The Village

Introduction

Legal Entity Name	Homewood Children's Village
Project Name (if different)	The Village: Community Reinvestment and Revitalization Tooling
Country of Formation	United States
Applicant Name	Jomari Peterson
Applicant Role	System/Product Architect and Developer
Applicant Email	jomari.peterson@gmail.com
Primary Category/Vertical	DeFi ▾
Development Stage	Concept ▾ *[Add comments]*
Integration Type	Aptos Native ▾ - *[If you are building on other blockchains, list them]*
Website	hcvpgh.org
Twitter	https://x.com/hcvpgh
Mainnet Address (if any)	*[Enter address]*
Onchain Analytics (if any)	*[Provide relevant links - Dune, etc.]*

Proposal Summary

The Villages is a Homewood Children's Village initiative that uses Aptos to turn community participation into transparent neighborhood reinvestment. In partnership with a Web3 product and engineering team, HCV will pilot a toolkit that lets staff reward service with program credits, channel those credits and small contributions into a community fund, and direct that fund toward real projects like stabilizing inherited homes in Homewood's Opportunity Zone. This proposal focuses on delivering a working Aptos proof of concept for one neighborhood: staff create activities, residents log approved hours, credits are minted on chain, and those credits flow into a live community revitalization project that everyone can see. The long term goal is to leave Aptos with a repeatable, open architecture for service backed community finance that other neighborhoods and faith based partners can adopt.

Company Description

Homewood Children's Village (HCV) is a Pittsburgh based nonprofit that has spent more than a decade working with families, schools, and community partners in the Homewood neighborhood to improve outcomes from cradle to career. HCV coordinates programs in education, family support, health, housing, and economic mobility, and has a long track

record of managing grants, running pilots, and building trust with residents who are often skeptical of outside initiatives.

For The Villages, HCV is partnering with a Web3 product and engineering lead who has previously deployed high value DeFi systems, community DAOs, and inclusive lending tools. HCV brings deep local relationships, program infrastructure, and accountability. The technical team brings Aptos and Move expertise, smart contract architecture, and product design. Together, the team is building The Villages as impact infrastructure that can later be replicated by other community organizations.

Product Description

The Villages is an Aptos based toolkit that Homewood Children's Village will use to connect three things that are usually siloed: volunteer engagement, community funds, and neighborhood revitalization.

For the initial HCV pilot, the product will provide:

- A service ledger that allows HCV to define activities like food distribution, tutoring, or block cleanups and approve resident hours. Approved hours mint a controlled on chain token called a Time Dollar, issued only when HCV staff validate participation.

- A community reinvestment fund that can accept those credits and, in later phases, stable assets, and attribute them as impact shares in specific projects such as stabilizing an inherited home on a target block.

- Simple dashboards and project views for staff, residents, and homeowners that show how service and contributions are flowing into concrete projects with clear goals and visible progress.

During Aptos Assembly, the focus is on the smallest loop that proves value. HCV staff create an organization and activities, residents log hours, staff approve and mint credits to Aptos, residents redeem into symbolic impact shares for a pilot housing project, and HCV can show a real time view of participation and project progress to residents and funders. Future work extends this into fractionalized affordable housing and larger reinvestment structures, but the MVP is grounded in HCV's live operations in Homewood.

Funding Justification & Benefits

The requested funding is justified because it makes it possible for Homewood Children's Village and its technical partners to implement and validate a concrete, on the ground use case for Aptos in community finance.

On the build side, funding supports the design and development of key Move modules on Aptos for HCV: a controlled community token tied to approved service (potential for federation across communities), an impact project object to track neighborhood initiatives,

and the mint, redeem, and attribution flows that connect the two. It also covers the backend and indexer work needed to turn on chain events into simple dashboards that non technical staff and residents can understand, plus integrations for wallets, light KYC, and notifications.

On the adoption side, grant support enables HCV to run a real pilot in Homewood with staff, residents, and at least one distressed homeowner. That pilot will generate new Aptos wallets, regular on chain transactions tied to service and community projects, and a credible case study of Aptos supporting neighborhood scale real world impact rather than purely speculative activity.

For Aptos, the benefits are:

- A reusable architecture for service backed community reinvestment that can be offered to other neighborhoods, cities, and faith based networks as an Aptos first solution
- Demonstrated real world usage in an Opportunity Zone community through a respected anchor institution with strong local trust
- A foundation for future products on Aptos such as community governed funds, compliant fractional housing instruments, and multi neighborhood deployments, all built on top of the same core contracts and patterns

In short, funding this work helps Aptos seed a practical, HCV led impact infrastructure that can scale beyond one neighborhood while staying rooted in measurable, on chain activity.

Funding Structure: Disbursement Milestones

#	Milestone Type	Trigger or metrics for paying this out	Amount (APT or Stables)	Expected Completion (in months)
n	Upfront Payme… ⌄	Technical Architecture Document delivered. Move package structure scaffolded in repo. Privy integration completed in dev environment. Aspects deployed on testnet	**10k USD Equivalent**	1
1	Mainnet Deplo… ⌄	Core Move Modules Live on Mainnet Deployment- All core modules deployed on Mainnet ≥50 on-chain transactions across modules (TimeBank, InvestmentPool, Governance) ≥50 unique wallets interacting with contracts (QA testers + early community)	**15k USD Equivalent**	2
2	Performance M… ⌄	Frontend MVP deployed. Privy auth fully integrated.	**25k USD Equivalent**	3

		≥100 signed-in users (Privy sessions) ≥100 Time Dollar hours logged (TimeBank requests created ≥75 validated hours (TimeBank approvals		

Core Thesis & Team Conviction

Explain why your team and this problem matter, and why you're positioned to win.

Our core thesis is that neighborhoods like Homewood do not need another app, they need infrastructure that makes participation and reinvestment trackable, fair, and locally owned. If residents can see that their time and small contributions directly stabilize families and properties on their own blocks, trust increases, engagement grows, and outside capital becomes easier to align. Blockchain only matters here if it quietly solves the accountability and transparency gaps that have held back past efforts.

Homewood Children's Village is uniquely positioned to prove this. HCV has worked in Homewood for more than a decade across education, family support, and economic mobility. They already coordinate volunteers, manage grants, and sit at the table with residents, schools, churches, and local governments. The pain is not abstract for them. Staff are already trying to track service hours, support distressed homeowners, and tell a coherent impact story to funders with spreadsheets and manual processes. The Villages is a direct response to those operational realities, not a theoretical product.

On the technical side, the team has shipped production smart contracts that managed hundreds of millions of dollars, designed DAOs that generated sustainable revenue, and built community finance tools like collateral free lending platforms and fractional housing frameworks. We are not experimenting with DeFi for the first time in a vulnerable neighborhood. We are applying lessons from prior systems to a narrow, mission aligned use case: service backed community reinvestment with a real nonprofit anchor. We also bring existing architecture work on Time Dollar Banking and Fractional Community Reinvestment that is already tailored for HCV's context.

We are positioned to win because:

- We have a real anchor institution with deep trust and programs already in motion, not a hypothetical user.
- We have a team that understands Move, on chain finance, and the constraints of community organizations.
- We have a tightly scoped pilot that proves a full loop in one neighborhood, but is designed as a template for others.

If we succeed, Aptos gains more than a single deployment. It gains a repeatable pattern where credible community organizations can run measurable, on chain reinvestment programs without needing to become Web3 companies themselves.

Team & Experience

Founding Team (& Board Members)
[Add team, background, and LinkedIn URL]
Walter Lewis – President and CEO, Homewood Children's Village
Veteran civic leader with 20+ years in nonprofit management, Walter leads HCV's strategic vision, cross-sector partnerships, and fundraising. He provides executive oversight for the Housing Circle initiative. Under his leadership, HCV has raised and managed over $25M in funding and serves more than 1,400 youth annually across multiple school and neighborhood-based programs.
https://www.linkedin.com/in/walter-lewis-8b281415/

Jomari Peterson – System Architect
A blockchain strategist with expertise in DAO infrastructure and economic design, Jomari brings deep technical experience in decentralized governance and Web3-based coordination tools. He is guiding the program's on-chain mechanisms and community governance model. He is the author of Faith & Cryptocurrency, a book that introduces how web3 tools can be used to benefit organizations.
https://www.linkedin.com/in/jomari/

Dr. John M. Wallace Jr. – Board President
Pastor, professor, and respected civic convener, Dr. Wallace brings extensive experience in research, urban ministry, and social innovation. He strengthens the program's credibility, institutional relationships, and neighborhood legitimacy.
https://www.linkedin.com/in/john-m-wallace-jr-92aba55/
Additional support will come from HCV's multidisciplinary staff, including youth development managers, family advocates, site coordinators, and program evaluators, such as:
Erica Lewis – Senior Manager, Family & Community Engagement
https://www.linkedin.com/in/erica-lewis-688bb52b8/
Raymond Robinson – Sr. Director of Programs
https://www.linkedin.com/in/raymond-robinson-a93b6923/
Becky Dupree – Controller (finance and compliance)
https://www.linkedin.com/in/becky-dupree-b548b2364/

Previous Funding
[How much have they raised, and at what valuation? List amounts from Foundations, VCs, etc.]
- Add

[If they raised before, why do they need a grant instead of VC funding?]
- Add

Team Size	5-25 ⌄
Years in Business	10+ years ⌄
Move Language Experience	[Describe any relevant expertise]

Deliverables

Deliverables High-Level Overview

Include a high-level description of what you're building and delivering.

The Village's Community Reinvestment Platform will deliver an MVP on Aptos enabling:

1. Time Dollar Banking: community volunteers log hours, get validated by staff, and mint time-based tokens on Aptos.
2. Fractional Community Reinvestment Pools: staff can create projects (e.g., distressed homes, family support initiatives), define funding goals, and allow community members to contribute USDC or Time Dollars. Fractional, permissioned tokens representing participation are minted on Aptos.
3. Modular Governance DAO: community and staff vote on project approval, funding allocation, and parameters using modular voting strategies (quadratic, conviction, weighted).
4. Identity & Compliance: Privy authentication + KYC gating for users involved in fractionalized or financial components.
5. Pilot Experience UI: a functional web frontend allowing volunteers, staff, and homeowners to participate in the full cycle: log hours, propose/view projects, contribute, and vote.

The output of the 4-week program is a complete, testnet-live MVP and mainnet-ready deployment bundle for the first pilot with Homewood Children's Village (HCV) and community partners.

Deliverable

Explain your deliverables, add any relevant user stories and UX designs.

Deliverable 1: Time Dollar Banking Module (Move Contracts + UI)

Description
       On-chain Time Dollar system enabling:
            ○ Logging volunteer hours
            ○ Staff validation workflow

- ○ Minting "TimeDollarCoin" Move coin type
- ○ Ability to stake or contribute Time Dollars to community reinvestment projects

User Stories
- As a volunteer, I can log hours for approved activities.
- As staff, I can validate hours and mint TimeDollar tokens automatically
- As a user, I can view my TimeDollar balance and contribution history.
- As a user, I can stake or allocate Time Dollars toward approved community projects.

UX Screens
- Volunteer Dashboard
- Log Hours Screen
- Approval Queue (Staff-Only)
- TimeDollar Wallet & Activity Feed

Deliverable 2: Fractional Community Reinvestment Pools (Move Contracts + UI)

Description
  A permissioned fractional ownership mechanism using:
- ○ ProjectRegistry module
- ○ InvestmentPool module
- ○ FractionalCommunityShare token module
- ○ Integration with Circle USDC on Aptos
- ○ Allows staff to create projects (e.g., distressed homeowner cases), set goals, and allow users to contribute USDC or Time Dollars.

User Stories
- As staff, I can create new projects with USDC, and TimeDollar goals.
- As a project sponsor, I can submit a proposal to staff for review.
- As a contributor, I can fund a project using USDC.
- As a contributor, I can pledge Time Dollars toward impact goals.
- As a user, I can view my fractional share tokens after contribution.

UX Screens

- Project List
- Project Detail View (w/ goal progress)
- Contribute Flow (USDC + Time Dollars)
- My Project Shares Screen

Deliverable 3: Modular Governance

Description
  Governance Hub
- ○ Modular Voting Strategies
  - ■ Examples

- Quorum
- Weighted
- Quadratic
- Conviction

Optional membership NFTs (non-transferable)
- Used to approve:
  - New project proposals
  - Community policies (e.g., fund parameters)
  - Allocation decisions for large repairs or grants

User Stories
- As a community member, I can vote on new proposed projects.
- As staff, I can create proposals requiring community governance.
- As a voting participant, I can see the outcome of governance decisions.

UX Screens
- Proposal List
- Proposal Details & Voting
- Governance Dashboard

Deliverable 4: Identity & Compliance Layer (Privy + KYC)

Description
Privy handles:
  - Social login
  - Embedded MPC wallet creation
  - Basic onboarding
KYC Provider (Persona/Sumsub/Staff):
  - Verifies identities for users interacting with financial/fractionalized assets
  - Backend whitelists addresses in on-chain ComplianceRegistry

User Stories
- As an investor, I must complete KYC to contribute USDC.
- As a volunteer, I can onboard without KYC unless contributing to financial components.
- As staff, I can view compliance status of users.

UX Screens
- Onboarding (Privy)
- KYC Verification Flow
- Compliance Status on Profile

Deliverable 5: Serverless Backend + Indexer Integration

Description

Ultra-light backend performing:
- ○ Identity/KYC callbacks
- ○ Event listeners for Move module events
- ○ Generating notifications
- ○ Off-chain coordination (milestone releases, metadata uploads)
- ○ No centralized ledger or business logic (on-chain first)

Components
- ● Aptos RPC
- ● Indexer GraphQL integration
- ● IPFS pinning service

Deliverable 6: Full Frontend MVP (React + Privy + Aptos SDK)

Description
Role-based UI for:
- ○ Staff operators
- ○ Volunteers
- ○ Distressed homeowners
- ○ Future investors
- ○ Single codebase, optimized for pilot testing with HCV.
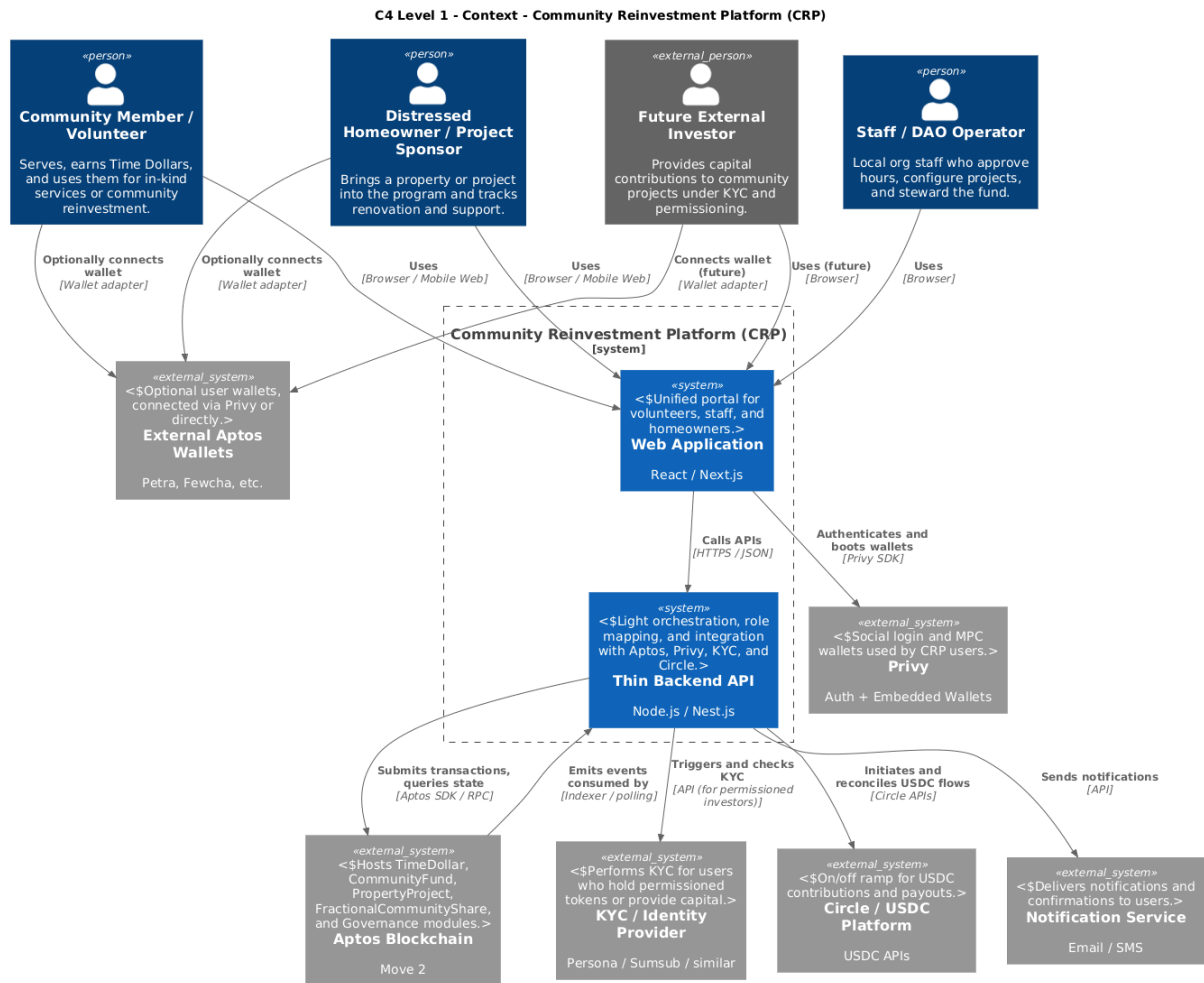
User Stories
Each major user type can:
- ○ Navigate their dashboards
- ○ View relevant projects
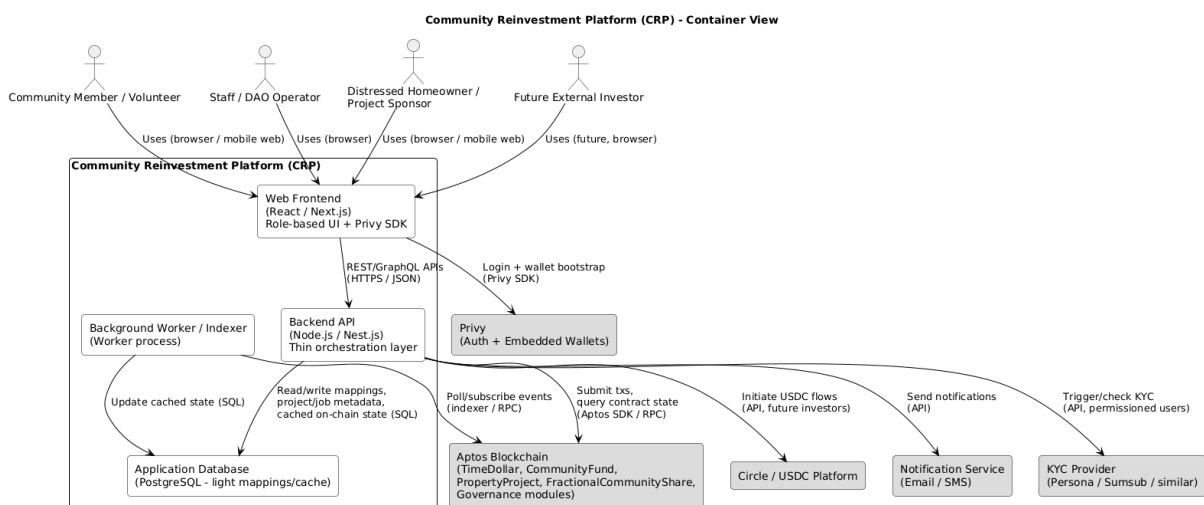- ○ Take actions directly tied to Move contracts

Architecture Overview

C4 L1 Diagram: High-Level Architecture

This high-level diagram shows the system's broader context, depicting its interactions with external entities such as customers, systems, or external services.

C4 L2 Diagram: Zoom into the The Village Community Reinvestment System

This diagram illustrates a more technical overview of the [Your App Name] System.
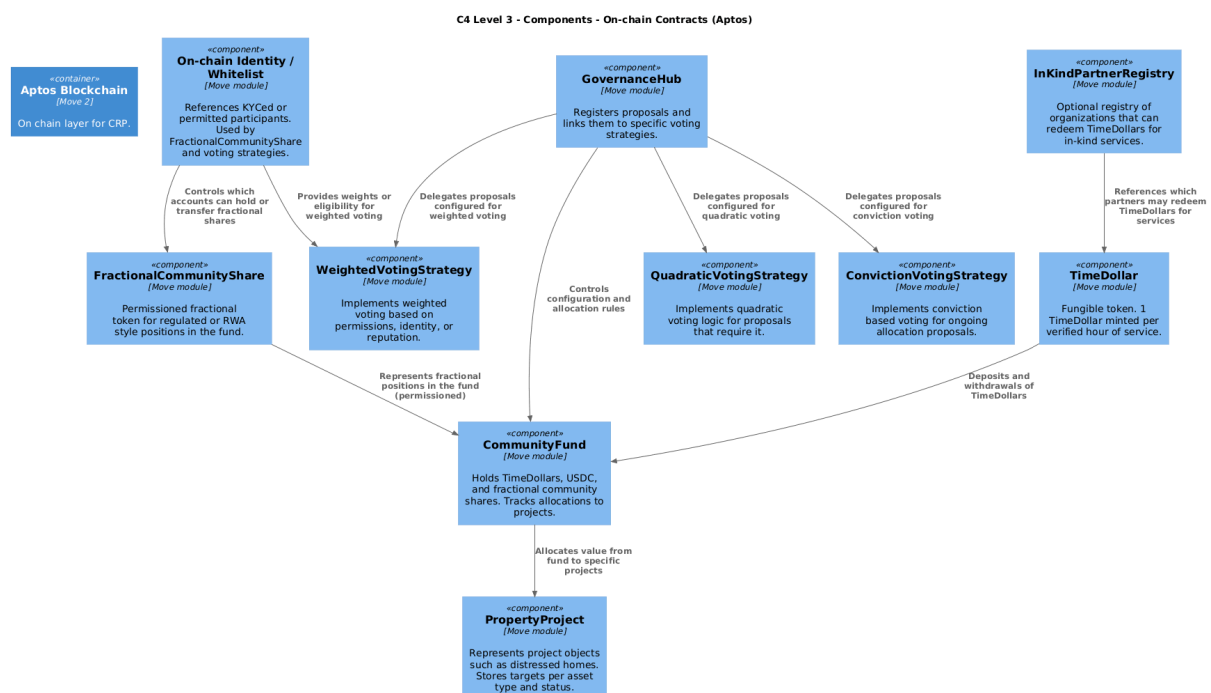
Architecture constraints

Include any regulatory constraints and hardware or software requirements that influenced your design.

- Regulatory constraints: Fractional community shares are treated as restricted transferable digital assets (not freely tradable tokens). This requires KYC gating, role-based minting, and restricted transfer logic enforced at the smart contract level.
- Data minimization: No PII is stored on-chain. All identity verification happens off-chain via Privy/Persona/Staff, which returns a boolean approval. Only whitelisted addresses are written on-chain.
- Permissioned token constraints: All fractional shares and Time Dollars use move modules enforcing non-transferability except within approved program flows.
- Infrastructure constraints: given the service to communities with limited technical support, architecture must minimize server burden. This motivates a serverless backend and heavy reliance on on-chain events + Aptos indexers.
- Auditability constraint: All funds, contributions, and governance decisions must be verifiable for transparency to community members and funders.

Contract Overview (If you are developing Move Module(s))

Describe what your contract will do, and describe the key methods. Include any sequence diagram(s) that'll help reviewers understand the contract mechanics.

C4 Level 3 - Components - On-chain Contracts (Aptos)

- Identity & Compliance (KYC Whitelist): A registry of verified members (e.g. a Compliance or IdentityRegistry module) that stores approved addresses (whitelisted by KYC). For example, after off-chain identity verification (via Persona or Privy), the backend calls Compliance::whitelist(address). This module enforces that only verified users participate (avoiding on-chain PII).
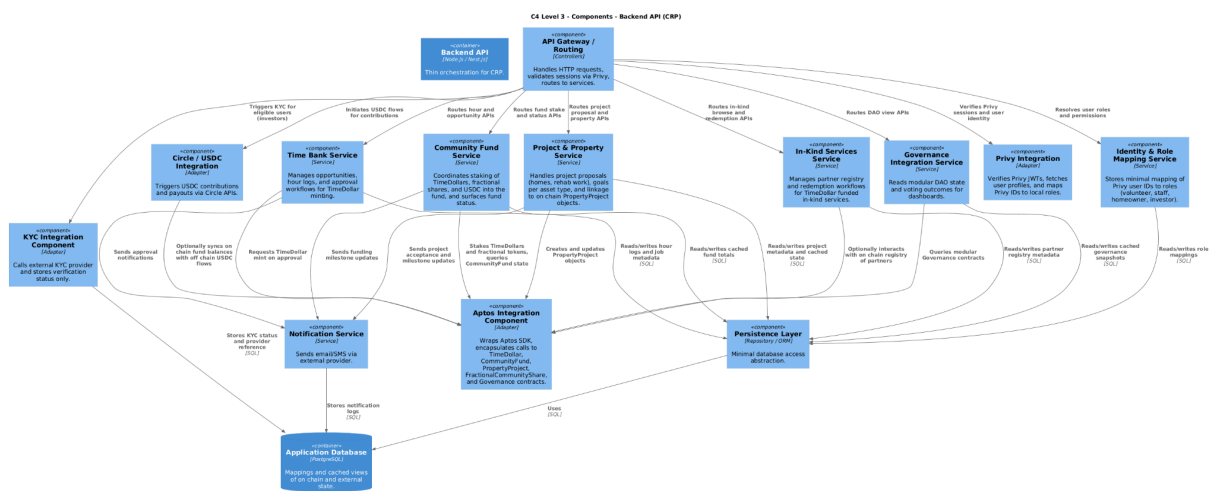
- InvestmentPool / FractionalAsset: Each community project (e.g. a distressed home renovation) spawns an InvestmentPool on-chain. Users contribute stablecoins (USDC) by calling InvestmentPool::join_pool(pool_id, amount). The module tracks contributions and issues fractional ownership tokens for the project. Fractional ownership is implemented as a permissioned digital asset (akin to a restricted NFT or share token). For instance, each project's equity is "divided into digital shares". A companion FractionalAsset module mints and burns these share-tokens as donors invest or redeem.
- Treasury: A Treasury module holds all project funds (USDC) and revenue streams. It manages disbursement of funds (e.g. releasing donations to contractors or homeowners).
- Governance: A DAO Governance module (using Aptos's aptos_governance and voting framework or a custom implementation) records proposals and votes. Members holding governance tokens (or special roles) can create proposals (create_proposal) and vote (vote). Voting power can be token-weighted or adjusted by roles. The system supports advanced voting schemes (quadratic/conviction): e.g. voting weight = $\sqrt{token\_amount}$ for quadratic voting, or time-weighted staking for conviction. Non-investor community members can be represented by soulbound membership NFTs: e.g. mint each long-term resident or advocate a non-transferable membership token that grants voting rights. This ensures the community has a voice.
- Project Registry: A module to list proposed projects (e.g. homeowner cases). A user calls ProjectRegistry::propose(metadata_cid, target_usdc, target_hours, isGrant) to register a new project. The metadata (project description, photos) is stored on IPFS and the CID is recorded on-chain. Governance can optionally require community approval (via a proposal) before fundraising begins.
- TimeBank & TimeToken: A set of modules for the time-dollar economy. The TimeBank module lets users create service-hour requests, which are validated by authorized partners. For example, a volunteer calls TimeBank::create_request(user, hours), which emits a pending request. A designated validator (with ROLE_VALIDATOR in an IdentityRegistry) then calls TimeBank::approve_request(request_id), triggering TimeToken::mint(user, hours). One time token = one volunteer hour. The TimeToken is a simple Move coin resource. (The on-chain roles and permission checks prevent abuse.)

Key methods:

- `InvestmentPool::create_pool(admin, project_id, config)` – initializes a new fundraising pool.
- `InvestmentPool::join_pool(pool_id, amount)` – user deposits USDC/Time Dollars into the pool and receives pool shares.
- `Treasury::lock_funds(pool_id, amount)` – moves funds to a secured account until project completion.
- `FractionalAsset::mint_shares(pool_id, user, share_amount)` – issues fractional ownership tokens.
- `Governance::create_proposal(title, description, actions)` – on-chain DAO proposal.

- *Governance::vote(proposal_id, choice)* – cast a vote (power can be token-weighted or equal-share).
- *TimeBank::create_request(user, hours)* and *TimeBank::approve_request(request_id)* – as above, mints `TimeToken`.
- *Compliance::whitelist_address(user)* – mark user as KYC-approved (called after backend checks).
- `GasRelayer`/`GasMachine` (– helper functions to handle sponsored transactions (clients send signed requests to a relay which pays the gas).

Technology Stack

Backend

List what your backend technologies are. If you have data store/database requirements, add them here (E.g. Postgres, Redis, etc).

We can rely on Aptos's GraphQL Indexer API to fetch on-chain data directly. For KYC and identity, we integrate third-party services: e.g. Privy or Persona for user onboarding/KYC; after off-chain verification, the backend calls Compliance::whitelist. For bank linking, use Plaid or a similar API to connect user bank accounts for transfers. A blockchain adapter (Aptos SDK) and webhook/event listener service will convert user actions (via REST/GraphQL) into on-chain transactions. All backend logic that doesn't require consensus (e.g. filtering proposals, sending email notifications) runs in these stateless functions, minimizing infrastructure footprint.

Frontend

List what your frontend technologies are, if you are building dApps, etc.

The user interface will be a modern React/Next.js app. It will use the Aptos wallet adapter (e.g. Petra or Backflip) for wallet-based authentication. We can also embed Privy's wallet-management widgets for seamless account creation and session handling. The UI communicates with the blockchain (via the Aptos TypeScript SDK) and our REST/GraphQL APIs. For DAO-style interactions, we will reuse or adapt existing libraries for on-chain proposals and votes. We will design responsive pages for: connecting wallet/KYC signup, viewing active projects/pools, submitting contributions (USDC or time tokens), tracking your holdings, and participating in governance votes (with optionally advanced interfaces for quadratic or conviction voting). We will store static assets on IPFS or Arweave for immutability, especially user-uploaded project documents (the CID is referenced on-chain).

Infrastructure

List what your infrastructure will look like (e.g. Cloud provider, which services you will use, etc.)

Static front-end can be deployed on Vercel, Netlify, or GitHub Pages. All user-uploaded docs (project details, photos) are stored on IPFS (via Pinata or Filebase) to ensure decentralization. We will also utilize IPFS for any large assets (storing only CIDs on-chain) to minimize on-chain data.

Automated Testing

List the automated testing tools you'll be using.

Smart contracts will be rigorously tested using Move tools. We will write Move unit tests and run aptos move test. We will formally verify critical invariants with the Move Prover (aptos move prove) (e.g. safety of fund distribution, token mint caps). Code coverage (aptos move coverage) will help ensure all paths are tested.

Integrations

List other APIs and Services that you'll be using.

- Identity/KYC: Use Privy for account creation and policy enforcement, and/or Persona for KYC workflows. These services support webhooks so the backend can react when a user is verified and whitelist them on-chain.
- Stablecoin & Payments: Leverage Circle's USDC on Aptos . Users send USDC to pools to fund projects. For fiat/crypto onboarding, integrate Coinbase Commerce or Circle's OnRamp API so donors can pay by credit card or other crypto (a scenario noted in the HCV plan). The contract expects USDC, so any crypto received via Coinbase/OTC is immediately converted to USDC.
- Voting Mechanisms: The on-chain governance module can implement various schemes. Token-based voting (1 APTOS = 1 vote) is simplest. For quadratic voting, we can apply a square-root transform when tallying votes. Conviction voting (ongoing funding based on stake over time) can be implemented either

in Move or off-chain. We can also weight votes by role or reputation: for example, members with a special "advocate" role or longer participation receive extra influence (all encoded in on-chain logic). If needed, an off-chain snapshot system (like Snapshot) could complement on-chain voting for lower-cost polling, though all final resolutions execute on-chain. In all cases, proposals and votes use the Move governance modules for transparency and auditability.

Additional Documents

Include your project repo, Pitch Deck, Demo Video, and any other document that could support your proposal.

- Add