and receive loans based on the goods they produce evaluating quality, and demand on the marketplace platform. This process aims to create a dynamic and alternative credit score.

This platform promotes great financial practices, the use of standard metrics that combines with other off-chain and on-chain data. It contains verified credentials from different sources. Our team is addressing a grand global challenge related to access to financial services at fair conditions, inequality, and bad financial practices that destroy the entrepreneur and business ecosystems.

Problem Statement

We had identified several issues related to financial inclusion and how merchants get access to bank accounts to have the possibility to ask for loans and make savings. Based on this we have a proposal using the Solana blockchain to build a website and a phone application giving the possibility to all micro and small companies to get the financing they need to start the production of goods/services at a cheaper interest rate at the same time that they can advertise all their products and services on the platform where every user using the Phantom Wallet can purchase any type of product.

The Salvadorean Mype that integrate the small business, micro business, and entrepreneur that represent overall the 96% of the core macro business environment, but 97% of those merchant does not have access to online platforms to commercialize, in addition, 67.3% of the Mypes have an active credit with one or more institutions of the financial sector.

Business Tissue: 96% are microenterprise.

Annual GDP: 35% contribution to the Salvadorean economy.

Credit Service: 67.3% have an active credit service.

Technology gap: 97% does not have an online marketplace platform to commercialize their products.

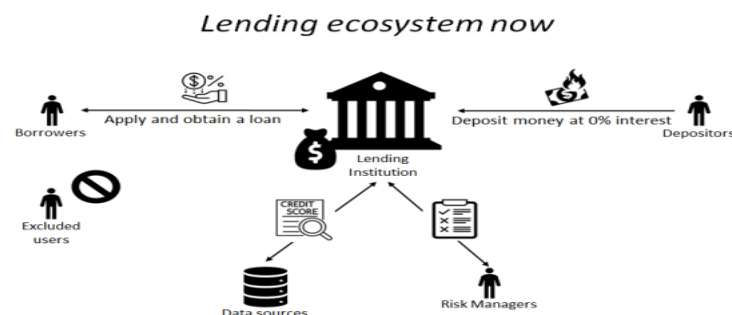
Job Creation: 700,000 annual job



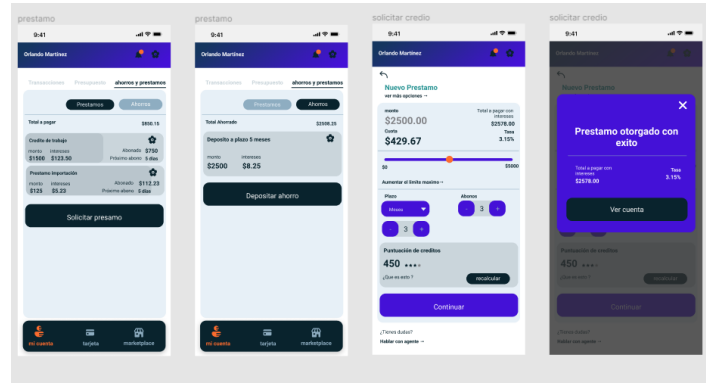
Current lending ecosystem.

A bridge to a new global environment where people around the world are empowered to improve their lifestyles and benefit from the latest financial technologies. During the Converge-Serum Hackathon, we are particularly focused on the empowerment of small and medium merchants. We care especially for vulnerable populations such as micro-merchants from poor communities, to whom we aim to provide support using digital tools and mentor networks.

Generally, there is a lending institution, bank, or other commercial finance institutions where individuals with an existing credit score can apply to get loans at a particular interest rate that varies depending on the type of institution, current job, previous payment history, location, grade of studies, etc. So, the bank search for existing data using data analytics, and based on the result the risk managers will take the decision of the approval or denial of the credit loan request. This time can take up to 30 business days to take effect + additional paperwork, manual signature. The person receives the credit via check and can be deposited on his own bank account number or use it somewhere else with other purposes that were not the initial reason for the request of the loan. On the other side, there are people that do not receive the approval to get the loan, there is a high risk of non-return, even though they have the need to get the money to start new production of goods and services.



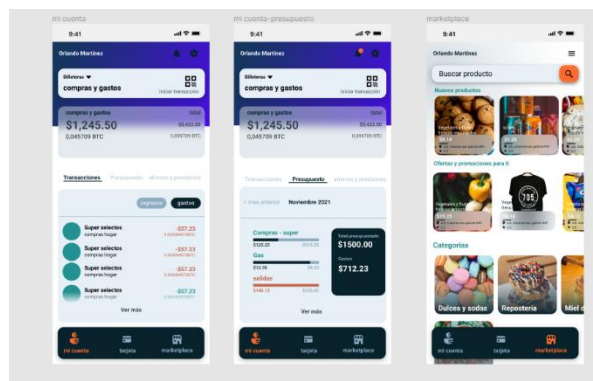
Solution.



Initially, the person requesting a credit with sign-in on the dApp to request a credit to start new production of service or goods. Requesting the specific number of tokens that will be stored on the platform with the own phantom wallet.

He will be requested to input personal data to execute the validation of the transaction that will provide the correct result since there is a must to secure the loan amount provided from the borrower. There should be a consensus that ensures the transaction is valid and the person qualifies to get the loan. Since all the data is on the blockchain everybody can verify the transaction and nobody will ever be available to rewrite their credit score or ask for multiple loans, or even worse, not pay the loan. The program will prevent bad practices and will encourage the community to verify the transaction request.

When money is deposited on the wallet, they can start the production and upload their products on the marketplace, those products will have a business dashboard where the merchant can see all the metrics, they need to improve their sales and have deep control over the inventory and automatic alerts. Also, will include feedback, rating, and special offers. When a transaction on the marketplace performs, and a sale is complete after a specific time frame the program will send funds to the loan that was approved at the beginning so the loan pays automatically every month.



How it works.

For Merchant: The entrepreneur who is willing to sell their product or service.

- Open account: Merchant registers on the platform as a producer of goods or services, can be a supplier to other merchants.
- Merchant details
- Link account: The option to link the personal wallets to the platform.
- Manage your loans: a dashboard that shows all the active, cancel, suspended or in-progress loans.
- SmartContract: When a loan is approved, a smart contract will be generated.
- Pay loan: To pay the current loan.
- Querys: Get information data back.
- View Sales Dashboard: have a deep sales metric view in real-time.

For buyers: The buyer who is willing to purchase the product or service.

- Open account: buyer registers on the platform as a consumer of goods and services.
- Buyer details.
- Link account: The option to link the personal wallets to the platform.
- Apply for loans: The option to request a loan. Need to fill out a form that includes: Amount requested business usage, type of product, etc.
- Manage your loans: a dashboard that shows all the active, cancel, suspended or in-progress loans.
- Querys: Get information data back.
- Recommend, like, share, dislike, comment on products or services.
- Upload product: Description, picture, price, guarantee, transportation option, production time.
- View buy dashboard: have a deep purchase metric view on real-time

For moneylender: The institution or person who is willing to provide liquidity to the platform without the need to purchase a product or service.

- Open account: the person who registers on the platform as a moneylender with Solana coins has proof of available liquidity.
- MoneyLender details.
- Link account: The option to link the personal wallets to the platform.
- Manage your loans: a dashboard that shows all the active, cancel, suspended, or in-progress loans.
- SmartContract: When a loan is approved, a smart contract will be generated.
- Querys: Get information data back.
- View loans Dashboard: have a deeply approved loan view on real-time.

Program Script:

Function "limitparticipation": "return the percentage limit of participation when a lender deposits.

Function "CurrentLoan": "returns the number of active loans a user has.

Function "Deposit": Function to deposit loans.

Function "approve": approves the transfer.

Function "withdraw": Function to take off money if the user has funds on wallet.

Function "Setlimitdeposit": Set the limit of participation of the lender. Just the proprietary of the contract can call this function.

Function "createloan": creates a new loan with specific parameters.

Function "getloan": Return N loans of an user.

Function "Payloan": User pays the loan. The amount can be lower or greater than an Installment amount.

Function Time: Time of latency and response.

Function waiting time: waiting time to produce an output.

Function Stop: Stop or interrupt the function

ContractID: Contract internal controller identification number.

Function "expectedinteres": Return the expected interest rate projected if all the loans are fully paid

RegionID: Region Identity

CompanyID: Organization or Company identification number.

Execution ID: Identifier of execution by user or external entity.

genre Smart contract description

FuncionInicialization: user/API Input+execute+Inicia function cronometer/start variable--access function of control+call to logic function + termination.

Function Disable: Disable

Function reutilization: Reutilisation

Function update: Updates

Function Delete: Delete

Function Block: Block activity

What we learn:

Getting started with Solana.

COsmWasm SmartContracts.

Create a Solana dApp from scratch by Loris Leiva.

Installing localTerra.

Intro to Rust.

Wormhole Bridge Tutorial - How to manually add tokens to your Terra Station wallet

Learn to build on Solana with Figment Learn

Technology.

CosmWasm: CosmWasm adds WASM Smart Contract support to a CosmoSDK chain. Also provides API and library functions to smart contract

Rust design principles minimize some kinds of smart contract vulnerabilities.

CosmWasmLibraries.

The Solana Program Library (SPL)

Gitpod

Solana App Scaffold

Business plan.

