

CoOwn

Group Property Co-Ownership Platform

Product Requirements Document

Enyata x Interswitch Hackathon | March 2026 | v1.0

| Field | Detail |
|-------------------|--|
| Product Name | CoOwn |
| Version | 1.0 — Hackathon MVP |
| Date | March 2026 |
| PM / Author | Team Lead |
| Team Size | 4 engineers + 1 PM |
| Build Window | 7 days |
| Target Sectors | Real Estate (R) + Cross-Border Payments (XB) |
| Secondary Sectors | Payments (P) + Social Services (S) |

1. Executive Summary

CoOwn is a group property co-ownership platform that enables young Nigerian professionals to pool funds with friends, colleagues, or strangers to purchase land, buildings, or fund construction projects with full financial transparency, legal structure, and AI-powered property intelligence baked in.

The platform addresses a critical market gap: most Nigerians cannot afford property alone, but groups can. The gap is not financial willingness, it is the absence of trust infrastructure. CoOwn provides that infrastructure.

Core Insight: CoOwn does not just move money. It moves trust.

2. Problem Statement

2.1 The Pain

- Over 80% of Nigerian urban professionals cannot afford property alone despite years of saving
- Groups of friends and family frequently discuss pooling funds but lack a trusted, transparent mechanism to execute

- Existing solutions (lawyers, handshake agreements, joint accounts) are expensive, slow, and relationship-destroying when things go wrong
- There is no platform that ties together: discovery, group formation, legal agreements, payments, and ownership documentation in one flow

2.2 The Opportunity

- Nigeria has a \$2.1B remittance inflow annually — diaspora users actively want to invest in property back home
- The co-ownership model is already happening informally — CoOwn formalises and scales it
- Interswitch's payment rails make cross-border contributions technically viable within the hackathon scope

3. Target Users

| Persona | Profile | Core Need |
|-----------------------|--|--|
| The Organiser | 25-35, Nigerian professional, has 20-40% of a property price saved | A trusted way to bring friends together and lead a purchase |
| The Contributor | Same age group, has idle savings, follows an organiser's invite | See exactly what they own and that their money is safe |
| The Open Pool Buyer | Browsing user, doesn't have an existing group | Find a partially-funded pool and buy the remaining stake |
| The Diaspora Investor | Nigerian abroad, wants property exposure at home | Send money cross-border and receive legitimate ownership documentation |

4. Product Vision & Goals

4.1 Vision

Make property ownership accessible to every Nigerian by removing the trust and coordination barriers that prevent groups from buying together.

4.2 Hackathon Goals

- Deliver a functional, demo-able MVP that covers the complete user journey from discovery to ownership certificate
- Win the Real Estate + Cross-Border Payments categories at the Enyata x Interswitch hackathon
- Impress judges with product thinking depth, AI integration, and the open pool mechanic

4.3 Success Metrics

| Metric | Target |
|--|-----------------------------------|
| End-to-end user journey completeable | Yes — all 10 screens functional |
| Contribution dashboard real-time update | < 2 seconds after payment |
| AI property valuation visible on listing | Yes — on every listing card |
| Cross-border payment simulation | UK GBP → NGN conversion working |
| Ownership certificate generated | Auto-generated on pool completion |

5. Core Features — MVP Scope

5.1 Feature Overview

| # | Feature | Priority | Owner | Day Target |
|----|--------------------------------------|----------|--------------------|------------|
| 1 | Property listings marketplace | P0 | Frontend + Backend | Day 2 |
| 2 | User auth + BVN verification (stub) | P0 | Backend | Day 1 |
| 3 | Create a pool | P0 | Frontend + Backend | Day 3 |
| 4 | Invite via link / join pool | P0 | Frontend + Backend | Day 3 |
| 5 | Contribution dashboard + % breakdown | P0 | Frontend + Backend | Day 4 |
| 6 | Make a contribution (Interswitch) | P0 | Backend | Day 5 |
| 7 | Open pool listing (public stake) | P1 | Frontend + Backend | Day 4 |
| 8 | Co-ownership agreement generation | P1 | Backend + AI | Day 5 |
| 9 | Document vault | P1 | Frontend + Backend | Day 5 |
| 10 | Milestone voting | P1 | Frontend + Backend | Day 4 |
| 11 | Ownership certificate | P1 | Frontend | Day 6 |
| 12 | AI property valuation | P1 | AI/ML | Day 5 |
| 13 | Cross-border payment (XB) | P1 | Backend | Day 5 |
| 14 | Stake exit / resale listing | P2 | Cut if needed | Day 6 |
| 15 | Push notifications | P2 | Cut if needed | Day 6 |

P0 = must ship for demo. P1 = should ship, high judge impact. P2 = cut if time is tight.

6. Detailed Feature Specifications

6.1 Property Listings Marketplace

User Story

As a user, I want to browse a list of verified properties so I can find one I want to buy alone or with a group.

Acceptance Criteria

- Listings show: property image, title, location, price, property type, and verification status
- Each listing shows a badge: 'Available' | 'Pooling in progress' | 'Open pool — X% stake left'
- AI-generated estimated value is shown alongside asking price
- User can filter by price range, property type, and location
- Tapping a listing opens the property detail page with documents, map, and pool options

Three CTAs on Every Listing

- 'Buy alone' — proceeds to solo payment checkout
- 'Start a group pool' — creates a new pool anchored to this property
- 'Join open pool' — visible only when an existing pool has listed remaining stake publicly

6.2 Pool Creation Flow

User Story

As a user, I want to create a co-ownership pool for a specific property so I can invite my friends to contribute.

Acceptance Criteria

- Pool is created in under 3 taps after selecting a property
- Creator sets: pool name, target amount (auto-filled from listing), target date, member limit
- System generates a unique shareable link and QR code immediately on creation
- 'Share to WhatsApp' button is prominently displayed — single tap
- Pool dashboard is accessible to creator immediately after creation

6.3 Contribution Dashboard (Hero Screen)

User Story

As a pool member, I want a real-time view of everyone's contributions and ownership stakes so I know exactly where the pool stands.

Acceptance Criteria

- Shows total target, amount raised, percentage progress bar, and days remaining
- Member table shows: name, amount contributed, ownership percentage, and payment status
- Ownership percentages update in real-time as new payments are confirmed
- Notifications are sent to all members when any contribution is made
- Pool creator can see which members have not yet contributed and send a reminder

Ownership Calculation Logic

Ownership % = (Member's total contribution ÷ Total raised so far) × 100

When a new payment comes in, all percentages are recalculated immediately. If the pool is oversubscribed, the system alerts the creator to refund or adjust.

6.4 Open Pool Mechanic

User Story

As a pool creator, I want to list my remaining stake publicly so that strangers can fill the funding gap.

Acceptance Criteria

- Pool creator can toggle 'Open to public' from the pool settings
- Open pools appear in the main listings feed with a distinct 'X% stake available' badge
- Public listing shows: amount remaining, current members (count only, no names), property docs, escrow verification badge
- New joiner pays remaining amount, signs the auto-generated agreement, and is added to the pool
- Trust signals displayed prominently: BVN-verified members, escrow-held funds, automatic refund if target not met

6.5 Co-Ownership Agreement

User Story

As a pool member, I want a legally structured document that reflects my ownership stake so that my investment is protected.

Acceptance Criteria

- Agreement is auto-generated when all members have declared their contributions
- Document includes: all member names, BVN references, contribution amounts, ownership percentages, dispute resolution clause, exit clause
- Each member signs digitally via in-app signature screen
- Signed agreement is stored in the pool's document vault and accessible to all members
- Agreement regenerates and requires re-signing if pool composition changes

6.6 AI Property Valuation (AI/ML Engineer's Feature)

User Story

As a buyer, I want an independent AI-generated valuation so I know if the asking price is fair before I commit.

Acceptance Criteria

- Every property listing displays an AI valuation range (e.g., 'Est. market value: ₦7.2M — ₦8.8M')
- Valuation is based on: location, property type, size, comparable recent sales
- A 'How was this calculated?' link explains the model's key inputs

- Valuation confidence score shown (High / Medium / Low)

Model Approach

Use a regression model trained on publicly available Nigerian property price data. For the hackathon, a lightweight XGBoost or linear regression model with manually curated feature weights is acceptable. The AI/ML engineer should build a simple REST endpoint that the backend calls at listing creation.

6.7 Cross-Border Payment (XB)

User Story

As a diaspora contributor, I want to send money from my foreign bank account and have it land in the pool in naira.

Acceptance Criteria

- User selects 'Pay from abroad' on the contribution screen
- App shows live GBP/USD to NGN conversion rate
- Payment is routed via Interswitch's cross-border rails
- Contribution is credited to the pool in NGN after conversion
- Contributor receives a payment confirmation with the exchange rate used

6.8 Ownership Certificate

User Story

As a pool member, once the property is purchased, I want a digital certificate confirming my ownership stake.

Acceptance Criteria

- Certificate is auto-generated when the 'Property payment complete' milestone is marked
- Certificate shows: member name, property details, ownership percentage, date of purchase, CoOwn verification seal
- Member can download as PDF and share
- Certificate is stored permanently in the document vault

7. Technical Architecture

7.1 Stack

| Layer | Technology | Rationale |
|---------------------|---------------------------------------|--|
| Mobile/Web Frontend | React Native (Expo) or Next.js | Cross-platform, fast to build, good component ecosystem |
| Backend API | Node.js + Express or FastAPI (Python) | Fast setup, REST APIs, good for hackathon pace |
| Database | PostgreSQL (Supabase) | Relational for financial data, Supabase gives real-time out of the box |

| Layer | Technology | Rationale |
|-------------------|---------------------------------------|--|
| Real-time updates | Supabase Realtime or Socket.io | Dashboard needs live contribution updates |
| Payments | Interswitch Quickteller / Webpay API | Required by hackathon brief, handles NGN + XB |
| AI/ML | Python + XGBoost + FastAPI | Lightweight valuation model served as a microservice |
| Auth | Supabase Auth + BVN stub | Fast setup, BVN can be stubbed for demo |
| File Storage | Supabase Storage or Cloudinary | Document vault uploads |
| Agreement Gen | PDF-lib or Puppeteer | Auto-generate signed PDF agreements |
| Hosting | Vercel (frontend) + Railway (backend) | Free tier, fast deploys |

7.2 Database Schema (Key Tables)

| Table | Key Fields |
|---------------|--|
| users | id, name, phone, email, bvn_hash, verified, created_at |
| properties | id, title, location, price, type, images, documents, ai_valuation, status |
| pools | id, property_id, creator_id, name, target_amount, raised_amount, deadline, status, is_public |
| pool_members | id, pool_id, user_id, declared_amount, paid_amount, ownership_pct, joined_at |
| contributions | id, pool_id, user_id, amount, currency, fx_rate, payment_ref, created_at |
| milestones | id, pool_id, title, status, votes_required, votes_received, completed_at |
| documents | id, pool_id, type, url, uploaded_by, created_at |
| agreements | id, pool_id, content_url, signed_by, created_at |

8. The 4-Day Sprint Plan

8.1 Day-by-Day Breakdown

| Day | Theme | PM Focus | Backend | Frontend | AI/ML |
|-------|------------|---|----------------------------------|--|---|
| Day 1 | Foundation | PRD finalised, wireframes briefed, kickoff run, all blockers cleared by EOD | DB schema, auth, repo, env setup | Design system, auth screens, component library | Research property data sources, set up Python env |

| Day | Theme | PM Focus | Backend | Frontend | AI/ML |
|-------|-----------------|--|---|--|---|
| Day 2 | Discovery | Review Day 1 output, cut scope if behind, update demo script | Listings + properties API, seeding 10 dummy listings | Listings page, property cards, search/filter UI | Build valuation model, clean training data |
| Day 3 | Group Formation | QA user flows 1-3, validate mobile responsiveness | Pool CRUD API, invite link generation, member join flow | Pool creation screens, invite link UI, member join page | Expose valuation as REST endpoint, integrate with backend |
| Day 4 | The Core Loop | Mid-sprint review. Feature freeze discussion. Start demo script. | Contribution API, ownership % calc, milestone voting logic | Dashboard hero screen, contribution form, real-time % update | AI property brief generator (1-para summary per listing) |
| Day 5 | Payments + AI | Judge research — know their backgrounds. Rehearse pitch. | Interswitch payment integration, XB conversion, notifications | Agreement screen, document vault, open pool listing UI | Document fraud check (basic), integrate AI brief into UI |
| Day 6 | Polish | Run demo 3 full times. Time it. Cut anything over 5 mins. | Load test, fix critical bugs, ensure demo data is clean | Ownership certificate screen, mobile polish, animations | Final AI accuracy check, ensure valuation shows on all listings |
| Day 7 | Demo Day | Lead the presentation. Open with the problem story. | Keep servers live, monitor, fix hotfixes | Support demo device, have backup screenshots ready | Explain AI features confidently when judges ask |

8.2 PM Rules of Engagement

Rule 1: Protect the demo path above everything else.

Every daily standup starts with: 'Can we demo the core flow today?' If yes, keep building. If no, drop a P2 feature immediately.

Rule 2: Feature freeze is sacred.

No new features after end of Day 5. This is non-negotiable. Polish wins hackathons, not features.

Rule 3: Seed your demo data on Day 4.

Do not wait until Day 7 to populate realistic data. You need compelling property listings, real Nigerian locations, ₦ amounts that feel believable, and a partly-funded pool ready to demo.

Rule 4: Daily standups are 10 minutes maximum.

Yesterday / Today / Blocker. No problem-solving in standups. Take blockers offline immediately after.

9. The AI/ML Integration Strategy

| AI Feature | What It Does | Demo Impact | Effort |
|----------------------|--|---|--------|
| Property Valuation | Estimates market value of each listing using location, size, type, comps | High — visible on every listing card | Medium |
| AI Property Brief | 1-paragraph plain-English summary of the property for each listing | Medium — reduces cognitive load for users | Low |
| Smart Pool Match | Suggests open pools that match a user's saved amount and location preference | High — shows personalisation | Medium |
| Document Risk Check | Flags if uploaded documents look incomplete or inconsistent | High — judges love trust/safety features | High |
| Ownership Forecaster | Predicts estimated value of your stake in 2-3 years based on area growth | Very High — emotional and visual | Medium |

Prioritise in this order: Valuation → Smart Match → Ownership Forecaster. These three have the highest impact.

11. Risk Register

| Risk | Likelihood | Impact | Mitigation |
|--|------------|----------|--|
| Interswitch API integration takes too long | High | High | Build a mock payment flow by Day 3 so the demo works regardless. Integrate real API in parallel. |
| Team falls behind on Day 3-4 | Medium | High | Drop P2 features immediately. PM calls this — no debate. |
| Demo device crashes on Day 7 | Low | Critical | Have 2 devices ready. Have Loom recording as backup. Have screenshots for every screen. |
| AI valuation model is inaccurate | Medium | Low | Show confidence ranges not single figures. 'Est. ₦7.2M — ₦8.8M' is defensible. |
| Open pool mechanic is too complex to build | Medium | Medium | Simplify to a static 'open pool' screen with a join button. The concept matters more than full functionality for the demo. |

| Risk | Likelihood | Impact | Mitigation |
|---------------------------------------|------------|--------|--|
| Real-time dashboard updates are laggy | Low | High | Use Supabase Realtime from Day 1. Test on mobile network, not just WiFi. |

12. What Winning Looks Like

Hackathon judges evaluate on four dimensions. Here is how CoOwn scores against each:

| Dimension | What Judges Look For | CoOwn's Answer |
|---------------------|--|--|
| Innovation | Does this solve a real problem in a new way? | Yes — open pool mechanic is genuinely novel. Group co-ownership with trust infrastructure does not exist in Nigeria. |
| Technical Execution | Is the build solid? Does it actually work? | Real-time dashboard, Interswitch integration, AI valuation, cross-border payments — all functional. |
| Business Viability | Could this be a real company? | Clear monetisation: 1-2% of every transaction. Massive TAM. Network effects built in. |
| Presentation | Do they tell a compelling story? | Emeka's story is relatable to every judge in the room. The certificate close is memorable. |

The team that wins a hackathon doesn't build the most features. They build the most memorable story around a real problem. CoOwn has that story.

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