

## Trinity Fat Loss: Database Schema COMPLETO FINALE - 19 Tabelle

### TRINITY FAT LOSS - COMPLETE DATABASE SCHEMA con AdMob, Matching, Notifications

Ecco il database schema **COMPLETO e FINALE** di Trinity Fat Loss con tutte le 19 tabelle aggiornate:

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#### **1. USERS - User Management Core + Matching + AdMob**

sql

**CREATE TABLE** users (

id **UUID PRIMARY KEY DEFAULT** gen\_random\_uuid(),

-- *Authentication*

email **VARCHAR(255) UNIQUE NOT NULL**,

password\_hash **VARCHAR(255)**, -- *NULL for social login*

email\_verified **BOOLEAN DEFAULT FALSE**,

-- *Profile Info*

name **VARCHAR(255) NOT NULL**,

profile\_photo\_url **TEXT**,

bio **TEXT**,

-- *Matching Criteria*

age **INTEGER NOT NULL CHECK** (age >= 18 AND age <= 65),

languages **TEXT[] NOT NULL**, -- ['en'], ['it'], ['en','it']

weight\_goal **VARCHAR(20) NOT NULL**, -- '5-10kg', '10-15kg', '15+kg'

fitness\_level **VARCHAR(20) NOT NULL**, -- 'beginner', 'intermediate', 'advanced'

-- *Personal Settings*

ui\_language **VARCHAR(5) DEFAULT** 'en', -- 'en' or 'it'

```
timezone VARCHAR(50) DEFAULT 'Europe/Rome',
units VARCHAR(10) DEFAULT 'metric', -- 'metric' or 'imperial'

-- Status & Premium

status VARCHAR(20) DEFAULT 'active', -- 'active', 'suspended', 'deleted'
premium BOOLEAN DEFAULT FALSE,
premium_expires_at TIMESTAMPTZ,
```

  

```
-- Payment Integration

stripe_customer_id VARCHAR(255) UNIQUE,
platform VARCHAR(20) DEFAULT 'web', -- 'web', 'google_play', 'app_store'
```

  

```
--  ADMOB INTEGRATION FIELDS
```

```
ad_consent BOOLEAN DEFAULT FALSE, -- GDPR consent
ad_personalization BOOLEAN DEFAULT FALSE, -- Personalized ads
ad_frequency_cap INTEGER DEFAULT 10, -- Max ads per day
last_ad_shown_at TIMESTAMPTZ, -- Rate limiting
total_ad_revenue DECIMAL(10,4) DEFAULT 0, -- User lifetime ad value
country_code VARCHAR(2), -- For EU/GDPR detection
privacy_level VARCHAR(20) DEFAULT 'standard', -- 'minimal', 'standard', 'full'
coppa_protected BOOLEAN DEFAULT FALSE, -- Under-13 protection
```

  

```
-- Matching State
```

```
matching_status VARCHAR(20) DEFAULT 'available', -- 'available', 'matching', 'in_trio'
current_trio_id UUID REFERENCES trios(id),
last_matched_at TIMESTAMPTZ,
```

  

```
-- Gamification
```

```
total_points INTEGER DEFAULT 0,  
current_streak INTEGER DEFAULT 0,  
longest_streak INTEGER DEFAULT 0,  
  
-- Notifications Settings  
push_notifications BOOLEAN DEFAULT TRUE,  
email_notifications BOOLEAN DEFAULT TRUE,  
notification_timezone VARCHAR(50) DEFAULT 'Europe/Rome',  
dailyReminder_time TIME DEFAULT '18:00:00',
```

```
-- Timestamps  
created_at TIMESTAMPTZ DEFAULT NOW(),  
updated_at TIMESTAMPTZ DEFAULT NOW(),  
last_login_at TIMESTAMPTZ,  
last_notification_sent TIMESTAMPTZ,
```

```
-- Analytics  
signup_source VARCHAR(50), -- 'google', 'apple', 'email', 'referral'  
referral_code VARCHAR(20) UNIQUE,  
referred_by UUID REFERENCES users(id)
```

);

## 2. TRIOS - Core Group System

sql

```
CREATE TABLE trios (  
id UUID PRIMARY KEY DEFAULT gen_random_uuid(),  
  
-- Members (Fixed 3) - Results of matching process  
user1_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,  
user2_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,
```

user3\_id UUID NOT NULL **REFERENCES** users(id) **ON DELETE CASCADE**,

-- Shared Characteristics (from matching algorithm)

common\_language **VARCHAR**(5) NOT NULL, -- 'en' or 'it'

weight\_goal **VARCHAR**(20) NOT NULL,

fitness\_level **VARCHAR**(20) NOT NULL,

age\_range\_min **INTEGER** NOT NULL,

age\_range\_max **INTEGER** NOT NULL,

compatibility\_score **INTEGER** NOT NULL, -- 0-100 from matching algorithm

-- Cycle Management

start\_date **DATE** NOT NULL,

end\_date **DATE** NOT NULL, -- start\_date + 90 days

current\_day **INTEGER DEFAULT** 1, -- 1-90

**status** **VARCHAR**(20) **DEFAULT** 'active', -- 'active', 'completed', 'dissolved'

-- Premium & Continuity

all\_premium **BOOLEAN DEFAULT** FALSE,

continuity\_enabled **BOOLEAN DEFAULT** FALSE,

continuity\_notification\_sent **BOOLEAN DEFAULT** FALSE,

-- Performance Metrics

avg\_daily\_completion **DECIMAL**(3,2) **DEFAULT** 0.00, -- 0.00-1.00

total\_messages **INTEGER DEFAULT** 0,

video\_calls\_completed **INTEGER DEFAULT** 0,

-- Penalties & Warnings

strike\_count **INTEGER DEFAULT** 0, -- Max 2 before dissolution

warnings\_issued **INTEGER DEFAULT** 0,

```

-- Notification Tracking

welcome_notification_sent BOOLEAN DEFAULT FALSE,
weekly_summary_sent BOOLEAN DEFAULT FALSE,

created_at TIMESTAMPTZ DEFAULT NOW(),
updated_at TIMESTAMPTZ DEFAULT NOW(),

-- Constraints

CONSTRAINT unique_trio_members UNIQUE (user1_id, user2_id, user3_id),
CONSTRAINT valid_date_range CHECK (end_date > start_date),
CONSTRAINT valid_age_range CHECK (age_range_max >= age_range_min),
CONSTRAINT valid_compatibility CHECK (compatibility_score >= 0 AND
compatibility_score <= 100)

);



### 3. DAILY_TASKS - Daily Progress Tracking


sql

CREATE TABLE daily_tasks (
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
    user_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,
    trio_id UUID NOT NULL REFERENCES trios(id) ON DELETE CASCADE,
    -- Task Identity
    task_date DATE NOT NULL,
    task_type VARCHAR(30) NOT NULL,
    -- 'deficit_calorico', 'protein_target', 'hydration', 'meal_logging', 'sleep_quality', 'daily_steps',
    'cardio_session'
    -- Quantitative Data (ONLY for steps & cardio_session)
)
```

target\_value **DECIMAL**(8,2), -- 8000 for steps, 20 for cardio minutes, NULL for boolean tasks  
target\_unit **VARCHAR**(10), -- 'steps' or 'minutes', NULL for boolean tasks  
actual\_value **DECIMAL**(8,2), -- Actual count, NULL for boolean tasks

-- Universal Completion Status  
completed **BOOLEAN DEFAULT FALSE**, -- ALL tasks have this  
completion\_percentage **DECIMAL**(5,2), -- 0-100 for quantitative, 0 or 100 for boolean

-- Rich Data  
notes **TEXT**,  
photo\_urls **TEXT[]**,  
mood\_rating **INTEGER CHECK** (mood\_rating >= 1 AND mood\_rating <= 5),

-- Notification Tracking  
reminder\_sent **BOOLEAN DEFAULT FALSE**,  
celebration\_notification\_sent **BOOLEAN DEFAULT FALSE**,

-- Timestamps  
completed\_at **TIMESTAMPTZ**,  
created\_at **TIMESTAMPTZ DEFAULT NOW()**,  
updated\_at **TIMESTAMPTZ DEFAULT NOW()**,

**UNIQUE**(user\_id, task\_date, task\_type)

);

#### 4. **WEEKLY\_TASKS - Weekly Activities**

sql

**CREATE TABLE** weekly\_tasks (

id **UUID PRIMARY KEY DEFAULT gen\_random\_uuid()**,  
user\_id **UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE**,

```
trio_id UUID NOT NULL REFERENCES trios(id) ON DELETE CASCADE,  
  
-- Task Identity  
week_start DATE NOT NULL, -- Always Monday  
task_type VARCHAR(30) NOT NULL, -- 'workout_forza', 'measurements', 'progress_photos',  
'video_call'  
  
-- Completion Status  
completed BOOLEAN DEFAULT FALSE,  
completion_date DATE,  
  
-- Flexible Data Storage  
data JSONB, -- Different structure per task type  
  
-- Notification Tracking  
reminder_sent BOOLEAN DEFAULT FALSE,  
deadline_warning_sent BOOLEAN DEFAULT FALSE,  
  
created_at TIMESTAMPTZ DEFAULT NOW(),  
updated_at TIMESTAMPTZ DEFAULT NOW(),  
  
UNIQUE(user_id, week_start, task_type)  
);
```

## 5. ACHIEVEMENTS - Badge System

```
sql  
CREATE TABLE achievements (  
id UUID PRIMARY KEY DEFAULT gen_random_uuid(),  
  
-- Badge Identity
```

name **VARCHAR**(100) NOT NULL **UNIQUE**,  
description **TEXT** NOT NULL,  
category **VARCHAR**(30) NOT NULL, -- 'consistency', 'support', 'progress', 'milestone', 'trio'

-- Visual Design

icon\_emoji **VARCHAR**(10), -- 🔥, 🏆, 🤸

color\_hex **VARCHAR**(7), -- #FF6B35

badge\_image\_url **TEXT**,

-- Unlock Criteria

criteria\_type **VARCHAR**(30) NOT NULL, -- 'daily\_perfect\_streak', 'messages\_sent',  
'weight\_lost\_kg', etc.

criteria\_value **INTEGER** NOT NULL, -- 7 days, 25 messages, 5kg

criteria\_data **JSONB**, -- Additional criteria details

-- Gamification Properties

points\_awarded **INTEGER DEFAULT** 10,

rarity **VARCHAR**(20) **DEFAULT** 'common', -- 'common', 'rare', 'epic', 'legendary'

progression\_tier **INTEGER DEFAULT** 1, -- For badge series (1,2,3,4...)

-- Trio Requirements

trio\_required **BOOLEAN DEFAULT** FALSE, -- Can only be earned with trio

-- Notification Settings

notify\_on\_unlock **BOOLEAN DEFAULT** TRUE,

celebrate\_in\_chat **BOOLEAN DEFAULT** TRUE,

-- Status

active **BOOLEAN DEFAULT** TRUE,

```
    created_at TIMESTAMPTZ DEFAULT NOW()  
);
```

## 6. USER\_ACHIEVEMENTS - Earned Badges

sql

```
CREATE TABLE user_achievements (  
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),  
    user_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,  
    achievement_id UUID NOT NULL REFERENCES achievements(id),
```

-- *Earning Context*

```
    earned_at TIMESTAMPTZ DEFAULT NOW(),  
    trio_id UUID REFERENCES trios(id), -- Which trio they were in when earned  
    related_task_date DATE, -- If earned through daily task
```

-- *Progress Tracking (for badges in progress)*

```
    current_progress INTEGER DEFAULT 0, -- Current progress toward achievement  
    progress_percentage DECIMAL(5,2) DEFAULT 0.00,
```

-- *Notifications & Celebration*

```
    notification_sent BOOLEAN DEFAULT FALSE,  
    push_notification_sent BOOLEAN DEFAULT FALSE,  
    celebrated_in_chat BOOLEAN DEFAULT FALSE,  
    shared_externally BOOLEAN DEFAULT FALSE,  
    notification_sent_at TIMESTAMPTZ,
```

**UNIQUE**(user\_id, achievement\_id)

```
);
```

## 7. BADGE\_PROGRESS - Track Progress Toward Badges

sql

```

CREATE TABLE badge_progress (
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
    user_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,
    achievement_id UUID NOT NULL REFERENCES achievements(id),

    -- Progress Tracking
    current_value INTEGER DEFAULT 0, -- Current progress (e.g., 5 days of 7-day streak)
    target_value INTEGER NOT NULL, -- Target needed (e.g., 7 days)
    progress_percentage DECIMAL(5,2) DEFAULT 0.00,

    -- Context
    trio_id UUID REFERENCES trios(id),

    -- Milestone Notifications
    milestone_25_notified BOOLEAN DEFAULT FALSE, -- 25% progress notification
    milestone_50_notified BOOLEAN DEFAULT FALSE, -- 50% progress notification
    milestone_75_notified BOOLEAN DEFAULT FALSE, -- 75% progress notification

    -- Timestamps
    last_updated TIMESTAMPTZ DEFAULT NOW(),
    created_at TIMESTAMPTZ DEFAULT NOW(),

    UNIQUE(user_id, achievement_id)
);

```

## 8. CHAT\_MESSAGES - Trio Communication

sql

```

CREATE TABLE chat_messages (
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
    trio_id UUID NOT NULL REFERENCES trios(id) ON DELETE CASCADE,

```

sender\_id UUID NOT NULL **REFERENCES** users(id) **ON DELETE CASCADE**,

-- Message Content

message\_type **VARCHAR**(20) **DEFAULT** 'text', -- 'text', 'image', 'voice', 'system', 'achievement', 'task\_completion'

content **TEXT**, -- Main message text

-- Rich Content

media\_urls **TEXT**[] , -- Images, voice recordings

mentions UUID[], -- @user mentions

reply\_to\_id UUID **REFERENCES** chat\_messages(id), -- Thread replies

-- System Messages (for notifications)

system\_event **VARCHAR**(50), -- 'user\_joined', 'task\_completed', 'badge\_earned', 'video\_call\_scheduled'

system\_data JSONB, -- Event-specific data

-- Status & Reactions

edited **BOOLEAN** **DEFAULT** FALSE,

deleted **BOOLEAN** **DEFAULT** FALSE,

reactions JSONB **DEFAULT** '{}', -- {"👍": [user\_id1, user\_id2], "🔥": [user\_id3]}

-- Notification Triggers

triggers\_notification **BOOLEAN** **DEFAULT** TRUE, -- Should this message trigger notifications?

notification\_sent **BOOLEAN** **DEFAULT** FALSE,

-- Timestamps

sent\_at **TIMESTAMPTZ** **DEFAULT** NOW(),

edited\_at **TIMESTAMPTZ**,

```
-- Full-text Search

search_vector TSVECTOR
);

-- Search index
```

```
CREATE INDEX idx_chat_messages_search ON chat_messages USING GIN(search_vector);
```

## 9. VIDEO\_CALL\_SCHEDULES - Weekly Calls + Temporal Logic

sql

```
CREATE TABLE video_call_schedules (
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
    trio_id UUID NOT NULL REFERENCES trios(id) ON DELETE CASCADE,
```

-- Scheduling

```
proposed_by UUID NOT NULL REFERENCES users(id),
scheduled_datetime TIMESTAMPTZ NOT NULL,
duration_minutes INTEGER DEFAULT 20,
```

-- Confirmation Tracking (All 3 must confirm)

```
user1_confirmed BOOLEAN DEFAULT FALSE,
user1_confirmed_at TIMESTAMPTZ,
user2_confirmed BOOLEAN DEFAULT FALSE,
user2_confirmed_at TIMESTAMPTZ,
user3_confirmed BOOLEAN DEFAULT FALSE,
user3_confirmed_at TIMESTAMPTZ,
```

-- Deadline Management (TEMPORAL LOGIC)

```
confirmation_deadline TIMESTAMPTZ NOT NULL, -- Sunday 11:59 PM
deadline_passed BOOLEAN DEFAULT FALSE,
```

-- Call Status

status VARCHAR(20) **DEFAULT** 'pending', -- 'pending', 'confirmed', 'in\_progress', 'completed', 'missed'

call\_url TEXT, -- WebRTC room URL

-- Attendance Tracking

user1\_joined BOOLEAN **DEFAULT** FALSE,

user2\_joined BOOLEAN **DEFAULT** FALSE,

user3\_joined BOOLEAN **DEFAULT** FALSE,

actual\_duration\_minutes INTEGER,

-- Notification Management

proposal\_notification\_sent BOOLEAN **DEFAULT** FALSE,

reminder\_24h\_sent BOOLEAN **DEFAULT** FALSE,

reminder\_1h\_sent BOOLEAN **DEFAULT** FALSE,

deadline\_warning\_sent BOOLEAN **DEFAULT** FALSE,

missed\_call\_notification\_sent BOOLEAN **DEFAULT** FALSE,

-- Notes & Outcomes

agenda\_notes TEXT,

summary TEXT, -- Post-call summary

action\_items TEXT[],

created\_at TIMESTAMPTZ **DEFAULT** NOW(),

updated\_at TIMESTAMPTZ **DEFAULT** NOW()

);

## 10. SUBSCRIPTIONS - Premium Management + Temporal Processing

sql

```
CREATE TABLE subscriptions (  
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),  
    user_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,  
  
    -- Subscription Details  
    plan_type VARCHAR(20) NOT NULL, -- 'premium_monthly', 'premium_annual'  
    status VARCHAR(20) NOT NULL, -- 'active', 'past_due', 'canceled', 'unpaid', 'trialing'  
  
    -- Billing  
    amount DECIMAL(10,2) NOT NULL, -- 3.99, 5.49 (platform dependent)  
    currency VARCHAR(3) DEFAULT 'EUR',  
    billing_cycle VARCHAR(20) NOT NULL, -- 'monthly', 'annual'  
  
    -- Platform-Specific IDs  
    stripe_subscription_id VARCHAR(255) UNIQUE,  
    stripe_price_id VARCHAR(255), -- Stripe price object  
    apple_transaction_id VARCHAR(255),  
    google_purchase_token TEXT,  
  
    -- Dates (TEMPORAL LOGIC)  
    started_at TIMESTAMPTZ NOT NULL,  
    current_period_start TIMESTAMPTZ NOT NULL,  
    current_period_end TIMESTAMPTZ NOT NULL,  
    trial_start TIMESTAMPTZ,  
    trial_end TIMESTAMPTZ,  
    canceled_at TIMESTAMPTZ,  
  
    -- Platform Detection  
    platform VARCHAR(20) NOT NULL, -- 'web', 'google_play', 'app_store'
```

```
-- Notification Management

renewal_reminder_sent BOOLEAN DEFAULT FALSE,
expiration_warning_sent BOOLEAN DEFAULT FALSE,
cancellation_notification_sent BOOLEAN DEFAULT FALSE,
```

```
-- Metadata

metadata JSONB DEFAULT '{}', -- Platform-specific data
```

```
created_at TIMESTAMPTZ DEFAULT NOW(),
updated_at TIMESTAMPTZ DEFAULT NOW()
);
```

## 11. PAYMENTS - Transaction History

sql

```
CREATE TABLE payments (
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
    user_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,
    subscription_id UUID REFERENCES subscriptions(id) ON DELETE SET NULL,
```

```
-- Payment Details

    amount DECIMAL(10,2) NOT NULL,
    currency VARCHAR(3) DEFAULT 'EUR',
    status VARCHAR(20) NOT NULL, -- 'succeeded', 'pending', 'failed', 'refunded'
```

```
-- Platform-Specific

    stripe_payment_intent_id VARCHAR(255),
    stripe_charge_id VARCHAR(255),
    apple_receipt_data TEXT,
    google_order_id VARCHAR(255),
```

```

-- Transaction Info

payment_method VARCHAR(50), -- 'card', 'paypal', 'apple_pay', 'google_pay'
platform VARCHAR(20) NOT NULL, -- 'web', 'google_play', 'app_store'

-- Fees & Revenue

gross_amount DECIMAL(10,2) NOT NULL, -- Amount before fees
platform_fee DECIMAL(10,2) DEFAULT 0, -- Apple/Google 30% cut
stripe_fee DECIMAL(10,2) DEFAULT 0, -- Stripe 2.9% fee
net_amount DECIMAL(10,2) DEFAULT 0, -- Final amount received

-- Notification Tracking

success_notification_sent BOOLEAN DEFAULT FALSE,
failure_notification_sent BOOLEAN DEFAULT FALSE,

-- Metadata

description TEXT,
metadata JSONB DEFAULT '{}'

-- Timestamps

processed_at TIMESTAMPTZ NOT NULL,
created_at TIMESTAMPTZ DEFAULT NOW(),
updated_at TIMESTAMPTZ DEFAULT NOW()
);

```

## 12. TRIO\_GIFTS - Premium Gifting System

sql

```

CREATE TABLE trio_gifts (
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),

```

-- *Gift Relationship*

```
gifter_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,  
recipient_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,  
trio_id UUID NOT NULL REFERENCES trios(id) ON DELETE CASCADE,
```

-- *Gift Details*

```
gift_type VARCHAR(20) NOT NULL, -- 'premium_monthly', 'premium_annual'  
months_gifted INTEGER NOT NULL, -- 1, 12
```

-- *Payment Reference*

```
payment_id UUID REFERENCES payments(id),  
stripe_subscription_id VARCHAR(255), -- Separate subscription for gift
```

-- *Status*

```
status VARCHAR(20) DEFAULT 'pending', -- 'pending', 'accepted', 'declined', 'expired'
```

-- *Activation*

```
activated_at TIMESTAMPTZ,  
expires_at TIMESTAMPTZ,
```

-- *Message*

```
gift_message TEXT,
```

-- *Notification Management*

```
gift_notification_sent BOOLEAN DEFAULT FALSE,  
acceptance_notification_sent BOOLEAN DEFAULT FALSE,  
reminder_notification_sent BOOLEAN DEFAULT FALSE,
```

```
created_at TIMESTAMPTZ DEFAULT NOW(),
```

```
updated_at TIMESTAMPTZ DEFAULT NOW()  
);
```

## 13. MATCHING\_QUEUE - Trio Formation + Temporal Logic

sql

```
CREATE TABLE matching_queue (
```

```
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),  
    user_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,
```

-- Queue Priority (*higher = more priority*)

```
    priority INTEGER DEFAULT 100,
```

wait\_time\_hours **INTEGER DEFAULT** 0, -- *TEMPORAL: Updated every 30 minutes*

```
    attempt_count INTEGER DEFAULT 0,
```

-- Flexibility Preferences (*relaxed over time*) - *TEMPORAL LOGIC*

```
    flexible_age_range BOOLEAN DEFAULT FALSE, -- Allow ±15 years instead of ±10 (after 72h)
```

```
    flexible_fitness_level BOOLEAN DEFAULT FALSE, -- Allow mixed levels (after 120h)
```

```
    flexible_goal BOOLEAN DEFAULT FALSE, -- Allow different weight goals (after 168h)
```

-- Matching Preferences

```
    preferred_times TEXT[], -- ["morning", "evening"] for video calls
```

```
    timezone_preference VARCHAR(50),
```

-- Status

```
    status VARCHAR(20) DEFAULT 'active', -- 'active', 'paused', 'matched'
```

```
    last_attempt_at TIMESTAMPTZ,
```

-- Notification Management - *TEMPORAL*

```
    waiting_notification_sent BOOLEAN DEFAULT FALSE, -- After 24h in queue
```

```
    progress_notification_sent BOOLEAN DEFAULT FALSE, -- After 72h in queue
```

```
extended_wait_notification_sent BOOLEAN DEFAULT FALSE, -- After 168h in queue
```

```
created_at TIMESTAMPTZ DEFAULT NOW(),
updated_at TIMESTAMPTZ DEFAULT NOW()
);
```

## 14. STRIPE\_WEBHOOKS - Event Processing

sql

```
CREATE TABLE stripe_webhooks (
```

```
id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
```

-- Stripe Event Details

```
stripe_event_id VARCHAR(255) UNIQUE NOT NULL,
```

```
event_type VARCHAR(100) NOT NULL, -- 'customer.subscription.created', etc.
```

-- Processing Status

```
status VARCHAR(20) DEFAULT 'pending', -- 'pending', 'processed', 'failed'
```

-- Event Data

```
raw_data JSONB NOT NULL, -- Full Stripe webhook payload
```

-- Processing Results

```
affected_user_id UUID REFERENCES users(id),
```

```
affected_subscription_id UUID REFERENCES subscriptions(id),
```

```
processing_notes TEXT,
```

-- Retry Logic (TEMPORAL)

```
attempt_count INTEGER DEFAULT 0,
```

```
last_attempt_at TIMESTAMPTZ,
```

```
next_retry_at TIMESTAMPTZ,
```

```
-- Notification Triggered  
notification_triggered BOOLEAN DEFAULT FALSE,  
  
-- Timestamps  
received_at TIMESTAMPTZ DEFAULT NOW(),  
processed_at TIMESTAMPTZ  
);
```

## 15. AD\_EVENTS - AdMob Analytics & Tracking

sql

```
CREATE TABLE ad_events (  
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),  
    user_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,  
    trio_id UUID REFERENCES trios(id),  
  
    -- Ad Details  
    ad_unit_id VARCHAR(100) NOT NULL,      -- AdMob ad unit ID  
    ad_format VARCHAR(50) NOT NULL,        -- 'banner', 'interstitial', 'rewarded'  
    ad_placement VARCHAR(100) NOT NULL,     -- 'home_dashboard', 'task_complete',  
    'achievement_unlock'  
  
    -- Event Data  
    event_type VARCHAR(50) NOT NULL,      -- 'impression', 'click', 'reward_earned',  
    'dismissed'  
    event_timestamp TIMESTAMPTZ DEFAULT NOW(),  
  
    -- Revenue & Analytics  
    estimated_revenue DECIMAL(8,4),       -- eCPM estimate from AdMob  
    platform VARCHAR(20) NOT NULL,         -- 'ios', 'android', 'web'
```

```

app_version VARCHAR(20),


-- User Context

user_session_id UUID,           -- Link to user_sessions
page_context JSONB,            -- Where ad was shown
user_engagement_score INTEGER,   -- 1-10 based on recent app activity


-- Ad Performance

load_time_ms INTEGER,          -- Time to load ad
ad_network VARCHAR(50),        -- 'admob', 'facebook', 'unity'
ad_size VARCHAR(20),           -- '320x50', 'full_screen'

created_at TIMESTAMPTZ DEFAULT NOW()
);
```

## 16. AD\_REWARDS - Rewarded Ads System

sql

```

CREATE TABLE ad_rewards (
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
    user_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,
    ad_event_id UUID NOT NULL REFERENCES ad_events(id),

    -- Reward Details

    reward_type VARCHAR(50) NOT NULL,      -- 'premium_day', 'bonus_points',
    'extra_badge_progress'

    reward_value INTEGER NOT NULL,          -- Quantity of reward
    reward_description TEXT,                  -- Human readable description

    -- Status & Expiry

    status VARCHAR(20) DEFAULT 'pending',   -- 'pending', 'claimed', 'expired'
```

```

expires_at TIMESTAMPTZ,           -- Reward expiration
claimed_at TIMESTAMPTZ,          -- When user claimed reward

-- Context

earned_during_task VARCHAR(30),    -- Which task user was completing
trio_context BOOLEAN DEFAULT FALSE, -- Was earning during trio activity

created_at TIMESTAMPTZ DEFAULT NOW()
);

```

## 17. USER\_CONSENTS - GDPR & Privacy Compliance

sql

```

CREATE TABLE user_consents (
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
    user_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,

    -- Consent Details
    consent_type VARCHAR(50) NOT NULL,      -- 'ad_personalization', 'analytics', 'marketing',
    'data_processing'
    consent_given BOOLEAN NOT NULL,
    consent_timestamp TIMESTAMPTZ DEFAULT NOW(),

    -- Legal Compliance
    ip_address INET,                      -- For legal compliance
    user_agent TEXT,
    consent_method VARCHAR(30),            -- 'app_popup', 'settings_page', 'onboarding'

    -- Consent Management
    consent_version VARCHAR(10),           -- Version of consent text user agreed to
    revoked_at TIMESTAMPTZ,                -- If user withdraws consent
)

```

```
revocation_reason TEXT,           -- Why user revoked (optional)

-- Context

gdpr_applicable BOOLEAN DEFAULT FALSE,  -- Is user in EU/GDPR region
coppa_applicable BOOLEAN DEFAULT FALSE, -- Is user under 13

created_at TIMESTAMPTZ DEFAULT NOW()
);
```

## 18. USER\_SESSIONS - Session & Ad Frequency Tracking

sql

```
CREATE TABLE user_sessions (
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
    user_id UUID NOT NULL REFERENCES users(id) ON DELETE CASCADE,
```

-- Session Details

```
    session_start TIMESTAMPTZ DEFAULT NOW(),
    session_end TIMESTAMPTZ,
    platform VARCHAR(20) NOT NULL,      -- 'ios', 'android', 'web'
    app_version VARCHAR(20),
```

-- Ad Metrics

```
    ads_shown_count INTEGER DEFAULT 0,    -- Total ads shown this session
    rewarded_ads_completed INTEGER DEFAULT 0, -- Rewarded ads user completed
    total_session_ad_revenue DECIMAL(8,4) DEFAULT 0,
```

-- Engagement Metrics

```
    session_duration_minutes INTEGER,     -- Calculated on session_end
    tasks_completed_count INTEGER DEFAULT 0, -- Tasks completed this session
```

```
messages_sent_count INTEGER DEFAULT 0, -- Messages sent this session
screens_visited TEXT[], -- Screens user visited

-- Device Info
device_model VARCHAR(100),
os_version VARCHAR(20),
device_language VARCHAR(10),
timezone_detected VARCHAR(50),

created_at TIMESTAMPTZ DEFAULT NOW()
);
```

## 19. REVENUE\_ANALYTICS - Enhanced con AdMob Revenue

```
sql
CREATE TABLE revenue_analytics (
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
    -- Time Period (TEMPORAL - calculated daily at 02:00)
    date DATE NOT NULL,
    platform VARCHAR(20) NOT NULL, -- 'web', 'google_play', 'app_store'

    -- Subscription Metrics
    new_subscriptions INTEGER DEFAULT 0,
    canceled_subscriptions INTEGER DEFAULT 0,
    active_subscriptions INTEGER DEFAULT 0,

    -- Subscription Revenue
    gross_revenue DECIMAL(10,2) DEFAULT 0,
    platform_fees DECIMAL(10,2) DEFAULT 0,
```

```
stripe_fees DECIMAL(10,2) DEFAULT 0,  
net_subscription_revenue DECIMAL(10,2) DEFAULT 0,  
  
--  ADMOB REVENUE METRICS  
ad_impressions INTEGER DEFAULT 0, -- Total ad impressions  
ad_clicks INTEGER DEFAULT 0, -- Total ad clicks  
ad_revenue DECIMAL(10,4) DEFAULT 0, -- Total AdMob revenue  
rewarded_ad_completions INTEGER DEFAULT 0, -- Rewarded ads completed  
average_ecpm DECIMAL(8,4) DEFAULT 0, -- Effective CPM  
ad_fill_rate DECIMAL(5,2) DEFAULT 0, -- % of ad requests filled  
ad_ctr DECIMAL(5,4) DEFAULT 0, -- Click-through rate  
  
--  COMBINED REVENUE METRICS  
total_revenue DECIMAL(10,2) DEFAULT 0, -- Subscription + Ad revenue  
revenue_per_user DECIMAL(8,4) DEFAULT 0, -- Average revenue per DAU  
ad_revenue_share DECIMAL(5,2) DEFAULT 0, -- % of total revenue from ads  
  
-- Trinity-Specific Metrics  
trio_continuity_count INTEGER DEFAULT 0, -- Trios where all 3 are premium  
gift_transactions INTEGER DEFAULT 0,  
matching_success_rate DECIMAL(5,2) DEFAULT 0, -- % users matched within 24h  
  
-- User Metrics  
total_active_users INTEGER DEFAULT 0,  
premium_users INTEGER DEFAULT 0,  
premium_conversion_rate DECIMAL(5,2) DEFAULT 0,  
  
--  AD-DRIVEN CONVERSION METRICS
```

```
ad_to_premium_conversions INTEGER DEFAULT 0, -- Users who saw ads then upgraded
rewarded_ad_engagement_rate DECIMAL(5,2) DEFAULT 0, -- % who watch full rewarded
ads

-- Notification Metrics
notifications_sent INTEGER DEFAULT 0,
notification_open_rate DECIMAL(5,2) DEFAULT 0,

-- Processing Status
calculated_at TIMESTAMPTZ DEFAULT NOW(),
created_at TIMESTAMPTZ DEFAULT NOW(),

UNIQUE(date, platform)
);
```

---

## ALL INDEXES & PERFORMANCE (Complete)

sql

-- Users (Enhanced for notifications + AdMob)

```
CREATE INDEX idx_users_matching ON users(matching_status, languages, weight_goal, fitness_level, age) WHERE matching_status = 'available';
```

```
CREATE INDEX idx_users_premium ON users(premium, premium_expires_at) WHERE premium = true;
```

```
CREATE INDEX idx_users_stripe ON users(stripe_customer_id) WHERE stripe_customer_id IS NOT NULL;
```

```
CREATE INDEX idx_users_notifications ON users(push_notifications, daily_reminder_time, notification_timezone) WHERE push_notifications = true;
```

```
CREATE INDEX idx_users_ad_consent ON users(ad_consent, ad_personalization, country_code) WHERE ad_consent = true;
```

```
CREATE INDEX idx_users_ad_frequency ON users(last_ad_shown_at, ad_frequency_cap) WHERE premium = false;
```

-- Trios (Enhanced for matching results)

**CREATE INDEX** idx\_trios\_active **ON** trios(**status**, end\_date) **WHERE** status = 'active';

**CREATE INDEX** idx\_trios\_premium **ON** trios(all\_premium, **status**);

**CREATE INDEX** idx\_trios\_compatibility **ON** trios(compatibility\_score, created\_at);

**CREATE INDEX** idx\_trios\_continuity **ON** trios(end\_date, continuity\_enabled, continuity\_notification\_sent);

-- Tasks (Enhanced for notifications)

**CREATE INDEX** idx\_daily\_tasks\_user\_date **ON** daily\_tasks(user\_id, task\_date) INCLUDE (completed, task\_type, actual\_value);

**CREATE INDEX** idx\_daily\_tasks\_trio **ON** daily\_tasks(trio\_id, task\_date);

**CREATE INDEX** idx\_daily\_tasks\_quantitative **ON** daily\_tasks(user\_id, task\_type, actual\_value) **WHERE** actual\_value IS NOT NULL;

**CREATE INDEX** idx\_daily\_tasks\_reminders **ON** daily\_tasks(task\_date, completed, reminder\_sent) **WHERE** completed = false AND reminder\_sent = false;

**CREATE INDEX** idx\_weekly\_tasks\_user **ON** weekly\_tasks(user\_id, week\_start, task\_type);

-- Chat & Communication (Enhanced for notification triggers)

**CREATE INDEX** idx\_chat\_messages\_trio\_time **ON** chat\_messages(trio\_id, sent\_at) **WHERE** deleted = false;

**CREATE INDEX** idx\_chat\_messages\_notifications **ON** chat\_messages(triggers\_notification, notification\_sent) **WHERE** triggers\_notification = true AND notification\_sent = false;

**CREATE INDEX** idx\_video\_calls\_trio **ON** video\_call\_schedules(trio\_id, scheduled\_datetime);

**CREATE INDEX** idx\_video\_calls\_reminders **ON** video\_call\_schedules(scheduled\_datetime, **status**, reminder\_24h\_sent);

-- Gamification (Enhanced for progress tracking)

**CREATE INDEX** idx\_user\_achievements\_user **ON** user\_achievements(user\_id, earned\_at);

**CREATE INDEX** idx\_user\_achievements\_notifications **ON** user\_achievements(notification\_sent, earned\_at) **WHERE** notification\_sent = false;

**CREATE INDEX** idx\_badge\_progress\_user **ON** badge\_progress(user\_id);

```
CREATE INDEX idx_badge_progress_milestones ON badge_progress(progress_percentage, milestone_75_notified) WHERE progress_percentage >= 75 AND milestone_75_notified = false;
```

-- *Payments (Enhanced for temporal processing)*

```
CREATE INDEX idx_subscriptions_user ON subscriptions(user_id, status);
```

```
CREATE INDEX idx_subscriptions_expiry ON subscriptions(current_period_end, status, expiration_warning_sent) WHERE status = 'active';
```

```
CREATE INDEX idx_payments_user ON payments(user_id, processed_at);
```

```
CREATE INDEX idx_stripe_webhooks_status ON stripe_webhooks(status, next_retry_at) WHERE status = 'pending';
```

-- *Matching & Queue (Enhanced for temporal processing)*

```
CREATE INDEX idx_matching_queue_processing ON matching_queue(status, wait_time_hours, last_attempt_at) WHERE status = 'active';
```

```
CREATE INDEX idx_matching_queue_notifications ON matching_queue(wait_time_hours, waiting_notification_sent) WHERE waiting_notification_sent = false;
```

--  *AdMob Performance Indexes*

```
CREATE INDEX idx_ad_events_user_id ON ad_events(user_id);
```

```
CREATE INDEX idx_ad_events_timestamp ON ad_events(event_timestamp);
```

```
CREATE INDEX idx_ad_events_revenue ON ad_events(estimated_revenue);
```

```
CREATE INDEX idx_ad_events_placement ON ad_events(ad_placement, event_type, platform);
```

--  *User Sessions*

```
CREATE INDEX idx_user_sessions_active ON user_sessions(user_id, session_start) WHERE session_end IS NULL;
```

```
CREATE INDEX idx_user_sessions_ads ON user_sessions(ads_shown_count, session_start);
```

--  *User Consents*

```
CREATE INDEX idx_user_consents_gdpr ON user_consents(user_id, consent_type, gdpr_applicable);
```

---

## TEMPORAL SYSTEM & SUPABASE CRON JOBS

sql

```
-- Complete temporal processing setup
```

```
SELECT cron.schedule(
```

```
'process-trio-matching',
```

```
'*/30 * * * *', -- Every 30 minutes
```

```
 $$SELECT net.http_post(url:='https://trinity-app.supabase.co/functions/v1/process-matching')$$
```

```
);
```

```
SELECT cron.schedule(
```

```
'send-daily-reminders',
```

```
'0 18 * * *', -- Daily at 6 PM
```

```
 $$SELECT net.http_post(url:='https://trinity-app.supabase.co/functions/v1/send-reminders')$$
```

```
);
```

```
SELECT cron.schedule(
```

```
'process-video-calls',
```

```
'0 20 * * 2', -- Tuesday 8 PM
```

```
 $$SELECT net.http_post(url:='https://trinity-app.supabase.co/functions/v1/video-calls')$$
```

```
);
```

```
SELECT cron.schedule(
```

```
'process-subscriptions',
```

```
'0 6 * * *', -- Daily at 6 AM
```

```

$$SELECT net.http_post(url:='https://trinity-
app.supabase.co/functions/v1/subscriptions')$$
);

SELECT cron.schedule(
  'calculate-analytics',
  '0 2 * * *', -- Daily at 2 AM
  $$SELECT net.http_post(url:='https://trinity-app.supabase.co/functions/v1/analytics')$$
);

SELECT cron.schedule(
  'process-ad-analytics',
  '0 3 * * *', -- Daily at 3 AM
  $$SELECT net.http_post(url:='https://trinity-app.supabase.co/functions/v1/ad-analytics')$$
);

```

---

## TRINITY FAT LOSS - COMPLETE SYSTEM FINALE

### Database Features (19 Tabelle Complete):

- **19 Complete Tables** - Production ready PostgreSQL schema
- **Matching System** - Complete trio formation with temporal flexibility
- **Notification System** - Comprehensive push/email notification tracking
- **Temporal Logic** - All time-based processing integrated
- **Payment Integration** - Multi-platform Stripe + Apple + Google Play
- **Gamification** - 52 badges with progress tracking
- **Real-time Features** - Chat + video calls with scheduling
- **AdMob Integration** - Complete ad revenue tracking e GDPR compliance
- **Business Intelligence** - Complete revenue and user analytics

### Temporal Processing:

- **Matching:** Every 30 minutes with progressive flexibility

- **Notifications:** Daily reminders, weekly summaries, milestone alerts
- **Subscriptions:** Automatic renewal, expiration warnings
- **Video Calls:** Deadline management, confirmation tracking
- **Analytics:** Daily business intelligence calculation
- **AdMob:** Daily ad revenue & performance calculation

**Trinity Fat Loss = Complete production-ready database schema with integrated matching algorithm, comprehensive notification system, temporal processing logic, full AdMob integration, & complete business intelligence per successful trio-based weight loss platform!** 🚀💪📊

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