Muay Thai Live Scoreboard Application - Development Requirements

Project Overview

Create a web-based application for displaying and managing Muay Thai fight scoreboards during live Sunday afternoon broadcasts. The application must be extremely user-friendly for elderly users with minimal IT knowledge.

Core Functionality Requirements

1. Event Management

- Display matches/fights for the upcoming Sunday (or current Sunday if today is Sunday)
- Support multiple matches per event day
- Each match features 2 fighters: Red corner vs Blue corner
- Matches consist of 5 rounds maximum (or end on knockout)

2. User Roles & Permissions

Create 3 distinct user roles with specific capabilities:

Referee Role:

- Input scores from 3 referees into the digital scoreboard
- Edit fighter assignments and match details
- Submit/update scores for broadcast approval
- Access to navigation controls (next/previous match)
- Can edit match summaries

Viewer Role:

- View-only access to scoreboard and summaries
- Used by broadcast operators to review before going live
- No editing capabilities
- Clean interface without control buttons

Admin Role:

- Full system access including user management
- View historical scoreboards and summaries
- Manage fighter assignments for all matches

- Access audit logs and system settings
- Export capabilities

3. Scoreboard Interface Specifications

Layout Requirements:

- Fighter names displayed above scoreboard (Red left, Blue right)
- Scoreboard table with specific formatting:
  - 3 main columns for each referee: ผู้ตัดสินที่ 1, ผู้ตัดสินที่ 2, ผู้ตัดสินที่ 3
  - Column headers: background color rgb(244,195,61)
  - Each referee column split into Red (มุมแดง) and Blue (มุมน้ำเงิน) sub-columns
  - Red corner cells: background rgb(175,39,19) with white text
  - Blue corner cells: background rgb(54,109,187) with white text
  - 5 rows for rounds plus 1 total row (white background)

Score Input:

- Dropdown menus for score selection (0-10 range)
- Must be operable by both mouse and keyboard
- Minimize typing requirements for elderly users
- Clear visual feedback for score changes

Match Summary:

- Auto-generated summary below scoreboard
- Format: ผลการชก แดงชนะ 3 ต่อ 0 (example)
- Results: win (ชนะ) or draw (เสมอ)
- Include referee judging ratios (3-0, 2-1) for wins
- Editable by Referee and Admin roles

4. User Interface Requirements

- **Minimal Complexity:** Design for users with no IT knowledge
- **Large, Clear Elements:** Easy-to-see buttons and text
- **Mouse-Friendly:** Minimize keyboard input requirements
- **Role-Specific Views:** Hide unnecessary controls based on user role
- **Responsive Design:** Work on laptops and desktop PCs via web browser

5. Technical Requirements

System Architecture:

- Web-based application accessible via browser

- Support for remote access

- Multi-user concurrent access

- Real-time score updates across user sessions

Data Management:

- Persistent data storage with regular backups

- Clear data recovery procedures

- Historical data retention for past events

- Fighter and match information management

Logging & Auditing:

- HTTP access logs with 14-day rotation

- Comprehensive audit trail for all user actions

- Admin-accessible audit log viewer with date range filtering

- JSON export capability for audit logs

Security & Access Control:

- Role-based permission system

- Secure user authentication

- Session management for concurrent users

Specific Features by Role

Referee Screen Features:

- Score input interface with dropdown controls

- Clear scores button for quick reset

- Submit/Update button for score confirmation

- Navigation: (คู่ถัดไป) (Next) and (คู่ก่อนหน้า) (Back) buttons

- Editable match summary field

Viewer Screen Features:

- Clean, read-only scoreboard display

- Current match summary

- No control buttons or editing capabilities

- Optimized for broadcast preview

Admin Screen Features:

- User management interface

- Historical scoreboard access

- Audit log viewer with filtering and export

- System configuration options

- Full editing capabilities for all matches

Technical Considerations

- **Platform Agnostic:** No specific technology stack restrictions

- **Browser Compatibility:** Must work reliably across common browsers

- **Performance:** Fast loading and responsive interface

- **Scalability:** Handle multiple concurrent users during live events

- **Backup Strategy:** Regular data backups with clear recovery procedures

Success Criteria

1. Elderly users can operate the system with minimal training

2. Real-time score updates work reliably during live broadcasts

3. Role-based access controls function correctly

4. Historical data is preserved and accessible

5. System maintains high availability during Sunday broadcast events

6. Audit trails provide comprehensive activity tracking

Additional Notes

- The application will be used primarily on Sunday afternoons during live broadcasts

- Users will access the system remotely via web browsers

- System must handle the pressure of live broadcasting scenarios

- Consider providing a simple user manual or quick reference guide

- Test thoroughly with elderly users to ensure usability goals are met