MVP Whitepaper - Donation Platform

MVP WHITEPAPER - DONATION PLATFORM (SAWERIA-STYLE)
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Stack: Go (Golang) + Bun ORM + Kong API Gateway
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1. PROJECT OVERVIEW

A minimalist and scalable donation platform inspired by Saweria.co. Users can create a profile and receive donations via integrated payment gateways. Streamers can show donation overlays in real time.

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2. TECH STACK

- Backend Language: Go (Golang)
- ORM: Bun (PostgreSQL)
- API Gateway: Kong
- Database: PostgreSQL
- Optional: Redis (caching/queue), Docker (deployment)

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3. MODULES & SERVICES
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1. AUTH SERVICE
   - Handles login, registration, and JWT generation
   - Issues JWT used for authentication via Kong
   - Key Endpoints:
     - POST /login
     - POST /register

2. PROFILE SERVICE
   - Stores user info (username, avatar, bio, links)
   - Key Endpoints:
     - GET /profile
     - PUT /profile

3. DONATION SERVICE
   - Handles donation form submission and logs
   - Key Endpoints:
     - POST /donate
     - GET /donations

4. PAYMENT SERVICE

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   - Integrates payment gateways like Midtrans/Xendit/Tripay
   - Key Endpoints:
     - POST /create-payment
     - POST /webhook

5. OVERLAY SERVICE
   - Renders dynamic overlay (HTML/JS) for OBS
   - Key Endpoints:
     - GET /overlay/:username

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4. FLOW DIAGRAM
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1. USER REGISTRATION / LOGIN
   Client -> POST /api/auth/login
     -> Auth Service returns JWT
     -> Client stores JWT (localStorage)

2. DONATION
   Client -> POST /api/donate (with JWT)
     -> Kong validates JWT
     -> Forward to Donation Service
     -> Donation stored and triggers overlay

3. OVERLAY DISPLAY
   OBS -> Loads GET /overlay/:username
     -> Live data fetched using WebSocket or polling
     -> Donation alert displayed

4. PAYMENT CALLBACK
   Tripay -> POST /webhook
     -> Payment Service verifies and confirms
     -> Updates donation status

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5. JWT FLOW WITH KONG
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- Auth Service issues JWT (HS256 or RS256)
- Kong is configured with JWT Plugin
- All protected routes require Authorization: Bearer <token>
- Kong verifies token before forwarding to services

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6. DATABASE STRUCTURE (Simplified)
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Users
- id (UUID)
- email
- password_hash
- username
- bio
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- created_at

Donations
- id (UUID)
- user_id (foreign key)
- donor_name
- message
- amount
- is_anonymous
- created_at

Payments
- id (UUID)
- donation_id (foreign key)
- method
- status
- reference_id

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7. DEPLOYMENT (Optional MVP Setup)

- Docker Compose with:
  - Kong
  - PostgreSQL
  - Services (Go binaries or containers)

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8. EXTENSIONS (POST-MVP)

- Admin panel
- Donation goals
- Tiered reward system
- Streamlabs/Twitch integration
- Advanced analytics

END OF DOCUMENT
