

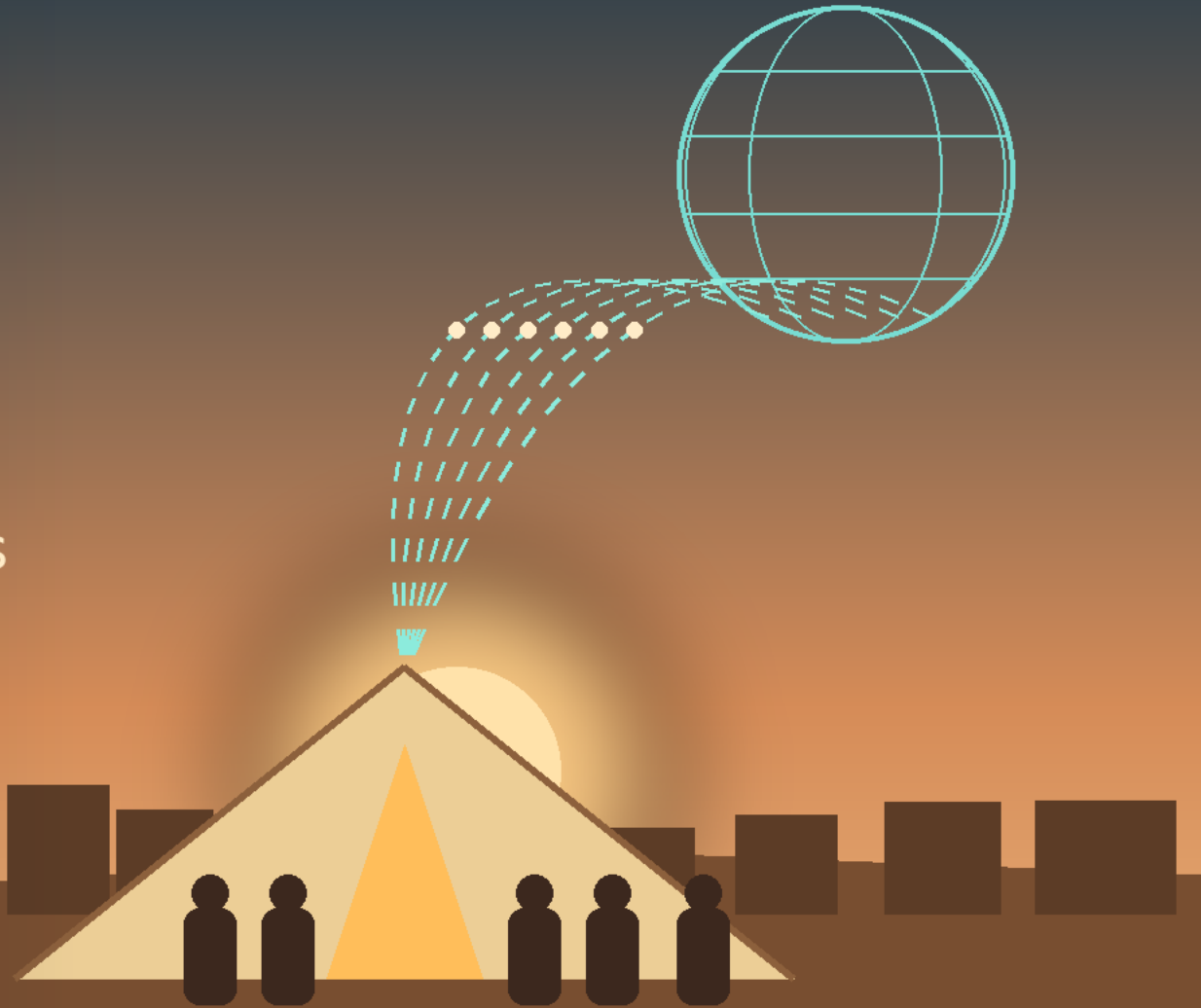
ReliefRail

Milestone-locked, auditable USDC aid
for community kitchens & relief groups

Solana · USDC · Arabic / English

Web3 for Social Good Hackathon 2026 · Idea Track

Zain J Alsaadi, Founder / Developer · Idea Track



1 · The social challenge

- Volunteer mutual-aid groups (community kitchens, neighbourhood emergency rooms) deliver aid first in today's crises.
- Sudan's Emergency Response Rooms: nominated twice for the Nobel Peace Prize, still facing a funding gap of more than 50%.
- Transfers depend on one banking app that "sometimes crashes... or there are issues with the internet" (ALNAP 2026).
- Unregistered groups can't meet donor due diligence; many diaspora givers distrust formal channels over diversion fears.
- Once money is sent, donors can't verify delivery or recover funds, and reports are compiled by hand for every grant.

The same gap exists in Gaza, Yemen, Syria, Myanmar and climate disasters.

2 · Intended users and beneficiaries

Beneficiaries

Families fed and sheltered by community kitchens and volunteer relief groups.

Never registered individually:
no personal data, no lists.

Grantees (direct users)

Local relief groups and kitchens: fast funding, light photo/voice reporting, cash-out via local agents, no crypto skills needed.

Funders (direct users)

Diaspora networks and small donors (\$1-\$20 gifts), coordinators, and small foundations that want proof without a compliance team.

Verifiers: 3-5 trusted local roles (another kitchen, a clinic volunteer, a women's committee lead).

3 · Proposed solution: milestone-locked USDC escrow

1 Campaign

Group sets weekly tranches + 3-5 local verifiers

2 Donate

USDC via Solana Pay or card on-ramp; on-chain receipt

3 Attest

M-of-N verifiers send photo / voice / meal count (hash on-chain)

4 Release

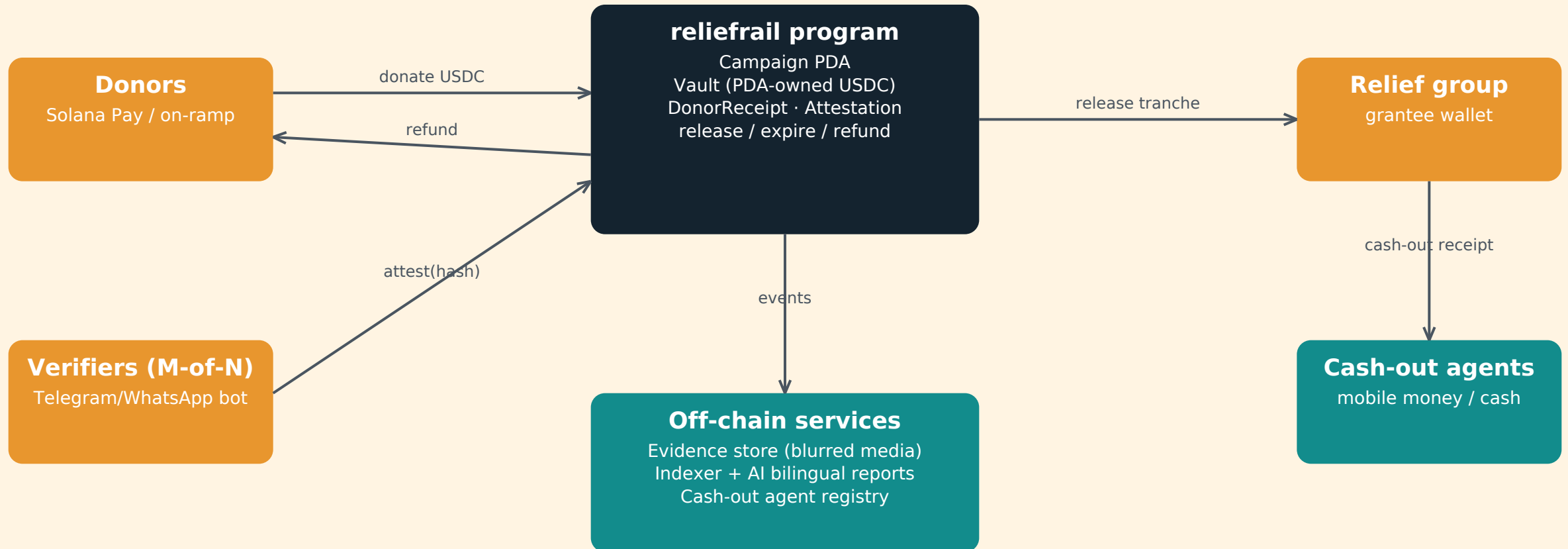
Tranche unlocks; cash-out via vetted local agents

5 Refund

Missed deadline: pro-rata refund or re-route

- Group-level grants: no beneficiary lists, no individual KYC, no personal data on-chain.
- Verifiers attest from a Telegram/WhatsApp bot with passkey wallets: no seed phrases.
- AI turns on-chain records into bilingual Arabic/English donor updates ("Your \$20 funded 64 meals in week 2").

3b · Architecture: Solana + Anchor + USDC



Invariant: vault = donated – released – refunded. USDC leaves the vault only via release_tranche, refund or reassign.

Security: diverse, rotated verifiers · per-tranche caps · timelocks · open source · audit before mainnet.

4 · How Web3 adds meaningful value

Why Web3 / Solana

- Anyone can verify every dollar, no trust needed
- Release, deadline and refund rules run as code
- USDC settles globally in seconds, fees < \$0.01
- Keeps working when banks or one app go down
- Makes \$1-\$20 diaspora gifts viable
- Public events for auditors, press and donors

Innovation beyond donation tracking

- Conditional release by community verifiers
- Coded refunds / re-routing: nothing gets stuck
- Funds existing mutual-aid GROUPS, not people
- No-smartphone verifiers, low-connectivity design
- Arabic-first, bilingual AI donor reports
- Conflict-sensitive: no PII, coarse location, blurring

5 · Potential social impact, measured

Metric	Today (reference)	ReliefRail target
Share of \$ reaching the group	~95% best-in-class; lower ad hoc	≥ 97%
Donation → group time	~1-2 weeks	< 72 hours
Coordinator report hours	manual, per grant	–80% (auto reports)
Donor visibility	narrative after the fact	live, per tranche
Funds lost if a group goes inactive	unrecoverable	0% (refund / re-route)

Also tracked: groups funded · meals/activities verified · repeat-donor rate · first-time small donors.

Sources: ALNAP SOHS Sudan brief 2026 · CSF Sudan 2025 · Mutual Aid Sudan Coalition · Inside Philanthropy.

6 · Feasibility, sustainability, roadmap and team

- Small scope: one Anchor program (~7 instructions), a bot and a dashboard.
- 0% fee on donations. Funded by optional tips, a foundation reporting tier and public-goods grants. Open source.
- Compliance: licensed/vetted cash-out partners do KYC off-chain; sanctions screening at the on-ramp.
- Go-to-market: diaspora mutual-aid networks, then "Blockchain for Good" grant-makers.



Team: Zain J Alsaadi, Founder / Developer (bilingual Arabic/English)

ReliefRail: aid that arrives, provably.