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# Sports Talent and Coaching Opportunity Platform

**Dr. Amjad Khan[1], Abhishek S L[2], Anusha Yeligar[3], Harshita B Talur[4], Shankaragouda Patil[5]**

*[1]Associate Professor, Department of Information Science and Engineering, Bapuji Institute of Engineering and Technology Davangere, Karnataka, India.*
*[2, 3, 4, 5]Department of Information Science and Engineering, Bapuji Institute of Engineering and Technology Davangere, Karnataka, India.*

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**Abstract:** *Sports Talent And Coaching Opportunity Platform is an Android-based platform designed to connect aspiring sports players with coaches, training academies, and sports opportunities in their local area. The application allows players to select their preferred sport and discover nearby academies, training facilities, trials, and tournaments using GPS-based location services. Coaches can register their academies, provide facility details, and publish upcoming trials or tournament events to attract new talent. The system also includes an AI Sports Assistant powered by Google Gemini 1.5 Flash, which provides sports-related guidance and helps players discover relevant opportunities. The application uses SQLite for local storage, MySQL with PHP for data synchronization, Volley for networking, and Google Fused Location Provider for location-based services. Overall, Sports Sync AI provides an integrated platform for sports talent discovery and opportunity management.*

**Keywords**: *Sports Talent Hunt, Sports Opportunity Discovery, Android Application, Location-Based Services, Sports Academy Management, AI Assistant, SQLite, MySQL.*

## I. INTRODUCTION

Sports play an important role in promoting physical fitness, mental well-being, discipline, teamwork, leadership, and the overall development of individuals. Participation in sports provides opportunities for individuals to identify their abilities, improve their skills, develop competitive attitudes, and achieve excellence at different levels. However, becoming a successful athlete requires more than individual talent and dedication. It also depends on access to qualified coaches, appropriate training facilities, well-established sports academies, professional guidance, and opportunities to participate in sports trials, tournaments, and selection events. For aspiring athletes, identifying the right coaching institution and obtaining information about available sporting opportunities are essential steps towards developing their sporting careers. Despite the growing popularity of sports and the increasing number of coaching institutions, accessing reliable and relevant information remains a challenge for many players.

In the existing environment, information about sports academies, coaching centers, training programs, tournaments, and selection trials is generally distributed across multiple communication channels. Social media platforms, promotional posters, individual academy websites, personal contacts, and local advertisements are commonly used to share sports-related information. However, these sources do not always provide a centralized, organized, and location-specific method of discovering opportunities. Players may need to spend considerable time searching through different platforms to identify academies that offer coaching in their preferred sport. Furthermore, information regarding upcoming trials and tournaments may not reach interested participants at the appropriate time. This lack of organized information can create difficulties for talented individuals who are willing to pursue sports but have limited awareness of available coaching facilities and competitive opportunities in their surrounding areas. Similarly, coaches and sports academies face challenges in promoting their institutions and communicating with potential athletes. Many academies provide training facilities and conduct regular selection trials, tournaments, and other sporting activities. However, reaching the appropriate audience and ensuring that information reaches interested players can be difficult when promotional activities depend primarily on informal communication and individual social media accounts. The absence of a common platform for publishing academy information and sporting events creates a communication gap between players and coaching institutions. Consequently, there is a need for a technology-driven solution that provides a common environment for publishing, accessing, and discovering sports-related opportunities while reducing the difficulties associated with traditional information-sharing methods.

To address these challenges, the **Sports Talent and Coaching Opportunity Platform**, developed as an Android application named **Sports Talent Hunt**, is proposed to establish a centralized digital platform that connects aspiring players,

coaches, and sports academies. The primary objective of the application is to simplify sports opportunity discovery by providing relevant information about coaching institutions, nearby academies, sports trials, and tournaments through a single mobile application. The system considers players and coaches as two distinct user roles, with separate functionalities designed according to their requirements. This role-based structure provides an organized approach to managing information and enables both categories of users to interact with the platform efficiently. By integrating academy registration, event publication, geographical discovery, and an AI-powered assistant, the application aims to improve the accessibility and visibility of sports-related opportunities.

The player module is designed to help athletes explore sports opportunities according to their individual interests and geographical preferences. Players can select their preferred sport and discover relevant coaching academies, training centers, upcoming trials, and tournament information available through the application. Instead of manually searching through unrelated sources, users can access organized information about available opportunities within a common digital environment. This approach helps aspiring athletes identify suitable training institutions and become aware of competitive events that may support their sporting development. The application also provides access to relevant event information and registration links, allowing interested players to obtain further details and proceed with the registration process through the respective links.

The coach module provides a dedicated interface through which coaches and academy representatives can register their institutions and publish information about available sporting opportunities. Coaches can provide essential academy details, including the academy name, preferred sports, contact information, and geographical coordinates. In addition, they can publish details about upcoming sports trials and tournaments so that interested players can discover and access the information. This functionality improves the visibility of coaching institutions and provides coaches with a convenient method of communicating available opportunities to potential athletes. The platform therefore establishes a common information-sharing environment in which players can search for opportunities while coaches can promote their academies and sporting events.

One of the significant features of Sports Talent Hunt is the integration of **Location-Based Services**, which enables geographical discovery of nearby academies and sports opportunities. The application utilizes the Google Fused Location Provider API to obtain the geographical coordinates of the player's Android device. The retrieved latitude and longitude values are used along with the geographical coordinates of academies and events stored in the application database to identify their relative proximity. Based on this geographical information, the application can organize and display relevant academies and sporting opportunities according to the player's current location. This functionality reduces the effort required to manually search for coaching institutions across different locations and helps players identify accessible training facilities. Location-based discovery also improves the relevance of the displayed information by considering geographical proximity along with the player's preferred sport.

In addition to location-based discovery, the application incorporates an **Artificial Intelligence (AI) Assistant** to provide interactive support for users. The AI Assistant is designed to respond to sports-related queries and provide relevant information through a conversational interface. Users can interact with the assistant to obtain information about sports, training practices, coaching-related topics, and other general sports queries. The integration of artificial intelligence makes the platform more interactive and provides an additional information-access mechanism within the application. Rather than depending entirely on manual searches or external sources, users can communicate with the AI Assistant to obtain responses to their queries. This feature enhances the usability of the application and demonstrates the potential of AI-based conversational technologies in supporting digital sports platforms.

Efficient data storage and retrieval are also important aspects of the proposed system. To support the management of application information, **SQLite and MySQL** are incorporated into the database architecture. SQLite is used for local data management within the Android application, while MySQL supports structured storage and management of information such as user records, academy details, and sports opportunities in the database. These database technologies help organize application data and support the operations required for retrieving, maintaining, and managing information. The integration of database management with the application modules provides a structured approach to handling information associated with different user roles and platform functionalities.

The proposed application combines Android application development, location-based services, artificial intelligence, and database management to provide an integrated solution for sports opportunity discovery. Each functionality contributes towards reducing the information gap between aspiring athletes and coaching institutions. The player-oriented features support the discovery of nearby academies and sporting events, while the coach-oriented features simplify academy registration and the publication of opportunities. Location-based services improve geographical relevance, and the AI Assistant provides an interactive mechanism for accessing sports-related information. Together, these features establish a unified platform that supports information sharing and improves the accessibility of sports opportunities. Overall, **Sports Talent Hunt** aims to provide a convenient and organized digital environment for connecting sports talent with suitable coaching and training opportunities.

By bringing players, coaches, and sports academies onto a common platform, the system seeks to simplify the process of discovering training facilities, identifying selection trials, and accessing tournament information. The proposed Sports Talent and Coaching Opportunity Platform represents an integrated approach to improving sports opportunity discovery through mobile technology and intelligent digital services. It aims to strengthen communication between aspiring athletes and coaching institutions while making relevant sports-related information more accessible, organized, and easier to discover.

**Objectives**

The main objectives of Sports Talent and Coaching Opportunity Platform are : (1) To develop an Android-based platform that connects aspiring sports players with coaches and registered sports academies. (2) To provide GPS-based

discovery of nearby coaching centers, training facilities, sports trials, and tournaments according to the player's selected sport. (3) To enable coaches to register academies and publish upcoming sports trials or tournament events with relevant details. (4) To integrate an AI Sports Assistant that provides sports-related guidance and helps players discover relevant opportunities available through the application. (5) To provide sport-specific discovery of academies, trials and tournaments. (6) To use device location to organize opportunities according to geographical proximity.

**Scope**

The Sports Talent and Coaching Opportunity Platform project aims to develop an Android application that connects aspiring players with coaches, sports academies, and sports-related opportunities through a centralized digital platform. Players can register, select their preferred sports, and discover nearby academies, training centers, trials, and tournaments based on their geographical location. Coaches can register their academies, provide location details, and publish information about upcoming sports events and selection trials. The application uses the Google Fused Location Provider API to obtain geographical coordinates and facilitate location-based discovery, helping players find relevant opportunities conveniently.

## II. MATERIAL AND METHODS

**Existing System**

The project addresses the challenges associated with finding sports academies, coaches, training facilities, and sports opportunities across multiple platforms. Without a centralized system, players may need to search through social media, websites, posters, and personal contacts to find relevant opportunities. Existing sports platforms should be examined to identify their capabilities and limitations.

Existing systems manage donations and organizational records through different platforms, which may increase administrative effort and make record maintenance difficult.

1. **SportEasy:** A sports team management platform that supports team communication, scheduling, and organization of sports activities. Its primary focus is team management rather than location-based discovery of academies and trials. Reference: SportEasy
2. **Spond:** A sports and group management platform that supports event organization, communication, and participation management. However, its primary focus is managing existing groups rather than providing a centralized discovery platform for nearby sports academies and trials. Reference: Spond
3. **Research Gap:** The proposed Sports Talent Hunt application aims to integrate location-based discovery of sports academies and trials, coach registration, sports event publication, and an AI-powered sports assistant into a single Android platform. This approach seeks to simplify opportunity discovery, improve accessibility, and connect aspiring players with coaches and relevant sports opportunities.

**Proposed System**

The proposed system is an Android-based Sports Talent Hunt Platform that connects players with coaches and sports academies. It enables players to select their preferred sport and discover nearby academies, trials, and tournaments using GPS. Coaches can register academies with details, images, and geographical coordinates, and publish sports events with registration links. A dynamic recent-updates feed displays newly registered academies and upcoming opportunities. The application integrates a Google Gemini 1.5 Flash-powered Sports AI Assistant for sports guidance and opportunity-related queries. SQLite, MySQL/PHP, Volley, and Google Fused Location Provider are used for local storage, server synchronization, network communication, and location-based services, respectively.

**System Architecture**

The architecture of Sports Talent and Coaching Opportunity Platform can be understood as a multi-component Android system. At the user interface layer, XML-based Android screens provide the interaction surface. Activity classes coordinate navigation and invoke application services.

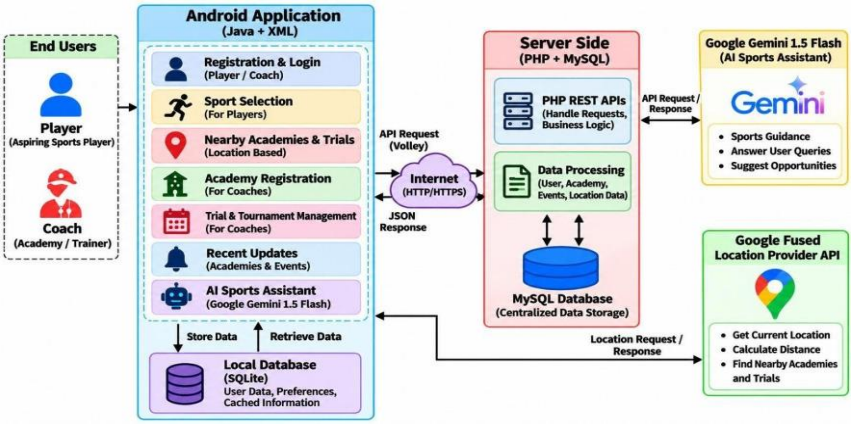



*Fig. 1. System Architecture of Sports Talent and Coaching Opportunity Platform*

**Technologies Used**

| Technology | Purpose |
|---|---|
| PHP HTTP Endpoints | Server-side request handling as described in the workflow. |
| MySQL | Centralized server-side relational storage. |
| Android SDK / Android Studio | Application development and build environment. |
| Java / Android application code | Application logic and activity implementation. |
| Google Fused Location Provider | Location retrieval. |

**Implemented Modules**

1. **User Registration and Authentication.** Provides registration and login functionality for Players and Coaches. Session Manager maintains session information and supports role-based navigation.
2. **Player Opportunity Discovery.** Allows players to select a sport and explore relevant academies, trials and tournaments. Nearby Opportunities Activity displays opportunities using Recycler View.
3. **Coach and Academy Management.** Enables coaches to register academies by providing names, sports, addresses, images and location details. Academy information helps players discover relevant sports facilities.
4. **Sports Event Management.** Allows coaches to publish trials and tournaments with titles, dates, banner images and registration links. Published event information helps players discover sports opportunities.
5. **Location-Based Opportunity Discovery.** Uses the Google Fused Location Provider API to obtain the user's current location. Geographical distance calculations help organize nearby academies and events by proximity.
6. **AI Sports Assistant.** Provides a chatbot through Chatbot Activity, integrated with Gemini 1.5 Flash. It supports sports-related queries and contextual responses using relevant information retrieved from local records.
7. **Database Management and Synchronization.** Uses SQLite through DatabaseHelper.java for local data storage and retrieval. Config.java maintains server settings, while Volley handles HTTP requests for supported server operations.

**Testing Methodology**

The application is tested against its functional requirements. Testing covers user authentication, role-based navigation, player opportunity discovery, academy registration, sports event publication, location-based filtering, database operations and AI assistant functionality. Each test case records the input, expected outcome, actual outcome and pass/fail status. Tests that have not been performed or whose outcomes have not been confirmed remain pending.

## III.RESULTS

**Functional Testing**

The project report contains a test plan consisting of 30 test cases covering registration, authentication, donation operation s, admission requests, expense management, organization administration and access control. Actual outcomes must be verified before final results can be reported.

| Test ID | Scenario | Expected outcome | Actual result |
|---|---|---|---|
| TC01 | Valid registration | Account is created | verified |
| TC02 | Invalid login | Error message shown | verified |
| TC03 | Valid login | User authenticated | verified |
| TC04 | Role Navigation | Sport selection | verified |
| TC05 | Sport Selection | Selected sport should be stored | verified |
| TC06 | Location | Current coordinates should be obtained | verified |
| TC07 | Nearby Academies | Results should be displayed | verified |
| TC08 | Nearby Trails | Available trails shown | verified |
| TC09 | Academy Registration | Academy should be stored | verified |
| TC10 | Event Publication | Event should be stored | verified |
| TC11 | AI Assistant | Relevant conversational response | verified |
| TC12 | Network | HTTP request should complete successfully | verified |

*Table I. Representative functional test cases*

The table presents representative scenarios from the project's test plan. The expected outcomes are not evidence that tests passed. Actual results must be completed from testing records.

**Results Summary**

The Sports Talent And Coaching Opportunity Platform application was evaluated to verify the functionality of its major components, including user access, sports academy discovery, GPS-based location services, sports event listings, academy management, and the AI-powered sports assistant. The testing results were assessed based on the successful execution of the implemented features. The total number of test cases executed, passed, failed, and retested, along with the overall pass rate, should be reported using the actual test records.

**Observed Application Functionality**

The developed Sports Talent and Coaching Opportunity Platform is an Android Application designed to connect aspiring athletes with coaches and sports academies. It facilitates Sports Opportunity Discovery through Location-Based Services, enabling users to identify nearby academies, explore sports trials and tournaments, and access recent updates. The platform supports Sports Academy Management, allowing coaches to register academies and publish sports events. An AI-powered AI Assistant, integrated with Google Gemini, provides responses to sports-related queries. The application utilizes SQLite and MySQL for data management, where applicable in the implemented system. Overall, the platform aims to improve access to sports opportunities and strengthen connections between athletes, coaches, and training institutions.




*Fig. 1.* Login Screen

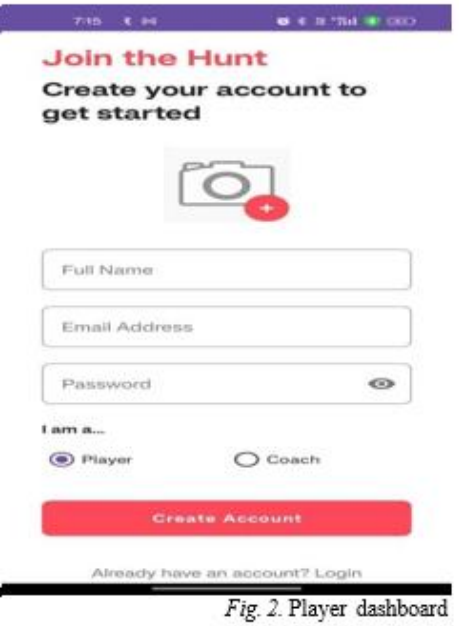



*Fig. 2.* Player dashboard




*Fig. 3. Choosing Sports*




*Fig. 4. Event/Trial Publication*

## IV. DISCUSSION

Sports Talent and Coaching Opportunity Platform demonstrates how multiple application technologies can be combined around a single user problem. The project is not limited to a database listing or a chatbot. Its primary workflow depends on the relationship between users, location, sport preference and published opportunities. The AI assistant is an additional interaction layer that uses application context to support natural-language queries.

The architecture also provides a foundation for future expansion. New sports can be introduced as data rather than requiring a separate application. Additional event attributes can be added to the database. Similarly, the location component can be extended from simple distance ordering to map visualization, route estimation or configurable search radii.

## V. CONCLUSION

Sports Talent and Coaching Opportunity Platform is an Android-based application designed to connect aspiring players with coaches, sports academies, and sports opportunities. It enables players to discover nearby academies and trials, while coaches can register academies and publish sports events. The application integrates Google Fused Location Provider for location-based discovery, SQLite for local data storage, MySQL for centralized data management, and a Gemini-powered AI Assistant for sports-related queries. The project combines mobile technology, location services, database management, and artificial intelligence to improve access to sports opportunities.

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