

**MINISTRY OF EDUCATION AND TRAINING  
CAN THO UNIVERSITY  
SCHOOL OF INFORMATION TECHNOLOGY AND  
COMMUNICATIONS**



**SPECIALIZED RESEARCH PROJECT  
INFORMATION TECHNOLOGY (HQ)**

**Project  
FOOTBALL NEWS WEBSITE**

**Student: Nguyen Duy Thanh  
ID: B2108121  
Course: K47**

**Can Tho, 8/2025**

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**Advisor  
Dr. Bui Vo Quoc Bao**

**Project by:  
Name: Nguyen Duy Thanh  
ID: B2108121  
Course: K47**

*Can Tho, 8/2025*

## ACKNOWLEDGEMENT

After completing the project “Football News Website,” I gained a lot of new knowledge and improved my web development skills. I learned how to plan features, organize code, fix bugs efficiently, and write clear documentation. I also practiced responsive design, basic database handling, and testing on different devices and browsers. These skills will be very useful for my future work and for improving this website.

First, I would like to thank Dr. Bui Vo Quoc Bao, who proposed the topic and guided me during the whole process. His advice and feedback were very important to the success of this project.

I appreciate my classmates and friends for sharing ideas, giving feedback, and helping with testing during development. Their comments helped me fix UI issues, improve performance, and make the content clearer.

Finally, I am deeply grateful to my family for their constant encouragement and support, which helped me stay focused and finish the project on time. Their trust motivated me to keep learning and do my best.

Thank you all for your help and support. I will continue to refine the website with better content, clearer navigation, and more useful features for readers who love football.

**Thank you all.**

## ABSTRACT

This project presents the development of a Football News Website. The site focuses on up-to-date football content: latest headlines, transfer news, fixtures and results, and live league tables. The website is designed with a user-friendly interface, Users can read article details with images, search by keyword, and browse by category and tag. An admin area lets editors create, edit, and publish posts. The system is built with modern web technologies: **HTML, CSS, JavaScript, Vue.js** for the frontend, **Node.js/Express** for the API, and a relational database (**PostgreSQL**) for data storage. It supports responsive design, basic SEO (clean slugs, tags), caching for faster loading, and secure authentication for admin users. This project strengthened my skills in planning features, organizing code, testing across devices, and handling real football data, and it provides a practical base for future improvements such as live scores, comment features, and multilingual content.

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# CHAPTER 1: GENERAL INTRODUCTION TO THE WEBSITE

## 1. Introduction to the Website

In recent years, interest in football news has grown quickly, with fans looking for fast, reliable updates on matches, transfers, and league standings. To meet this need, this project builds a Football News Website that lets readers follow the latest headlines, browse topics by league, check fixtures and results, and view live tables in one place.

The website is serves as a learning project to apply university web development knowledge. It shows how to design a practical, easy-to-use news application with modern technologies.

## 2. Main Functions of the Website

The website is designed to provide a complete football news experience, covering the following core functionalities:

- **News Browsing:** Users can view all football-related news articles, match reports, and special features with images, titles, summaries, and publication dates.
- **News Details:** Each news article has a dedicated page containing the full content, related images, and associated leagues, clubs, or players.
- **User Registration and Login:** New users can create an account, and existing users can log in securely to access personalized features.
- **Favorites:** Logged-in users can save articles to their favorites list for easy access later.
- **Reading History:** Users can view their recently read articles and receive suggestions based on their reading history.
- **Commenting:** Registered users can post comments, reply to other comments, and engage in discussions under each article.
- **Editor Functions:** Editors can create draft articles, submit them for approval, and track their status (draft, pending, rejected, published).
- **Admin Functions:** Administrators can review and approve submitted articles, reject or edit content, manage user accounts and roles, and view statistics on article views and interactions.



### 3. Technologies Used in the Website

This website is developed using a combination of frontend and backend technologies to ensure smooth performance and maintainability:

- **Frontend:**
  - **HTML/CSS** for structure and styling
  - **JavaScript & Vue.js** for dynamic content rendering and component-based UI
- **Backend:**
  - **Node.js** for server-side logic
  - **Express.js** as the web application framework
- **Database:**
- **PostgreSQL** for storing and managing user accounts, articles, comments, leagues, clubs, players, and interaction data.
- **Others:**
  - **JWT (JSON Web Token)** for secure authentication
  - **Axios** for HTTP requests between client and server
  - **Swagger** for API documentation
  - **Multer** for handling file uploads (e.g., article images, player photos)

These tools provide a full-stack environment ideal for developing modern web applications.

### 4. Target Users

The website is primarily intended for the following user groups:

- **Guests:** Visitors who can browse and search football news but cannot comment or save favorites.
- **Registered Users:** Football fans who can comment, save favorite articles, view reading history, and get personalized article suggestions.
- **Editors:** Content creators responsible for writing football-related articles, submitting them for approval, and tracking publication status.
- **Administrators:** Backend users with full control over content moderation, user management, and system statistics.

This clear user segmentation helps guide the website design to better serve real-world needs and use cases.

## CHAPTER 2: WEBSITE DESCRIPTION

### 1. Website Requirements

#### 1.1 Software Requirements

To develop and operate the football news website efficiently, the following software and tools are required:

- **Operating System:** Windows 10 or later
- **Web Browser:** Google Chrome (recommended), Firefox, Microsoft Edge
- **Development Environment:**
  - Visual Studio Code
  - Node.js
  - PostgreSQL Server
  - Postman (for API testing)
  - Git (for version control)

#### 1.2 Supported Browsers

The website is designed to work smoothly across major modern browsers.

Supported browsers include:

- Google Chrome
- Mozilla Firefox
- Microsoft Edge (Chromium-based)
- Safari (basic compatibility for macOS/iOS)

The frontend is fully responsive to ensure proper display on desktops, tablets, and smartphones.

#### 1.3 Functional Requirements

The website includes the following key features and functional modules:

##### 1.3.1 User Module

- Register a new account using email and password
- Login and logout functionality
- Secure authentication using JWT
- Manage personal profile and change password

##### 1.3.2 News Module

- Browse all available football news articles
- Filter articles by category (e.g., league, club, player)
- View detailed article pages including images, related content, and publication date
- Search articles by title, keyword, or related football entities

### 1.3.3 Favorites & Reading History Module

- Save and remove articles from favorites
- View list of saved favorite articles
- Automatically record reading history
- View suggestions based on past reading activity

### 1.3.4 Comment Module

- Add comments to articles
- Reply to other users' comments
- Delete or edit own comments
- Admins and editors can moderate comments (approve, hide, or delete)

### 1.3.5 Admin Module

- Admin login and dashboard
- Approve, reject, or edit submitted articles
- Manage user accounts and assign roles (guest, user, editor, admin)
- View statistics on article views, favorites, and comments

## 1.4 Non-functional Requirements

- **Responsiveness:** The website must adapt to all screen sizes (mobile, tablet, desktop).
- **Security:**
  - Passwords are hashed before storage
  - Input validation is implemented on both frontend and backend
  - JWT tokens are used to secure protected API routes
- **Performance:**
  - News listing pages should load within 2 seconds on a standard network
- **Maintainability:**
  - Code is structured using MVC pattern
  - Clear API documentation is provided using Swagger
- **Scalability:**
  - The website can be expanded in the future with additional modules such as payment integration, product categories, or admin analytics.
  - Future enhancements may include AI-powered article recommendations, advanced search with NLP, tagging system for better categorization, and integration with social media for content sharing.

## CHAPTER 3: WEBSITE DATA DIAGRAMS

### 1. Usecase diagram

Administrator

- **Actor:**

**Admin** – the system administrator with full management permissions.

- **Use Cases:**

**Log in** – Authenticate admin access.

**Manage articles** – Approve, reject, edit, publish, or unpublish news articles.

**Manage comments** – Review, approve, hide, or delete user comments.

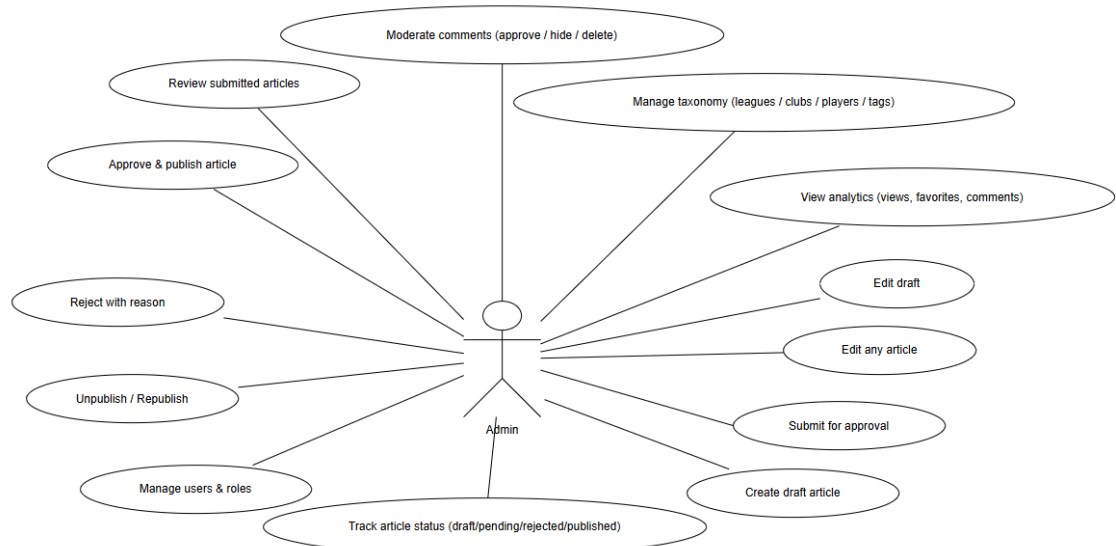
**Manage users** – Create, edit, assign roles, or lock/unlock user accounts.

**Manage taxonomy** – Add, edit, and delete leagues, clubs, players, and tags.

**View analytics** – Access statistics on article views, favorites, and user interactions

- **Flow:**

1. The Admin must log in before accessing any management function.
2. Once logged in, the Admin can manage articles, comments, users, and taxonomy.
3. Admin can also view analytics to track website performance and user engagement.



*Picture 1. Admin's usecase*

Guest

**Guest:**

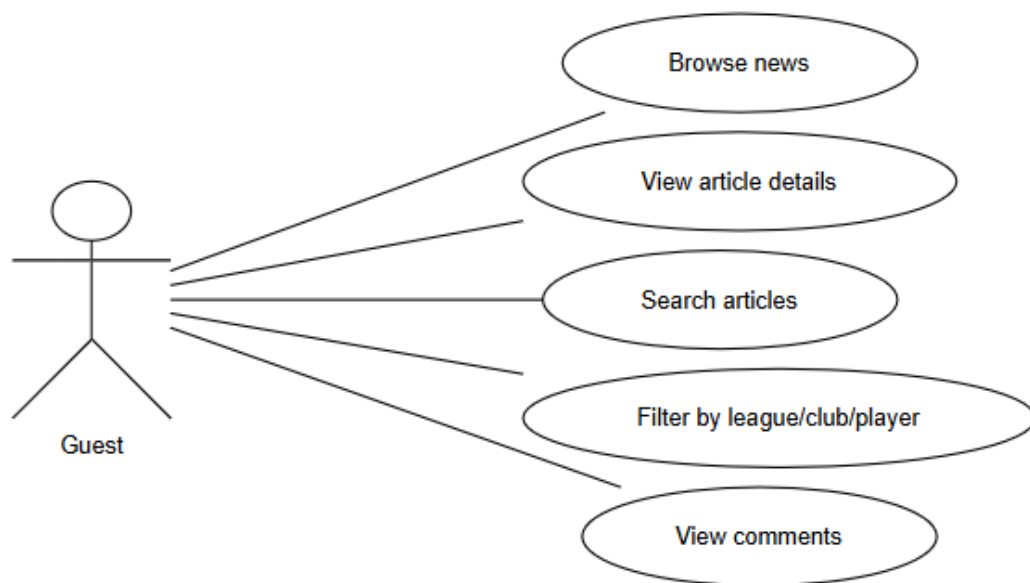
**Browse news** – View football news headlines and summaries without logging in.

**View article details** – Read the full content of a selected football news article.

**Search articles** – Search for news by title or keyword.

**Filter by league/club/player** – Narrow down articles by specific league, club, or player.

**View comments** – Read user comments under an article without logging in.



*Picture 2. Guest's usecase*

Customer

**Customer:**

**Browse news** – View football news headlines and summaries without logging in.

**View article details** – Read the full content of a selected football news article.

**Search articles** – Search for news by title or keyword.

**Filter by league/club/player** – Narrow down articles by specific league, club, or player.

**View comments** – Read user comments under an article.

**Register account** – Create a new account to access member features.

**Login / Logout** – Securely sign in or sign out of the website.

**Manage profile** – Update personal information and change password.

**Save to favorites** – Add articles to a favorites list for quick access later.

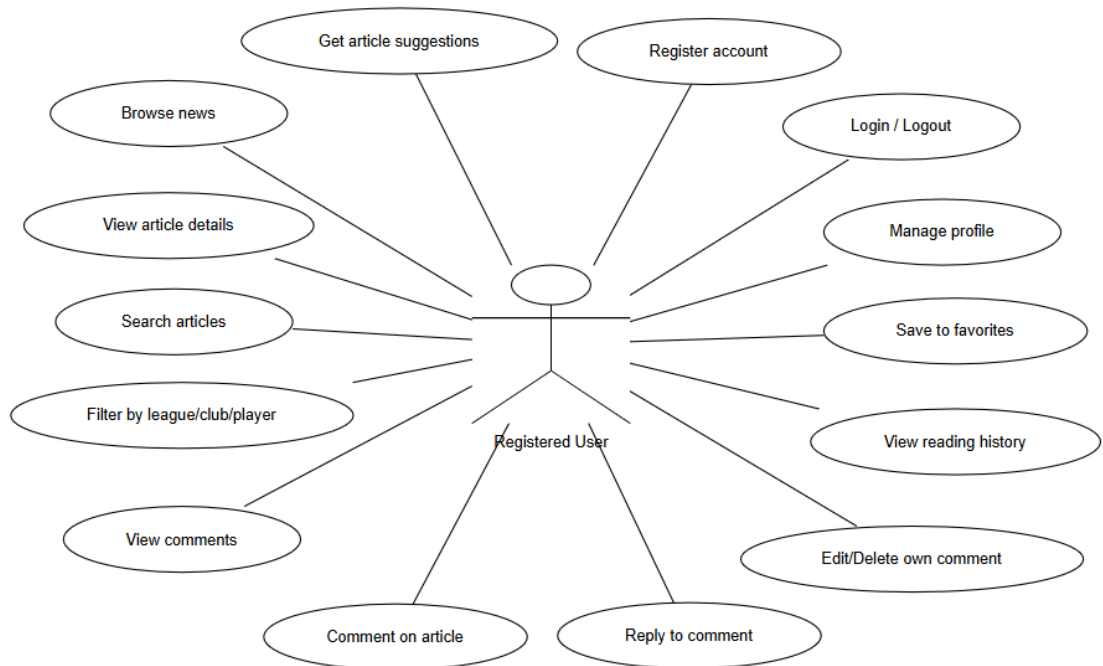
**View reading history** – Review previously read articles.

**Get article suggestions** – Receive recommended articles based on reading history and favorites.

**Comment on article** – Post comments under articles.

**Reply to comment** – Respond to other users' comments.

**Edit/Delete own comment** – Modify or remove your own comments.



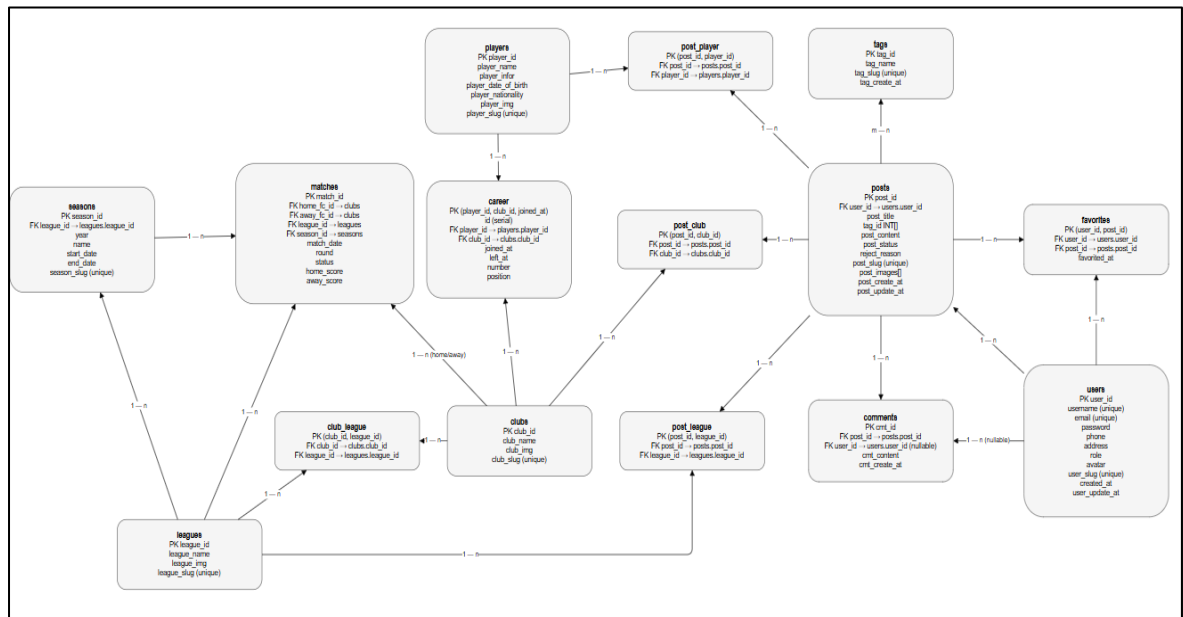
*Picture 3. Registered user usecase*

**Flow:**

Guests can browse and view posts or register for an account.

Customers must log in to access their wishlist and comment post while still being able to browse and view posts.

## 2. CDM diagram



Picture 4. CDM diagram

This **Conceptual Data Model (CDM)** represents the core entities and relationships of the e-commerce system.

- **Users** store account details and can place multiple orders, maintain carts, and create wishlists.
- **Orders** contain order details and can include multiple products.
- **Products** hold item information, belong to categories, and can appear in orders, carts, and wishlists.
- **Categories** classify products.
- **Carts** store selected products and quantities for each user.
- **Wishlists** store desired products for future reference.

### Key relationships:

One user can have many orders, cart items, and wishlist items.

One category can contain many products.

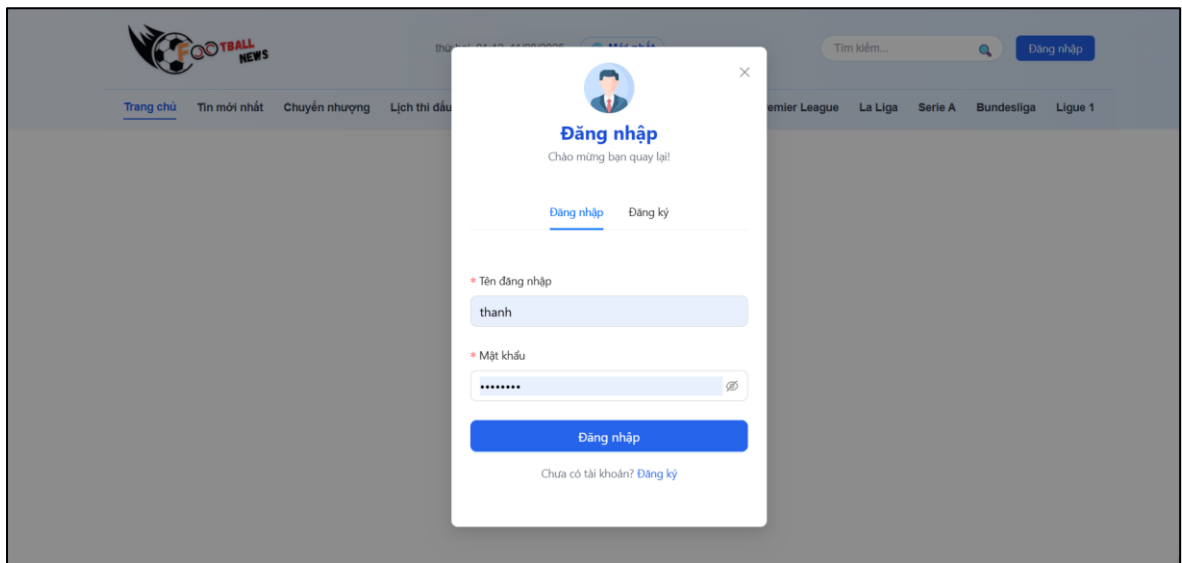
Orders, carts, and wishlists can each contain multiple products.

## CHAPTER 4: INTERFACE DESIGN

### 1. Admin

#### Login

- **Purpose:** Restricts access to admin functions.
- **Components:** Title, welcome message, username field, password field, login button, register link.
- **Functions:**
  - Validate credentials.
  - Show error message for incorrect input.
  - Redirect to admin dashboard when access to path */admin* on success.

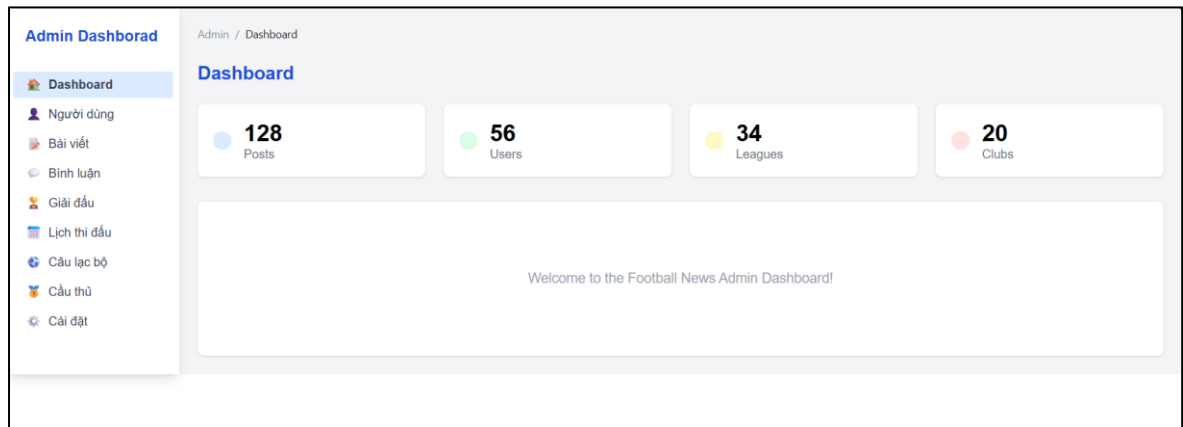


Picture 5. Admin log in screen



## Home page

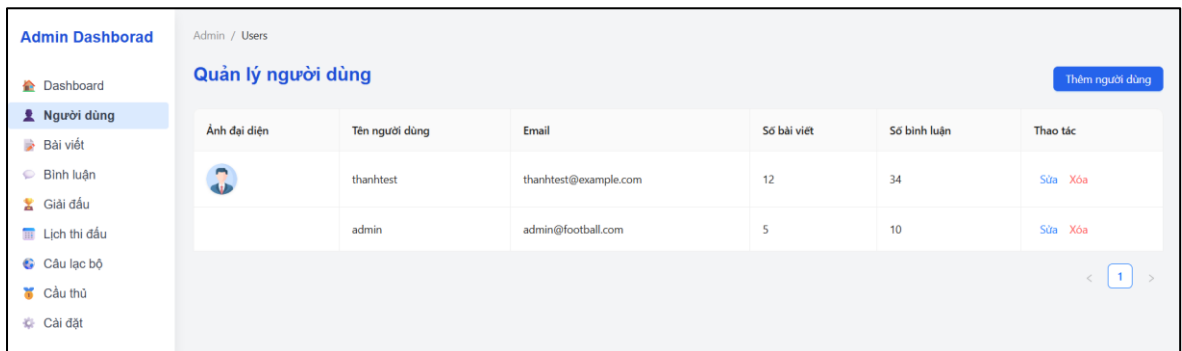
- **Purpose:** Provides an overview and quick access to key management sections.
- **Components:**
  - Navigation menu: Dashboard, User Management, Post Management, Comment Management, League Management, Club Management, Player Management, Match Schedule Management, Settings.
  - Statistics cards: Total Posts, Total Users, Total Leagues, Total Clubs.
- **Functions:**
  - View total counts of posts, users, leagues, and clubs.
  - Navigate to corresponding management pages via menu or cards.




Picture 6. Admin dashboard

## User management

- **Purpose:** Manage user accounts and their associated data.
- **Components:**
  - Navigation menu.
  - Search bar for users.
  - User table: avatar, username, email, number of posts, number of comments, actions.
  - “Add User” button.
- **Functions:**
  - Search users by username or email.
  - Add new users with role assignment.
  - Edit existing user details and permissions.
  - Delete or lock/unlock user accounts.



The screenshot displays an Admin Dashboard with a sidebar on the left containing links to Dashboard, Người dùng (Users), Bài viết (Posts), Bình luận (Comments), Giải đấu (Tournaments), Lịch thi đấu (Match Schedule), Câu lạc bộ (Clubs), Cầu thủ (Players), and Cài đặt (Settings). The main content area is titled 'Admin / Users' and 'Quản lý người dùng' (User Management). It features a table with columns for user details and actions, and a 'Thêm người dùng' (Add User) button in the top right corner.

Ảnh đại diện	Tên người dùng	Email	Số bài viết	Số bình luận	Thao tác
	thanhtest	thanhtest@example.com	12	34	<a href="#">Sửa</a> <a href="#">Xóa</a>
	admin	admin@football.com	5	10	<a href="#">Sửa</a> <a href="#">Xóa</a>

Page navigation: < 1 >

Picture 7. User management

## Post Management

- **Purpose:** Manage all news articles in the system.
- **Components:**
  - Navigation menu.
  - Search/filter bar for posts.
  - Post table: title, category, status, publish date, actions.
  - “Add Post” button.
- **Functions:**
  - Search and filter posts by title, category, or status.
  - Add new posts.
  - Edit post content and details.
  - Delete posts from the system.
  - View post details.

Admin Dashborad

Dashboard

Người dùng

Bài viết

Bình luận

Giải đấu

Lịch thi đấu

Câu lạc bộ

Cầu thủ

Cài đặt

Admin / Posts

Thêm bài viết

Quản lý bài viết

Tiêu đề	Chuyên mục	Trạng thái	Ngày đăng	Thao tác
Ronaldo lập hat-trick	Tin nóng	Đã đăng	2025-08-09	<a href="#">Xem chi tiết</a> <a href="#">Sửa</a> <a href="#">Xóa</a>
Messi gia nhập Inter Miami	Chuyển nhượng	Nhập	2025-08-08	<a href="#">Xem chi tiết</a> <a href="#">Sửa</a> <a href="#">Xóa</a>
MU thắng Liverpool	Ngoại hạng Anh	Đã đăng	2025-08-07	<a href="#">Xem chi tiết</a> <a href="#">Sửa</a> <a href="#">Xóa</a>

<

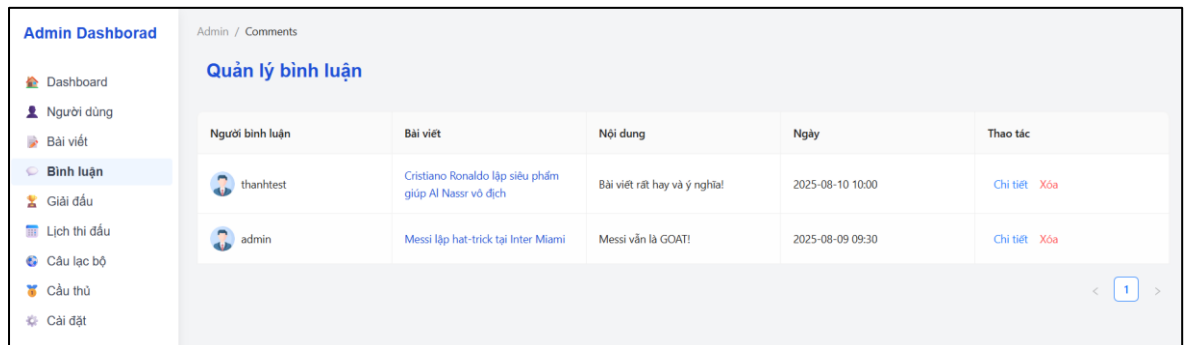
1



>

Picture 8. Post management

## Comment management

- **Purpose:** Manage user comments on posts.
- **Components:**
  - Navigation menu.
  - Comment table: commenter, related post, content, date, actions.
- **Functions:**
  - View all comments in the system.
  - View detailed comment information.
  - Delete inappropriate or unwanted comments.

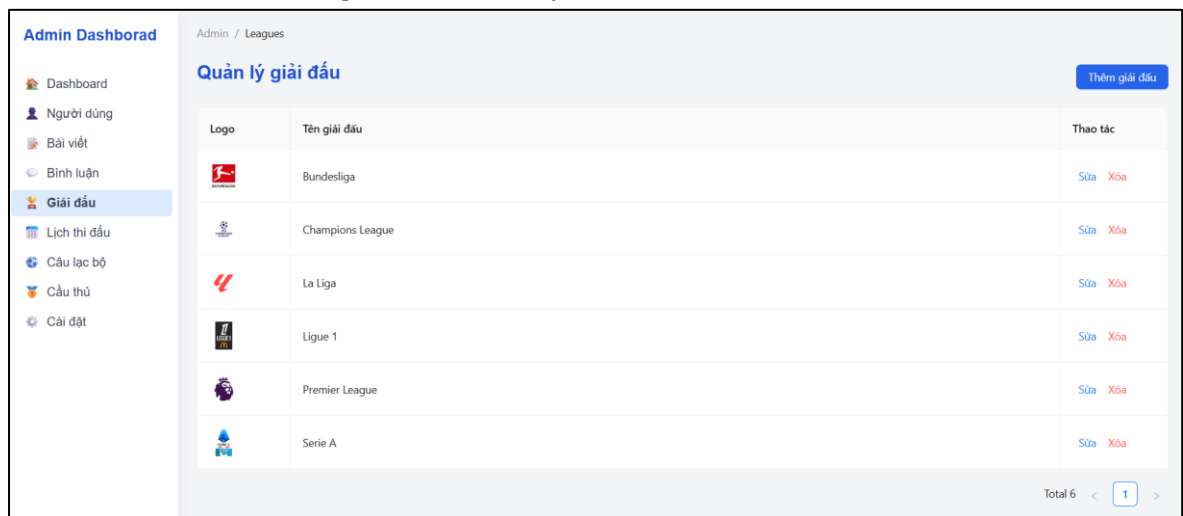


Admin Dashborad		Admin / Comments		
Quản lý bình luận				
Người bình luận	Bài viết	Nội dung	Ngày	Thao tác
 thanhtest	Cristiano Ronaldo lập siêu phẩm giúp Al Nasser vô địch	Bài viết rất hay và ý nghĩa!	2025-08-10 10:00	<a href="#">Chi tiết</a> <a href="#">Xóa</a>
 admin	Messi lập hat-trick tại Inter Miami	Messi vẫn là GOAT!	2025-08-09 09:30	<a href="#">Chi tiết</a> <a href="#">Xóa</a>
< 1 >				







Picture 9. Comment management

## League management

- **Purpose:** Manage football league information in the system.
- **Components:**
  - Navigation menu.
  - League table: logo, league name, actions.
- **Functions:**
  - Add new leagues with logo and name.
  - Edit existing league information.
  - Delete leagues from the system.



The screenshot displays the 'Admin Dashborad' interface. On the left is a sidebar with navigation items: Dashboard, Người dùng, Bài viết, Bình luận, **Giải đấu** (highlighted), Lịch thi đấu, Câu lạc bộ, Cầu thủ, and Cài đặt. The main content area is titled 'Admin / Leagues' and 'Quản lý giải đấu'. It features a table with the following data:

Logo	Tên giải đấu	Thao tác
	Bundesliga	<a href="#">Sửa</a> <a href="#">Xóa</a>
	Champions League	<a href="#">Sửa</a> <a href="#">Xóa</a>
	La Liga	<a href="#">Sửa</a> <a href="#">Xóa</a>
	Ligue 1	<a href="#">Sửa</a> <a href="#">Xóa</a>
	Premier League	<a href="#">Sửa</a> <a href="#">Xóa</a>
	Serie A	<a href="#">Sửa</a> <a href="#">Xóa</a>

At the bottom right of the table, it shows 'Total 6' and a pagination control with the number '1' selected.

Picture 10. Orders management

## Match Schedule management

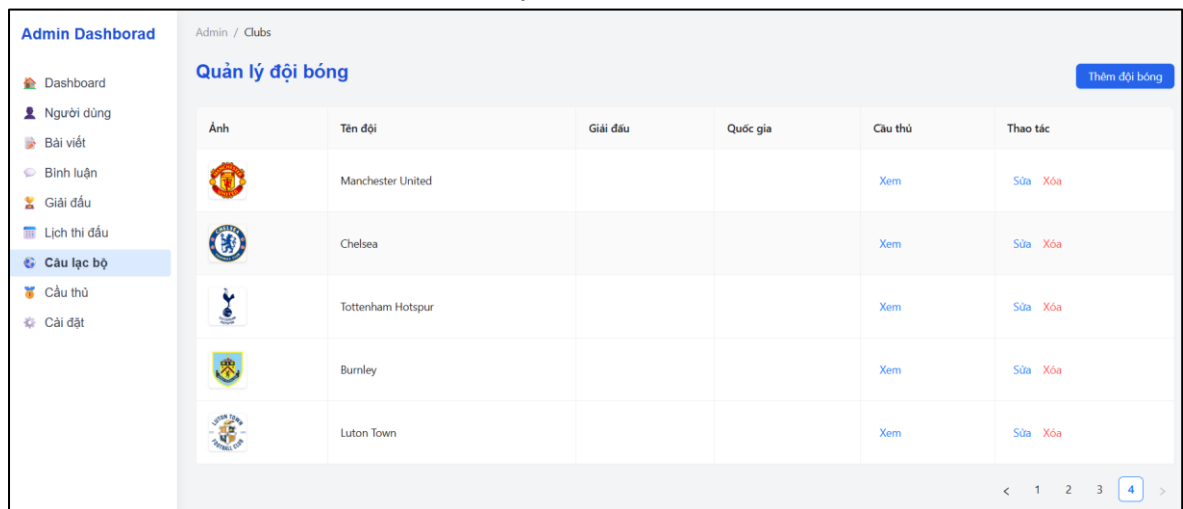
- **Purpose:** Manage football match schedules and results.
- **Components:**
  - Navigation menu.
  - Match table: date, league, stadium, home team logo, home team, score, away team, away team logo, actions.
  - “Add Match” button.
- **Functions:**
  - Add new matches with detailed information.
  - Edit existing match details.
  - Delete matches from the system.

Ngày	Giải đấu	Sân	Logo chủ nhà	Chủ nhà	Tỷ số	Đội khách	Logo khách	Thao tác
2025-08-10	Premier League	Old Trafford		Manchester United	2 - 1	Liverpool		<a href="#">Sửa</a> <a href="#">Xóa</a>
2025-08-11	La Liga	Camp Nou		Barcelona	3 - 0	Real Madrid		<a href="#">Sửa</a> <a href="#">Xóa</a>

Picture 11. Match Schedule management

## Club management




- **Purpose:** Manage football club information.
- **Components:**
  - Navigation menu.
  - Club table: logo, club name, league, country, players, actions.
  - “Add Club” button.
- **Functions:**
  - Add new clubs with full details.
  - View player list in each club.
  - Edit club information.
  - Delete clubs from the system.



Picture 12. Club management

## Player management

- **Purpose:** Manage player information in the system.
- **Components:**
  - Navigation menu.
  - Player table: photo, player name, club, position, nationality, actions.
- **Functions:**
  - Add new players with complete details.
  - Edit player information.
  - Delete players from the system.

Admin / Players					
Quản lý cầu thủ					
Ảnh	Tên cầu thủ	Đội bóng	Vị trí	Quốc tịch	Thao tác
	Cristiano Ronaldo	Al Nassr	Tiền đạo	Bồ Đào Nha	<a href="#">Sửa</a> <a href="#">Xóa</a>
	Lionel Messi	Inter Miami	Tiền đạo	Argentina	<a href="#">Sửa</a> <a href="#">Xóa</a>
	Marcus Rashford	Manchester United	Tiền đạo	Anh	<a href="#">Sửa</a> <a href="#">Xóa</a>
< 1 >					

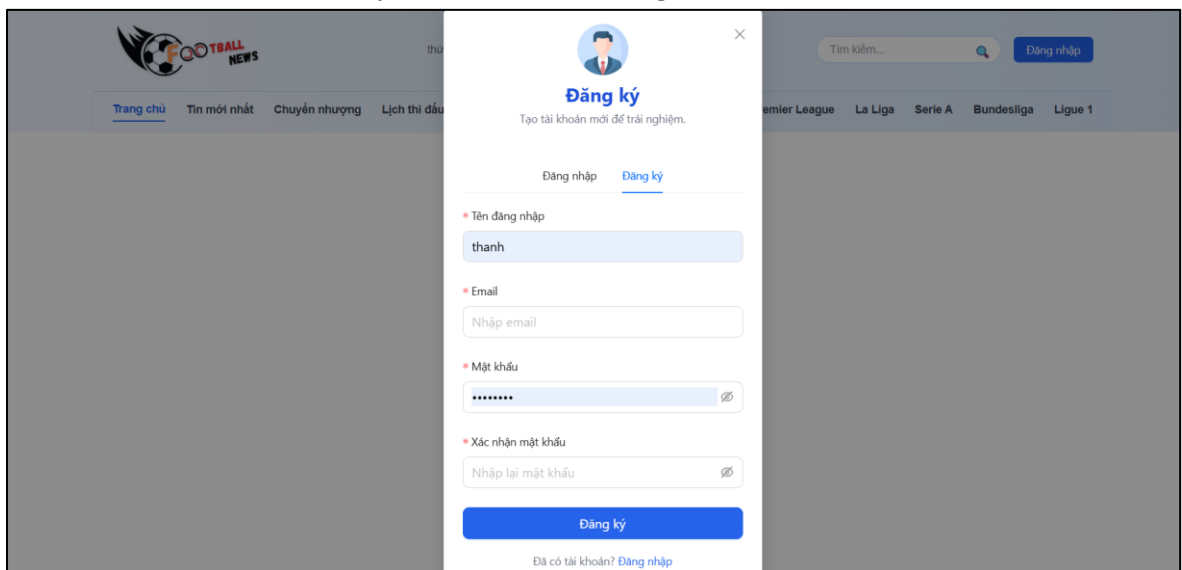
Picture 13. Player management



## 2. Client

### Register

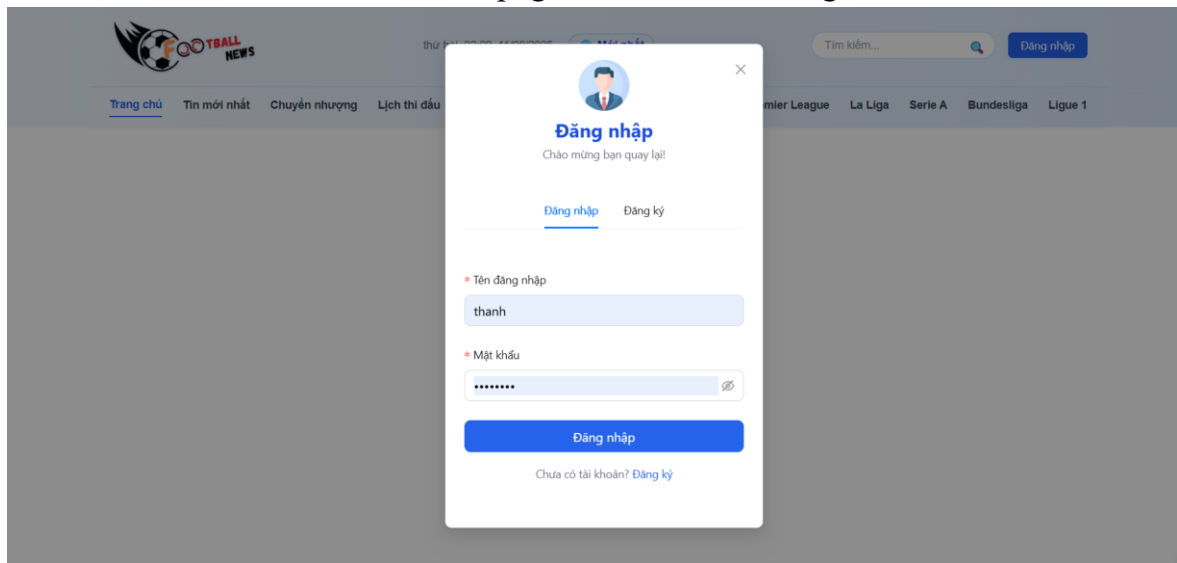
- **Purpose:** Allow new users to create an account.
- **Components:**
  - Username field.
  - Email field.
  - Password field.
  - Confirm password field.
  - Register button.
  - Switch tab to login form.
- **Functions:**
  - Validate all required fields.
  - Check if passwords match.
  - Show error message for invalid or missing information.
  - Submit registration request to the server.
  - Redirect or notify after successful registration.



Picture 14. User's registration screen

## Login

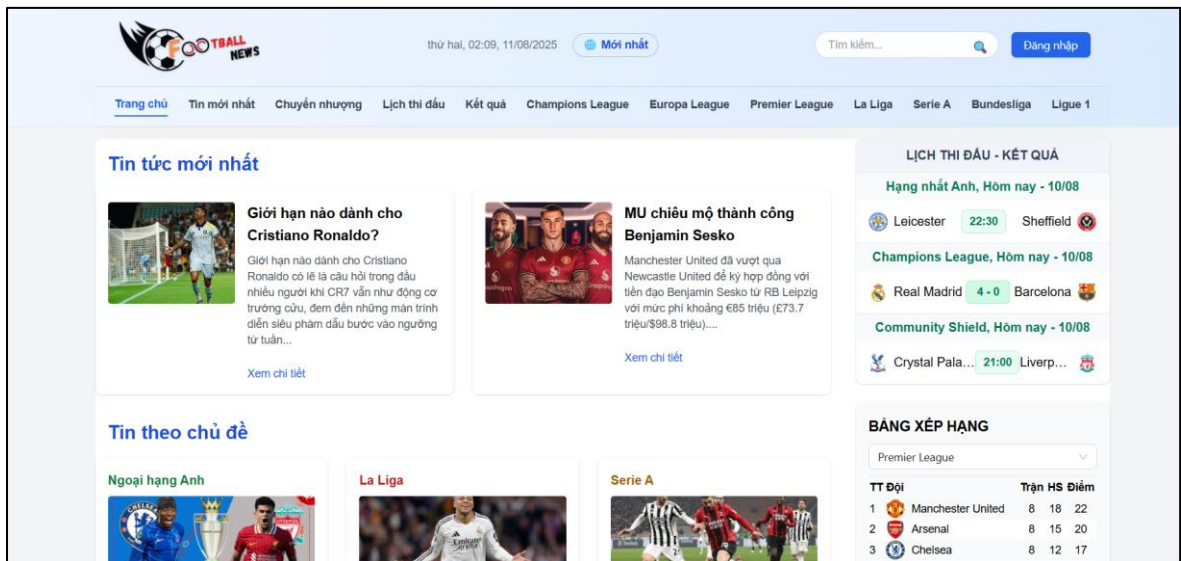
- **Purpose:** Authenticate users to access the system.
- **Components:**
  - Username field.
  - Password field.
  - Login button. Link to registration page.
- **Functions:**
  - Authenticate user credentials.
  - Show error message if login fails.
  - Redirect to the home page after successful login.



Picture 15. User's login screen

## Homepage

- **Purpose:** Display the latest football news, categorized topics, match schedules/results, and league standings.
- **Components:**
  - Header with logo, navigation menu, search bar, and login button.
  - Latest News section with featured articles.
  - Category News section (Premier League, La Liga, Serie A).
  - Match Schedule & Results panel.
  - League Standings panel with dropdown to select league.
- **Functions:**
  - Navigate to specific categories or pages via menu.
  - Search news articles by keyword.
  - View latest news summaries with link to full article.
  - Display upcoming matches with date and time.
  - Show live or completed match results.
  - Filter league standings by selected competition.



Picture 16. User's homepage

## News Details page

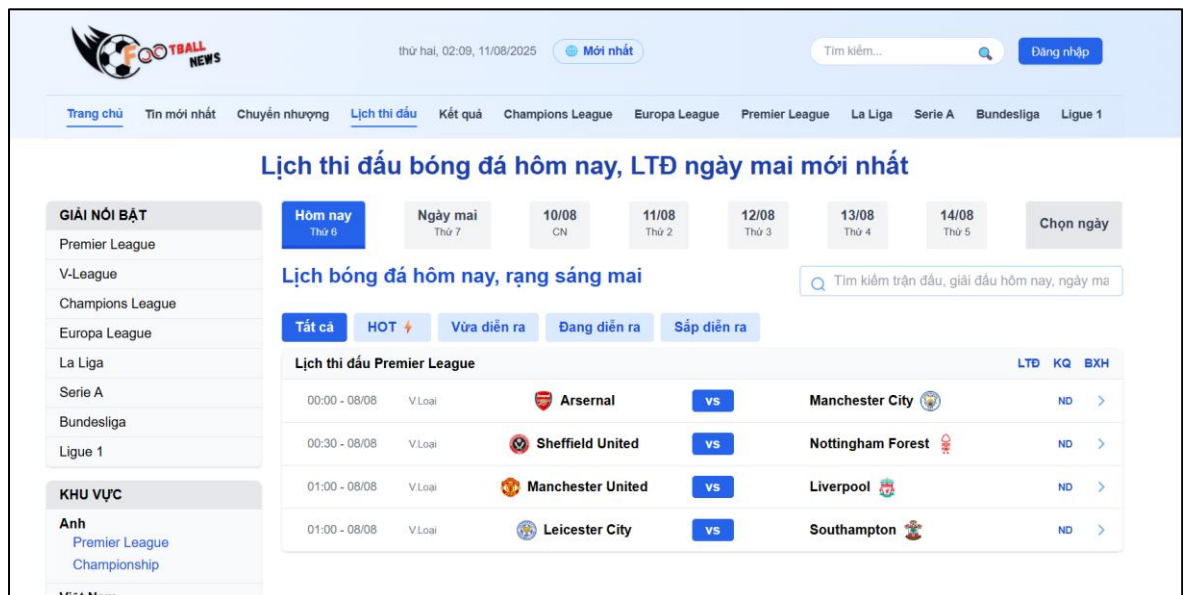
- **Purpose:** Display full details of a selected football news article with related content suggestions.
- **Components:**
  - Header with logo, navigation menu, search bar, and login button.
  - Article title, publish date, estimated reading time, share/copy link buttons.
  - Main article images.
  - Full article content.
  - Sidebar with related news articles (thumbnails, titles, short descriptions).
- **Functions:**
  - Read complete article with embedded images.
  - Copy article link for sharing.
  - Browse related articles for further reading.
  - Navigate to other pages via menu or sidebar links.



Picture 17. News Details Page

## Match Schedule page

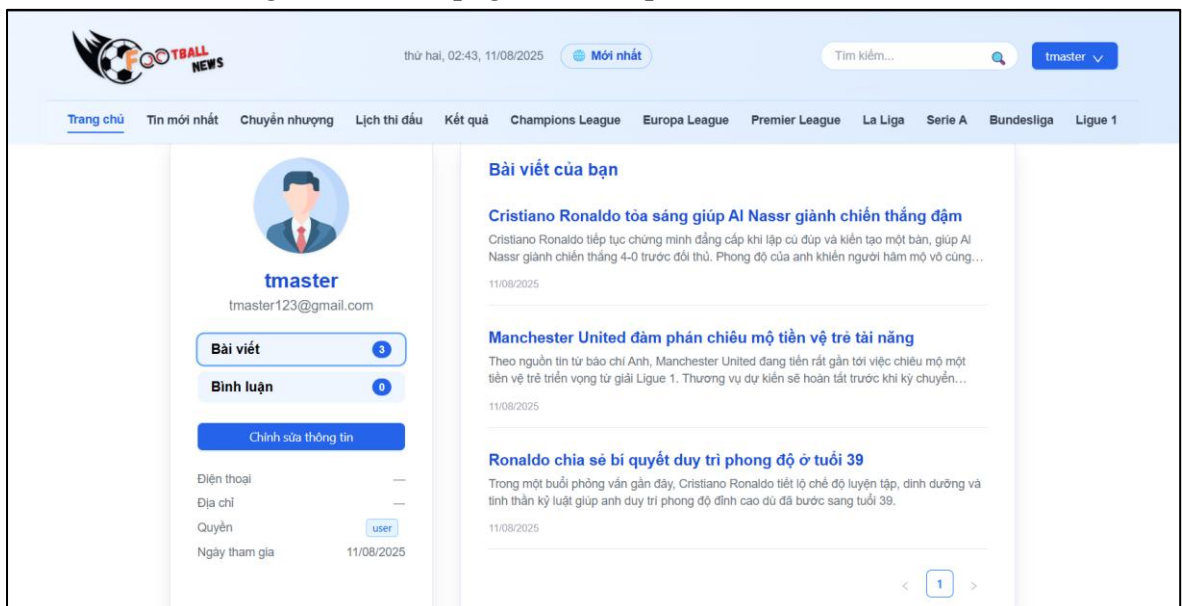
- **Purpose:** Display the latest football match schedules for today, tomorrow, and upcoming dates.
- **Components:**
  - Header with site logo, navigation menu, search bar, and login button.
  - Date selection bar with options for Today, Tomorrow, specific dates, and a date picker.
  - Match category filters: All, HOT, Recently Finished, Ongoing, Upcoming.
  - Sidebar listing Featured Leagues and Regions.
  - Match list table showing match time, date, league stage, home team, away team, and action button (VS).
- **Functions:**
  - Search for matches by team, league, or date.
  - Filter matches by league, region, or status.
  - View detailed match information by clicking the VS button or match entry.
  - Navigate through upcoming and past match schedules.



Picture 18. Match Schedule page

## User's Post management Page

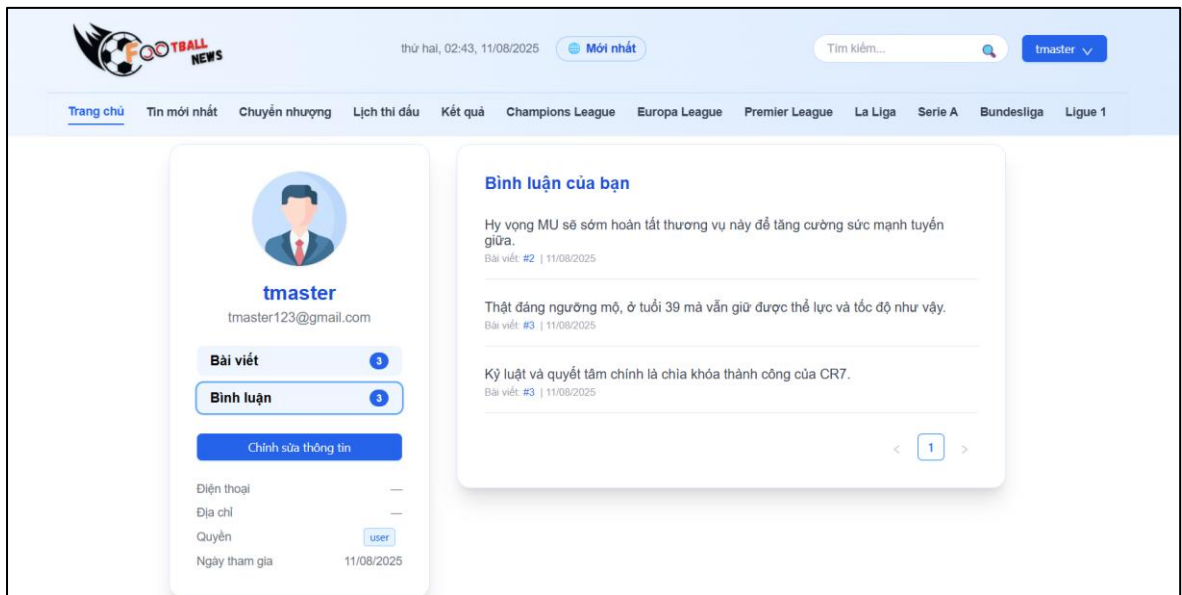
- **Purpose:** Displays the user's personal information, activity stats, and their posts/comments.
- **Components:**
  - Profile header with avatar, username, and email.
  - Stats panel showing the number of posts and comments.
  - Action button to edit profile information.
  - User details section: phone number, address, account role, and join date.
  - Posts list showing post titles, short descriptions, and publish dates.
  - Pagination controls for navigating posts.
- **Functions:**
  - View personal posts and comments.
  - Edit personal information.
  - Check account role and join date.
  - Navigate between pages of user posts.



Picture 19. User's posts management page

## User's Comments management Page

- **Purpose:** Displays all comments made by the logged-in user along with related post references.
- **Components:**
  - Profile sidebar showing avatar, username, email, activity stats, and personal details.
  - Stats buttons to toggle between posts and comments views.
  - Edit profile button.
  - Comments list with comment content, linked post ID, and comment date.
  - Pagination controls for navigating multiple comment pages.
- **Functions:**
  - View all personal comments in chronological order.
  - Navigate to the related post by clicking the linked post ID.
  - Switch between viewing personal posts and comments.
  - Edit user information directly from the profile sidebar.



Picture 20. User's Comments management Page

## Profile Edit Page

- **Purpose:** Allows the logged-in user to update their personal information and profile picture.
- **Components:**
  - Profile sidebar showing avatar, username, email, post count, comment count, and join date.
  - Form fields for email (read-only username), phone number, address.
  - File input for uploading a new profile picture.
  - Buttons for canceling or saving changes.
- **Functions:**
  - Edit and save personal contact details.
  - Upload and update the avatar image.
  - Prevent changes to the username for account consistency.
  - Cancel button to discard changes and return to the profile view.

The screenshot shows a web application interface for editing a user profile. At the top, there is a navigation bar with the 'FOOTBALL NEWS' logo, a date and time display ('thứ hai, 02:43, 11/08/2025'), a 'Mới nhất' button, a search bar ('Tìm kiếm...'), and a user dropdown menu ('tmaster'). Below the navigation bar is a horizontal menu with links: 'Trang chủ', 'Tin mới nhất', 'Chuyển nhượng', 'Lịch thi đấu', 'Kết quả', 'Champions League', 'Europa League', 'Premier League', 'La Liga', 'Serie A', 'Bundesliga', and 'Ligue 1'. The main content area is divided into two columns. The left column contains a profile sidebar with a circular avatar placeholder, the username 'tmaster', the email 'tmaster123@gmail.com', and statistics for 'Bài viết' (3) and 'Bình luận' (3). It also features a 'Chỉnh sửa thông tin' button and a list of fields: 'Điện thoại', 'Địa chỉ', 'Quyền' (with a 'user' button), and 'Ngày tham gia' (11/08/2025). The right column is titled 'Cập nhật thông tin cá nhân' and contains form fields for 'Tên người dùng' (with a read-only 'tmaster' field), 'Email' (with a read-only 'tmaster123@gmail.com' field), 'Điện thoại', and 'Địa chỉ'. It also includes an 'Ảnh đại diện' section with a 'Choose File' button, a 'No file chosen' status, and a 'Tải ảnh lên' button. At the bottom right of the form are 'Hủy' and 'Lưu' buttons.

Picture 21. Profile edit page



## CHAPTER 5: CONCLUSION

### 1. System Implementation Overview

The Football News system was successfully developed as a complete online platform for football news, fixtures, results, and community interaction. It meets the needs of both administrators and users, integrating modern web technologies such as:

**Frontend:** Vue.js with Ant Design Vue and custom CSS to provide a responsive and user-friendly interface.

**Backend:** Node.js with Express for server-side logic and RESTful API development.

**Database:** PostgreSQL for structured and relational football data storage.

**Other tools:** JWT authentication for secure login, Cloud/Local storage for image uploads, and real-time updates for match schedules and results.

This technology stack ensures flexibility, scalability, and maintainability while allowing future features to be integrated with minimal structural changes.

### 2. Achievements

From the administrator side, the system provides secure authentication, a clear dashboard with statistics, and full control over articles, comments, users, and football-related data such as leagues, clubs, and players.

From the user side, it delivers a seamless experience with browsing news, filtering by categories, viewing detailed match schedules, checking results, posting articles, and commenting on discussions.

The database model ensures logical relationships between entities (matches, leagues, clubs, players) and maintains data integrity. The UI design prioritizes usability with consistent layouts, clear navigation, and functional feedback such as success/error messages.

### 3. Applicability

The Football News system can be deployed for real-world sports news businesses, especially in football-focused communities. Its modular design also allows adaptation to other sports or general news portals without significant structural changes.

### 4. Future Development Directions

To further improve the system and enhance its competitiveness, the following developments are proposed:

**Advanced Search and Filtering:** Implement full-text search, autocomplete, and AI-based recommendations for articles and matches.

**Live Score and Match Commentary:** Real-time score updates with minute-by-minute commentary.

**Mobile App Integration:** Native or hybrid mobile app for Android and iOS.

**Multi-language Support:** Expand to international audiences with automatic translation features.

**User Engagement Features:** Voting polls, prediction games, and fan forums.

**Push Notifications:** Alerts for favorite team matches, score changes, and breaking news.

**Advanced Statistics:** Player performance analytics, league standings, and historical match data.

**Monetization Options:** Advertisements, premium memberships, and sponsored content.

## **5. Summary**

In conclusion, the Football News system achieves its core objectives by combining robust backend functionality with a modern, responsive frontend. It is both a functional and scalable solution that can be expanded to meet future requirements. With further enhancements, it has the potential to become a highly competitive and widely used platform in the online football news industry.

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