Università degli studi di Messina

Dipartimento di Scienze Matematiche, Informatiche, Scienze Fisiche e Scienze della Terra

Course*:* Data Analysis

Project on “Web Programming”

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Overview

Eventus is a comprehensive event management platform that connects users with exciting events while providing administrators with powerful tools to manage content. The system features a responsive web interface, secure authentication, and a robust backend API.

1.User-Facing Features

a. Main Website

- Responsive Design: Works across all device sizes
- Dynamic Hero Slider: Showcases featured events with auto-rotation
- Categorized Event Listings:
    - Concerts section
    - Orchestras & Classical section
- Interactive Event Cards: Clickable cards with hover effects
- Detailed Event Modals:
    - Displays comprehensive event information
    - Includes booking functionality
    - Shows event images, dates, locations, and descriptions

b. Authentication System

- User Registration:
    - Email validation
    - Password security
    - Optional avatar upload
- Login/Logout:
    - Session management
    - Role-based redirects (admin vs regular user)
    - Secure cookie handling
- User Profile: Basic profile management

c. Content Pages

- About Us: Company mission, vision, and partnerships
- Contact Page: Social media links and email contact
- Privacy Policy: Comprehensive data protection information
- Terms of Service: Legal terms and conditions

2. Administrative Features

a. Admin Dashboard

- Content Management System:
    - Full CRUD operations for artists/events
    - Category filtering (concerts/orchestras)
    - Image upload and preview functionality
- User Interface:
    - Bootstrap-powered responsive design
    - Modal forms for adding/editing content
    - Toast notifications for feedback

Drag-and-drop image upload

b. Backend API

- Artist Management:
  - Create, Read, Update, Delete operations
  - Image handling with base64 encoding
  - Category-based filtering
- Security:
  - Rate limiting
  - CORS protection
  - Input validation
  - Secure file uploads

3. Technical Implementation

a. Frontend

- HTML5/CSS3: Semantic markup and modern styling
- JavaScript: Dynamic content loading and interactivity
- Bootstrap: Responsive layout components
- AJAX: Asynchronous data fetching

b. Backend

- Node.js/Express: Server framework
- PostgreSQL: Relational database
- Multer: Secure file upload handling
- Helmet: Security middleware
- JWT: Authentication tokens
- CORS: Controlled API access

c. Database

- Artists Table:
  - Stores artist/event information
  - Handles binary image data
  - Tracks creation/update timestamps
- Schema:
  - Proper data types and constraints
  - Image storage with MIME type tracking

4. Security Features

- Authentication:
  - Session-based login
  - Role-based access control
  - Secure password handling
- API Protection:
  - Rate limiting
  - CORS restrictions
  - Input sanitization
- Content Security:
  - File type validation
  - Size limits on uploads

Notable Functionality

1. Image Handling System:
    - Upload, preview, and store artist/event images
    - Client-side preview before upload
    - Drag-and-drop support
    - Automatic resizing and optimization
2. Dynamic Content Loading:
    - Asynchronous API calls
    - Loading states and error handling
    - Smooth transitions between views
3. Admin Workflow:
    - Single-page interface for all CRUD operations
    - Real-time updates without page reload
    - Comprehensive form validation
4. Responsive Navigation:
    - Consistent toolbar across all pages
    - Role-based admin panel access
    - User account quick access
5. Comprehensive Error Handling:
    - User-friendly error messages
    - Console logging for debugging
    - Graceful fallbacks for missing content