MVP Whitepaper - Donation Platform

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

Users
- id (UUID)
- email
- password_hash
- username
- bio
- 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