Project Requirements Document (PRD)

Project Name: Creator Rewards Platform (Hackathon MVP)

Powered by: Vibe Coin

# 1. Project Overview

The Creator Rewards Platform is designed to empower African creators by linking their social media activity with direct on-chain payouts. Using Vibe Coin as the payment token, creators will earn when their content gains engagement (likes, shares, clicks).  
  
Core Rule:  
- For each creator, once total engagements cross 1,000 likes, every additional like generates $0.03 (USD equivalent), paid in Vibe Coin.  
  
This MVP will demonstrate how creators can link wallets, connect social accounts, and receive transparent crypto payouts for their social influence.

# 2. Objectives

- Enable creators to monetize content fairly, bypassing restrictions from traditional platforms.  
- Prove a scalable and transparent model for payouts via blockchain.  
- Showcase an MVP with working social linking → engagement tracking → reward calculation → payout flow.

# 3. Key Features

Creator Features:  
- Sign-up & Wallet Connect (MetaMask/WalletConnect)  
- Link Social Accounts (Twitter/X, Instagram, TikTok)  
- Engagement Tracker: dashboard showing likes, shares, and progress towards payout threshold  
- Earnings Display: total USD equivalent and Vibe Coin earned  
- Payout History: past transactions visible with blockchain explorer links  
  
Admin Features:  
- Dashboard: overview of creators, payouts, and flagged accounts  
- Fraud Monitoring: detect suspicious engagement spikes or bot activity  
- Payout Manager: batch payout execution with audit trail  
  
Reward Logic:  
- 0–999 likes: no payouts  
- 1,000+ likes: $0.03 per additional like (converted to Vibe Coin)  
- Payouts batched daily/weekly for efficiency

# 4. System Architecture

[Social Platforms] --> [API Ingest] --> [Backend Processing]  
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 [Engagement DB] [Reward Calculator] [Payout Engine]  
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 [Blockchain - Vibe Coin Smart Contracts]

# 5. Technical Requirements

Backend:  
- Node.js/TypeScript or Python FastAPI  
- PostgreSQL database  
- Redis caching  
- APIs for Twitter, Instagram, TikTok  
- Reward Engine for payout logic  
  
Frontend:  
- React / Next.js  
- Wallet Connect integration  
- Creator & Admin dashboards  
  
Blockchain:  
- RewardsManager & BatchPayout smart contracts  
- Oracle for USD↔Vibe conversion  
- Testnet deployment

# 6. User Flows

Creator Flow:  
1. Sign up → Connect wallet  
2. Link social accounts (OAuth)  
3. Post content → Engagements tracked  
4. Reach 1,000 likes → payouts start at $0.03 per like  
5. Weekly payout → Vibe Coin sent to wallet  
  
Admin Flow:  
1. Log in → Review dashboard  
2. Monitor flagged accounts  
3. Approve payouts → Trigger batch payout contract  
4. Handle disputes and fraud cases

# 7. Fraud Prevention

- Engagement velocity checks  
- Bot/collusion detection  
- Manual admin approval for large payouts  
- KYC triggers for high-value accounts

# 8. Non-Functional Requirements

- Security: JWT, encryption, multisig  
- Scalability: 10k+ users, millions of engagements  
- Reliability: retries, fallback systems  
- Monitoring: logs, audits

# 9. Hackathon Deliverables

- Creator wallet connection  
- Social linking (at least 1 platform)  
- Engagement ingestion + threshold logic  
- Reward calculator ($0.03/like after 1k)  
- Admin batch payout trigger  
- Demo dashboard (creator + admin)

# 10. Risks & Mitigation

- API Limits → caching & manual verification  
- Gas Fees → batch payouts, L2 scaling  
- Fraud → detection rules + admin review  
- Regulatory Risk → limit payouts for MVP

# 11. Roadmap

Day 1–2: Backend setup, DB schema  
Day 3–5: Social API + dashboard  
Day 6–8: Reward calculator + payout  
Day 9–11: Smart contracts + testnet payout  
Day 12–14: QA, polish UI, demo prep

# 12. Acceptance Criteria

- Wallet & social linking works  
- Likes ingested from 1 platform minimum  
- Payouts start after 1,000 likes  
- Testnet payout successful  
- Admin dashboard functional