PRD: Chama Payment Reminder Bot

Product Vision: Eliminate missed Chama contributions through automated WhatsApp reminders and transparent tracking.

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1. Problem Statement

Core Issue:
- 78% of Chamas fail to meet goals due to forgotten contributions (CBK Kenya, 2023)
- Manual tracking causes errors, disputes, and administrative burden
- Lack of real-time visibility into balances erodes trust

User Pain Points:
- "I lose hours chasing late payments" (Treasurer, Nairobi)
- "I forget deadlines until I'm shamed in the group" (Member, Mombasa)
- "We argue over balances instead of growing our savings" (Chairperson, Kisumu)
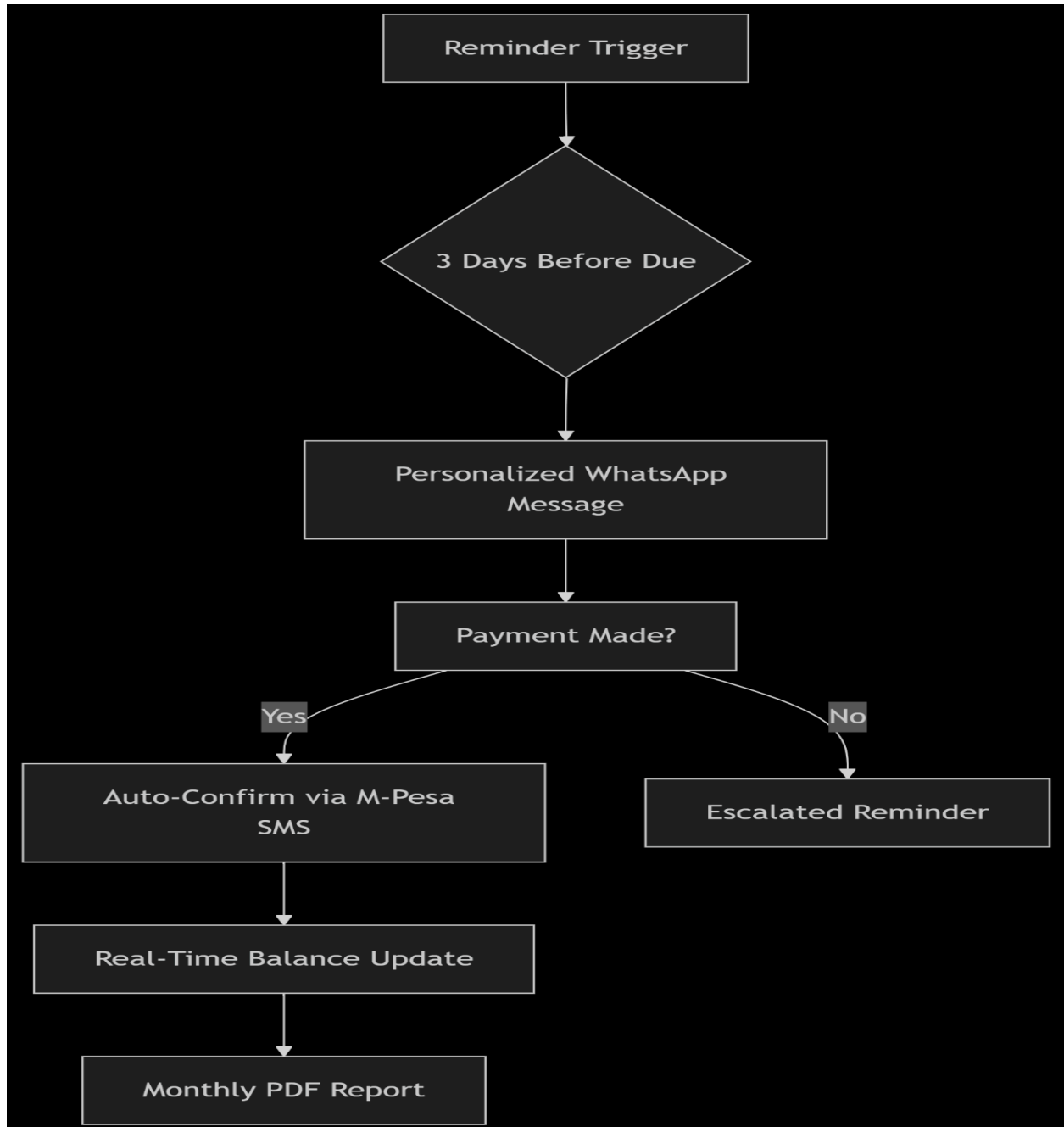
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2. Product Objectives

Goal	Metric	Target
Reduce late payments	On-time contribution rate	90% (from 58%)
Eliminate balance disputes	Reconciliation time	<5 min/month
Drive adoption	Active Chamas	1,000 in 6 months
Revenue growth	Premium conversion	30% of free users

3. Solution Overview

WhatsApp Bot Workflow:

4. Feature Requirements

Core Features (Free Tier)

- Intelligent Reminders
  - Custom schedules (weekly/bi-weekly/monthly)
  - 3-tier escalation: 72hr → 24hr → Due Day + hourly
  - Swahili/English language toggle
- Auto-Tracking
  - M-Pesa SMS parsing (Amount, Date, Transaction ID)
  - Forwarded receipt processing (Equitel, Airtel Money)
  - Discrepancy alerts for mismatched amounts
- Balance Broadcasts
  - Auto-generated after each contribution
  - Visual breakdown: Paid vs. Pending members
  - One-tap request: "BAL" → Instant group update

Premium Features (KES 100/month)

- Smart PDF Reports
  - Contribution history with late payment highlights
  - Interest calculations (customizable rates)
  - Projected payout dates
- Savings Insights
  - "Group Health Score" (timeliness, growth rate)
  - Peer benchmarking (anonymous)
  - Goal tracking: "72% to land purchase target"
- SMS Reminders (Add-on)
  - Failover for WhatsApp offline users
  - Urgent alerts (KES 1/SMS)
  - Delivery receipts

5. Technical Specifications

System Architecture:
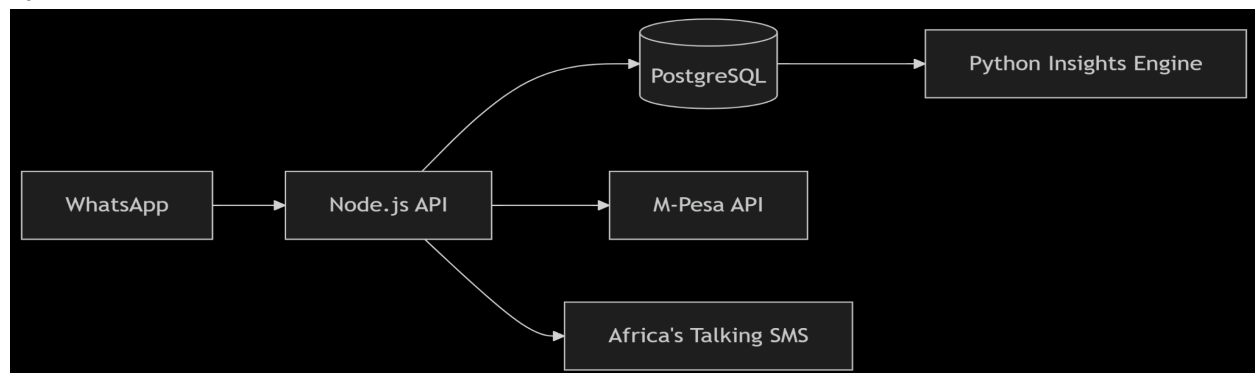
Key Integrations:
- WhatsApp Business API (Twilio)
- M-Pesa Daraja API
- Africa's Talking SMS Gateway
- PDF Generator (PDF-Lib)

6. Monetisation Strategy

Revenue Stream	Price Point	Projected Uptake
Base subscription	KES 100/Chama/month	70% of active Chamas
PDF Report Pack	KES 50/month	45% of subscribers
SMS Reminders	KES 1/message	15% usage during outages
Savings Consultations	KES 500/session	5% of enterprise Chamas

Growth Levers:
- Referral program: 1 month free per new Chama
- NGO partnerships: Subsidised access for women's groups
- Tiered pricing: KES 500/month for >50 members

7. User Flows

Treasurer Setup:
1. Send "JOIN" to the bot
2. Input: Chama name, members (phone numbers), amount, schedule
3. Verify via M-Pesa PIN (KES 1)
4. Activate reminders

Member Payment:
1. Receive reminder: "Habari James! Contribute KES 1,000 via M-Pesa by 5PM"
2. Pay → Forward SMS to the bot
3. Get confirmation: "Asante! Total: KES 84,500. Next: Aisha"

8. Success Metrics

- Activation Rate: >60% complete setup
- Engagement: 85% open reminder messages

- Retention: <5% churn after 3 months
- Virality: 1.8 invites per Chama

9. Roadmap

Phase 1 (MVP):
- Core reminders + M-Pesa tracking
- Basic balance broadcasts

Phase 2 (Q3):
- PDF reports engine
- Swahili NLP for queries

Phase 3 (Q4):
- Auto-advance from group funds
- Government compliance toolkit

10. Risks & Mitigations

Risk	Mitigation
SMS delivery failures	WhatsApp + SMS failover
M-Pesa parsing errors	Manual override + regex tuning
Data privacy concerns	End-to-end encryption
Payment disputes	Blockchain audit trail

Approval:
✅ Product Lead
✅ Engineering Head
✅ Legal Counsel
[ ] Finance Director (Pending ROI review)

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