Keel

Borrow against your Bitcoin. Spend it in Telegram.

A BTC-backed dollar account on Mezo: MUSD loans, automatic liquidation protection and payments anyone can receive.

Mezo Buildathon · Wave 2 · keel-miniapp.vercel.app · t.me/KeelMezoBot/app

PROBLEM

Bitcoin holders want dollars without selling, and without babysitting a loan.

01
Selling hurts

Selling BTC to pay for life gives up the upside and can trigger tax. Borrowing is better, but on-chain loans live in dashboards most people never open.

02
Loans need watching

A price drop at 3 a.m. can liquidate a loan below 110%. On MUSD, low-ratio loans are also redeemed first. Most borrowers find out too late.

03
Dollars are hard to use

Paying a friend, splitting dinner or paying someone without a wallet is still clumsy on-chain, so borrowed dollars sit idle.

SOLUTION

One account, four pillars.

01
Borrow, with guardrails

“borrow 1800 at 160%” in chat or the web app. Fee, fixed interest, ratio and liquidation price before you sign; loans Mezo would reject are blocked.

02
Guardian protection

Each loan lives in the owner's guardian contract. Below the trigger, a permissionless keeper tops it up from the owner's reserve. Nothing else.

03
Risk alerts

Liquidation distance, redemption-queue rank and Recovery Mode, each with a one-tap fix ready to sign.

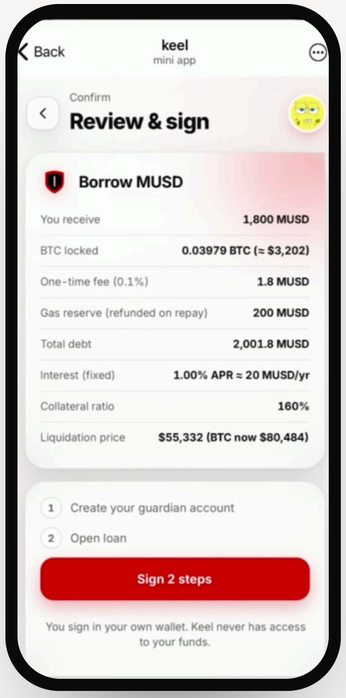
04
Payments

Send to any @username, split bills, and send escrowed claim links to people with no wallet. Keel pays their gas.

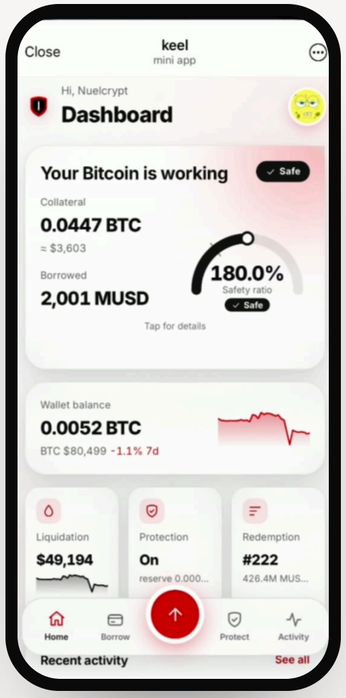
Non-custodial: the server only creates intents; the user signs everything in their own wallet.
In Telegram as a Mini App, or in any browser with wallet sign-in.

LIVE ON MEZO TESTNET

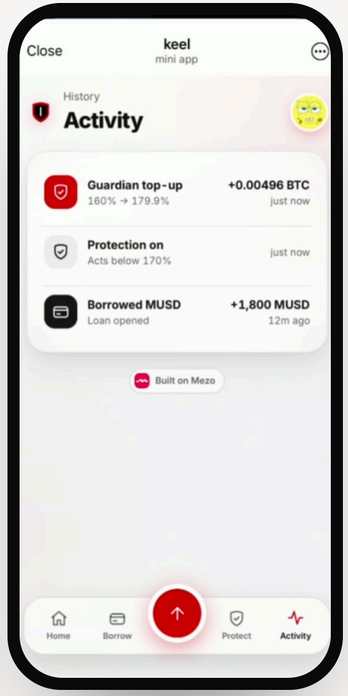
The real app, real transactions.



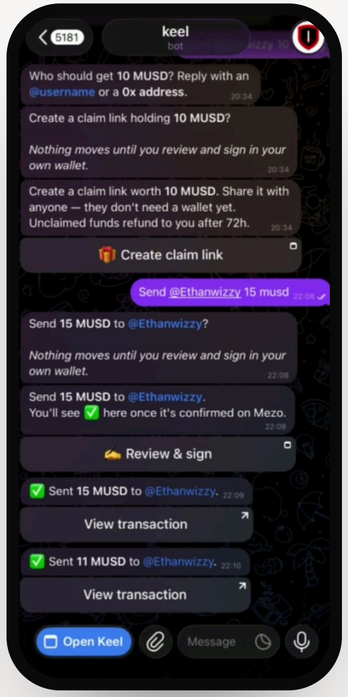
Borrow: review & sign



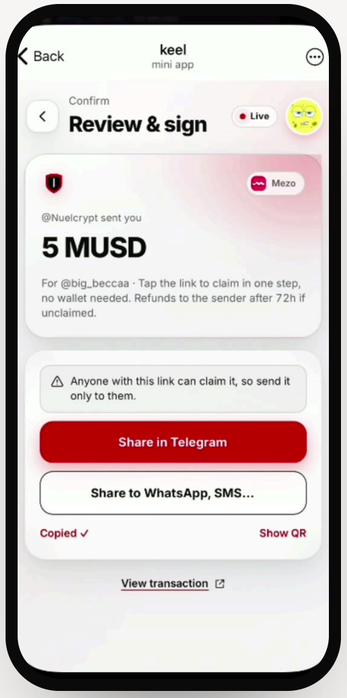
Dashboard at 180%



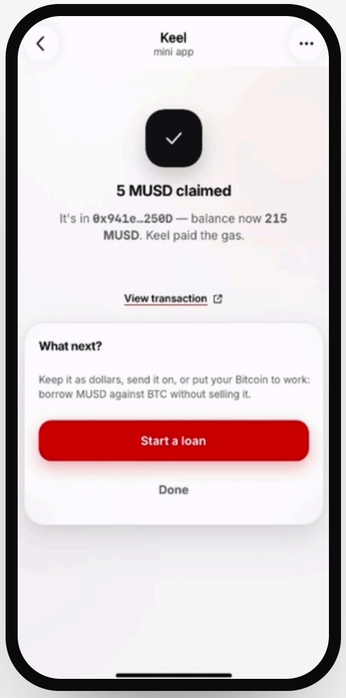
Keeper: 160% → 179.9%



Send @username in chat



Claim link



Claimed, Keel paid gas

ARCHITECTURE

Intents in, signatures out.

Telegram chat
grammY bot, rule-based NLU

Browser
landing + wallet sign-in

→

Keel API
Hono · initData HMAC or wallet session · intents

Mini App / web app
React + wagmi: review & sign in OWN wallet

→

KeelGuardian v2 (per user)
openTrove · addColl · repayMUSD · adjustTrove

KeelPay · KeelPro
claim-link escrow · MUSD subscriptions

Mezo MUSD
BorrowerOperations · TroveManager · PriceFeed

Keeper
calls protect() on every factory

Claim relayer
pays gas only; signature binds recipient

Block watcher
3 confirmations · confirmed-only success

Alerts + live updates
Telegram messages · SSE

HOW KEEL USES MEZO AND MUSD

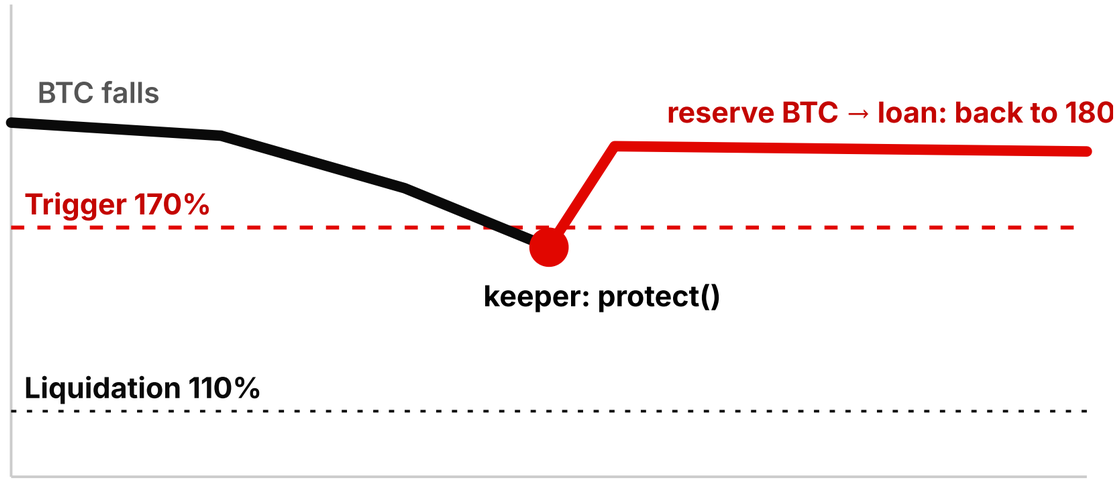
Built directly on the protocol.

MEZO CONTRACT	FUNCTIONS KEEL USES	FOR
BorrowerOperations	`openTrove` · `addColl` · `withdrawColl` · `withdrawMUSD` · `repayMUSD` · `adjustTrove` · `closeTrove` · `refinance` · `minNetDebt`	Loans opened and protected by the user's guardian; native BTC as collateral
TroveManager	`getCurrentICR` · `getEntireDebtAndColl` · `getTroveStatus` · `checkRecoveryMode` · `getTCR`	Ratio, liquidation price, Recovery Mode, guardian planning
HintHelpers · SortedTroves	`getApproxHint` · `computeNominalCR` · `findInsertPosition`	Hints for every trove change, computed on-chain by the guardian
PriceFeed · InterestRateManager	`fetchPrice` · `interestRate`	Quotes, alerts, price at each protection block
MUSD (ERC-20, Permit)	`transfer` · `approve` · `permit` + Permit2	Payments, splits, claim-link escrow, x402 premium, KeelPro

Rules built into every quote: 110% MCR, 150% CCR (Recovery Mode), 1,800 MUSD minimum net debt, 200 MUSD gas compensation, 0.1% fee. All 7 Keel contracts verified on explorer.test.mezo.org.

GUARDIAN PROTECTION

Protection that acts, not just alerts.



- **Owner** funds a reserve and picks a trigger and target.
- **Anyone** may call `protect()` below the trigger; it can only move reserve into the owner's own loan. Tip ≤ 1%, cooldown, owner-only withdrawals.
- **v2 partial rescue:** too small a reserve still helps as far as Mezo allows, and reports exactly how much BTC to add. Below 110% in Normal Mode, Mezo rejects any top-up that doesn't clear 110%: v2 returns “insufficient” with the shortfall instead of reverting.
- **Proven on testnet:** 4 protections, 2 triggered by real BTC price moves.

PAYMENTS

Pay anyone. Even without a wallet.

Send to @username

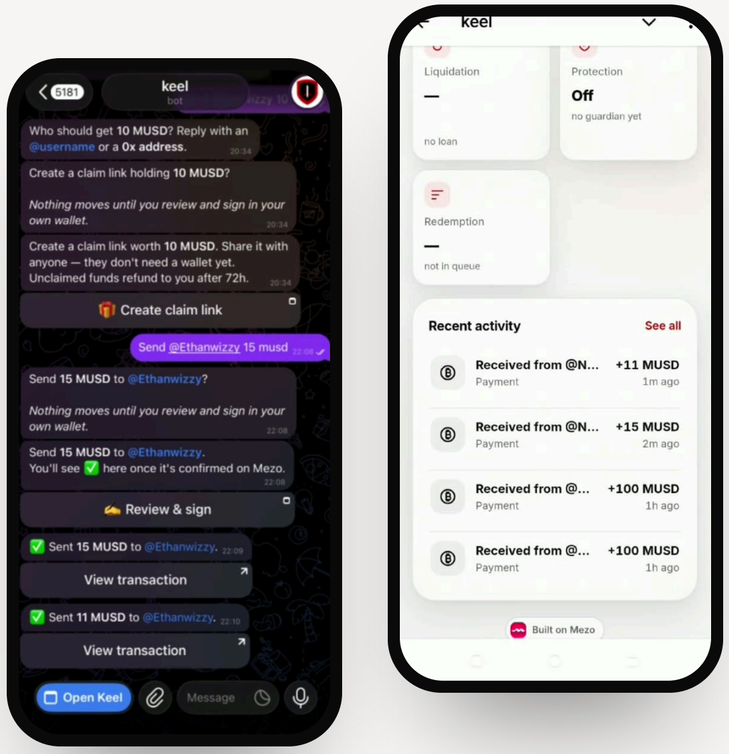
From chat or the app. Shown as sent only once confirmed on Mezo; the recipient gets a Telegram notice.

Split bills

Equal, custom or percentage shares on a live card in a group. Each payment is matched on-chain.

Claim links

MUSD escrowed in KeelPay; share a link; the recipient claims in one step and Keel pays the gas. Refunds after 72h if unclaimed.



TRACTION (READ FROM THE CHAIN, 2026-11-14)

Working end to end on Mezo testnet.

2
guardian accounts

4,004
MUSD borrowed through Keel

4
protections executed by the keeper

7
contracts, all verified on the explorer

- 320 automated tests (contracts against the real MUSD stack, bot, Mini App)
- Testnet end-to-end runs: payments 17/17, claim links + splits 29/29, x402 premium settled
- Live 24/7: Telegram bot, Mini App, web app, public /stats

Honest status

Every guardian so far belongs to the team (0 from outside wallets). Wave 2 goal: real third-party testers running guardians, with protections triggered by price moves. The web app, demo mode and “set to test” trigger exist for exactly that.

BUSINESS MODEL

Five revenue streams, one on-chain today.

STREAM	HOW	STATUS
1 · Protocol share of keeper tips	Up to 50% of the tip (tip ≤ 1% of what's applied) to the treasury, hard-capped in the contract; owner pays no more	**Live, 20%**
2 · Keel Pro	5 MUSD / 30 days or 0.25%/yr of protected debt: fast alerts, priority keepers, auto-rebalancing	**Contract live**
3 · Merchant checkout	0.3–0.5% per payment link; P2P sends and claim links stay free	Planned
4 · Team & DAO plans	Shared expenses, recurring splits: 20–50 MUSD / workspace / month	Planned
5 · Guardian API / white label	Protection for other Mezo wallets: revenue share or 500–2,000 MUSD / month	Planned

Unit economics (assumptions in docs/BUSINESS.md): ≈ $10 per active borrower per year at 15% Pro adoption → ≈ $100k/yr at 10k borrowers, before API licensing.

ROADMAP

From testnet to mainnet.

Now · Wave 2

Real testers

Web app without Telegram, demo mode, guardian v2, verified contracts, public stats.

Next

Keel Pro

Priority keepers, auto-rebalancing strategies, multi-channel alerts, withdraw-collateral and Stability Pool screens.

Then

Audit → mainnet

Third-party audit of the guardian and KeelPay, then launch on Mezo mainnet.

Scale

Open keeper network

Guardian API for other Mezo wallets, merchant checkout, team plans.

TEAM & LINKS

Try Keel on Mezo testnet.

- **Team: Nuelcrypt**, full-stack developer · github.com/lm-2
- Web: keel-miniapp.vercel.app
- Telegram: t.me/KeelMezoBot/app
- Code (GPL-3.0): github.com/lm-2/keel
- Live stats: keel-miniapp.vercel.app/stats · Docs: keel-miniapp.vercel.app/docs

Open in Telegram