

Dance Website - Visual ERD (Mermaid)

Entity Relationship Diagram

```

erDiagram
    USERS {
        bigint id PK
        varchar email UK
        varchar password_hash
        varchar full_name
        varchar phone
        varchar dance_style
        varchar skill_level
        text bio
        varchar profile_image
        boolean is_verified
        json preferences
        timestamp created_at
        timestamp updated_at
    }

    ADMINS {
        bigint id PK
        varchar email UK
        varchar password_hash
        varchar username UK
        varchar role
        timestamp created_at
        timestamp updated_at
        timestamp last_login
        boolean is_active
    }

    INSTRUCTORS {
        bigint id PK
        varchar name
        varchar specialty
        text bio
        varchar image_url
        varchar experience
        json social_links
        decimal rating
        boolean is_active
        timestamp created_at
        timestamp updated_at
    }

    CLASSES {
        bigint id PK
        varchar title
        text description
        varchar level
        varchar dance_style
        int duration
        int max_capacity
        decimal price
        json schedule_days
        time schedule_time
        text requirements
        varchar image_url
        boolean is_active
        timestamp created_at
        timestamp updated_at
    }

    EVENTS {
        bigint id PK
        varchar title
        text description
        varchar event_type
        date start_date
        date end_date
        time start_time
        time end_time
        varchar location
        text address
        decimal price
        int max_attendees
        int current_attendees
        varchar image_url
        varchar organizer
        json tags
        decimal rating
        varchar status
        boolean is_featured
        timestamp created_at
        timestamp updated_at
    }

    CLASS_INSTRUCTORS {
        bigint id PK
        bigint class_id FK
        bigint instructor_id FK
        boolean is_primary
        timestamp created_at
    }

```

```
CLASS_BOOKINGS {
  bigint id PK
  bigint user_id FK
  bigint class_id FK
  timestamp booking_date
  varchar status
  varchar payment_status
  decimal amount_paid
  varchar payment_method
  text notes
  timestamp created_at
  timestamp updated_at
}

EVENT_BOOKINGS {
  bigint id PK
  bigint user_id FK
  bigint event_id FK
  timestamp booking_date
  varchar status
  varchar payment_status
  decimal amount_paid
  varchar payment_method
  text notes
  timestamp created_at
  timestamp updated_at
}

CONTACT_MESSAGES {
  bigint id PK
  varchar name
  varchar email
  varchar phone
  text message
  varchar subject
  boolean is_read
  text admin_response
  timestamp created_at
  timestamp updated_at
}

PARTNER_REQUESTS {
  bigint id PK
  bigint requester_id FK
  varchar dance_style
  varchar skill_level
  varchar location
  json availability
  text message
  varchar status
  timestamp created_at
  timestamp updated_at
}

PARTNER_MATCHES {
  bigint id PK
  bigint user1_id FK
  bigint user2_id FK
  decimal match_score
  varchar status
  timestamp created_at
  timestamp updated_at
}

TESTIMONIALS {
  bigint id PK
  bigint user_id FK
  decimal rating
  text message
  boolean is_featured
  boolean is_approved
  timestamp created_at
  timestamp updated_at
}

DANCE_STYLES {
  bigint id PK
  varchar name
  text description
  varchar image_url
  varchar difficulty_level
  int popularity
  varchar category
  boolean is_active
  timestamp created_at
  timestamp updated_at
}

NEWSLETTERS {
  bigint id PK
  varchar email
  varchar name
```

```
    boolean is_subscribed
    json preferences
    timestamp subscribed_at
    timestamp unsubscribed_at
    timestamp created_at
    timestamp updated_at
}

NOTIFICATIONS {
    bigint id PK
    bigint user_id FK
    varchar type
    varchar title
    text message
    boolean is_read
    varchar priority
    varchar action_url
    timestamp created_at
}

FORUM_POSTS {
    bigint id PK
    bigint user_id FK
    varchar category
    varchar title
    text content
    json tags
    int views_count
    int likes_count
    int replies_count
    boolean is_pinned
    boolean is_locked
    timestamp created_at
    timestamp updated_at
}

FORUM_REPLIES {
    bigint id PK
    bigint post_id FK
    bigint user_id FK
    bigint parent_id FK
    text content
    int likes_count
    boolean is_solution
    timestamp created_at
    timestamp updated_at
}

AUDIT_LOGS {
    bigint id PK
    bigint user_id FK
    bigint admin_id FK
    varchar action
    varchar table_name
    bigint record_id
    json old_values
    json new_values
    varchar ip_address
    varchar user_agent
    timestamp created_at
}

SETTINGS {
    bigint id PK
    varchar key
    text value
    varchar type
    text description
    boolean is_public
    timestamp created_at
    timestamp updated_at
}

USER_DASHBOARDS {
    bigint id PK
    bigint user_id FK
    varchar title
    json layout_config
    varchar theme
    boolean is_default
    varchar visibility
    timestamp last_accessed
    timestamp created_at
    timestamp updated_at
}

DASHBOARD_WIDGETS {
    bigint id PK
    bigint dashboard_id FK
    varchar widget_type
    int position_x
    int position_y
    int width
}
```

```

    int height
    json settings
    varchar title
    boolean is_visible
    timestamp created_at
    timestamp updated_at
}

USER_ANALYTICS {
    bigint id PK
    bigint user_id FK
    int login_count
    int class_bookings
    int event_bookings
    decimal total_spent
    int forum_posts
    int forum_replies
    int partner_requests
    decimal avg_class_rating
    timestamp last_login
    int streak_days
    timestamp created_at
    timestamp updated_at
}

USER_GOALS {
    bigint id PK
    bigint user_id FK
    varchar title
    text description
    varchar goal_type
    int target_value
    int current_value
    date start_date
    date end_date
    varchar priority
    varchar status
    timestamp created_at
    timestamp updated_at
}

USER_ACTIVITY_LOG {
    bigint id PK
    bigint user_id FK
    varchar activity_type
    varchar entity_type
    bigint entity_id
    varchar action
    json details
    varchar ip_address
    varchar user_agent
    timestamp created_at
}

DASHBOARD_LAYOUTS {
    bigint id PK
    varchar name
    text description
    json template
    int columns
    boolean is_default
    boolean is_active
    timestamp created_at
    timestamp updated_at
}

%% Relationships
USERS ||--o{ CLASS_BOOKINGS : books
USERS ||--o{ EVENT_BOOKINGS : books
USERS ||--o{ PARTNER_REQUESTS : creates
USERS ||--o{ TESTIMONIALS : writes
USERS ||--o{ NOTIFICATIONS : receives
USERS ||--o{ FORUM_POSTS : creates
USERS ||--o{ FORUM_REPLIES : writes
USERS ||--o{ AUDIT_LOGS : performs

CLASSES ||--o{ CLASS_BOOKINGS : has
CLASSES ||--o{ CLASS_INSTRUCTORS : taught_by

EVENTS ||--o{ EVENT_BOOKINGS : has

INSTRUCTORS ||--o{ CLASS_INSTRUCTORS : teaches

FORUM_POSTS ||--o{ FORUM_REPLIES : has
FORUM_REPLIES ||--o{ FORUM_REPLIES : nested_in

ADMINS ||--o{ AUDIT_LOGS : performs

USERS ||--o{ PARTNER_MATCHES : user1
USERS ||--o{ PARTNER_MATCHES : user2

USERS ||--o{ USER_DASHBOARDS : owns
USERS ||--|| USER_ANALYTICS : has

```

```
USERS ||--o{ USER_GOALS : sets
USERS ||--o{ USER_ACTIVITY_LOG : performs

USER_DASHBOARDS ||--o{ DASHBOARD_WIDGETS : contains
```

Database Schema Overview

Core Business Entities

- Users & Authentication**
- USERS - Regular website users
- ADMINS - Administrative users with elevated permissions
- Content Management**
- INSTRUCTORS - Dance instructors
- CLASSES - Regular dance classes
- EVENTS - Special events and workshops
- DANCE_STYLES - Available dance styles
- Booking System**
- CLASS_BOOKINGS - Class registrations
- EVENT_BOOKINGS - Event registrations
- Partner Matching**
- PARTNER_REQUESTS - User requests for dance partners
- PARTNER_MATCHES - AI-generated partner matches
- Community Features**
- FORUM_POSTS - Community discussion posts
- FORUM_REPLIES - Threaded replies to posts
- TESTIMONIALS - User reviews and testimonials
- Communication**
- CONTACT_MESSAGES - Contact form submissions
- NEWSLETTERS - Newsletter subscriptions
- NOTIFICATIONS - User notifications
- System Management**
- AUDIT_LOGS - System audit trail
- SETTINGS - Application settings

Key Features Supported

1. User Management

- User registration and authentication
- Profile management with dance preferences
- Role-based access control

2. Class & Event Management

- Instructors can be assigned to multiple classes
- Booking system with capacity management
- Payment tracking and status management

3. Partner Matching System

- Users can request dance partners
- AI-powered matching based on preferences
- Match scoring and status tracking

4. Community Platform

- Threaded forum discussions
- User testimonials and reviews
- Notification system

5. Admin Dashboard

- Complete CRUD operations on all entities
- Audit logging for compliance
- Contact message management
- User and booking analytics

Indexing Strategy

- Primary keys on all tables
- Foreign key indexes for joins
- Email indexes for authentication
- Search indexes on text fields
- Composite indexes for common queries

This ERD provides a comprehensive foundation for the dance website's backend system with admin panel capabilities.