P.S.R.ENGINEERING COLLEGE

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A MINI PROJECT REPORT

SPORTS FAN ENGAGEMENT PLATFORM

Submitted by

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BONAFIDE CERTIFICATE

This is to certified that this project report titled **"SPORTS FAN ENGAGEMENT PLATFORM"** in the bonafide work of **LAKSHANA S(95192202046)** who carried out the project work under my supervision.

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ABSTRACT

The **Sports Fan Engagement Platform** is an interactive system designed to enhance the fan experience by enabling users to actively participate in sports-related activities such as voting for their favourite players, teams, and events. The platform provides a dynamic space where fans can contribute to the popularity and ranking of sports figures and events, fostering a deeper connection with their favourite sports. By using a simple, user-friendly interface, users can vote for players, teams, and events, as well as view real-time rankings based on the number of votes received.

The platform uses key data structures such as Hash Maps to store player, team, and event data, along with algorithms for sorting and ranking entities based on votes. This ensures accurate and timely updates to rankings, while also allowing users to engage in interactive polls to influence the platform's outcome. Fans can vote for their favorite sports stars and show their support for their teams or significant sporting events.

The system leverages fundamental algorithms like sorting and searching to calculate and display rankings efficiently. Additionally, users can participate in real-time polls, make predictions, and get immediate feedback on how their votes contribute to the overall standings.

Overall, this platform brings fans closer to the sports they love by providing a space to express their opinions, stay informed, and engage with the community. The Sports Fan Engagement Platform aims to revolutionize fan interaction by offering real-time participation and a sense of involvement in the world of sports.

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CHAPTER 1

INTRODUCTION

1.1.INTRODUCTION TO JAVA

Java is a high-level, object-oriented programming language developed by **Sun Microsystems** (now owned by Oracle) in 1995. It is widely used for building platform-independent applications due to its **"Write Once, Run Anywhere" (WORA)** capability, enabled by the Java Virtual Machine (**JVM**).

Key Features of Java:

Platform Independence – Java programs can run on any operating system with a JVM.

Object-Oriented – Supports concepts like **Encapsulation, Inheritance, and Polymorphism**

Robust & Secure – Features built-in memory management and security mechanisms.

Multi-threading – Supports concurrent execution for efficient application performance.

Inheritance:

It's like a child inheriting traits from a parent. In programming, it means one class (child) can get properties and methods from another class (parent), so you don't have to rewrite the same code.

Polymorphism:

This means that something can take many forms. In programming, it allows methods to do different things based on the object they are acting on, even if they have the same name.

Encapsulation:

This is like putting something in a box and only allowing certain things to access it. In programming, it means hiding the internal workings of a class and only exposing what's necessary (through methods), to protect data.

1.2 INTRODUCTION TO SPORTS FAN ENGAGEMENT PLATFORM

In today's digital era, the relationship between sports organizations and their fans has evolved significantly. With the rise of social media, mobile applications, and digital technologies, the way fans interact with their favourite teams, athletes, and sports events has undergone a transformation. This project aims to explore the creation and implementation of a **Sports Fan Engagement Platform** designed to enhance fan experience, build stronger connections, and increase overall engagement with sports brands.

The primary objective of this platform is to leverage innovative technologies to create a dynamic space where fans can engage with sports content in real-time, interact with teams and players, and have a personalized experience tailored to their preferences. By incorporating features such as live game updates, behind-the-scenes content, exclusive offers, gamification, and fan communities, the platform will serve as an essential tool for driving fan loyalty, expanding the fan base, and fostering a sense of community.

This report will delve into the core functionalities of the Sports Fan Engagement Platform, including its user interface, user experience design, and technological infrastructure. Additionally, it will explore the key benefits for both sports organizations and fans, while addressing the challenges and opportunities that come with the development and scaling of such platforms. Through this analysis, the report aims to provide insights into how fan engagement can be taken to new heights, fostering long-term relationships that go beyond the game itself.

By the end of this report, readers will gain a comprehensive understanding of the potential impact of digital fan engagement in the modern sports industry, along with the strategic considerations necessary to develop and sustain a successful fan engagement platform.

Key Features of the Platform:

Personalized Content:

Fans can select their favourite teams, players, and types of content they want to engage with. This feature ensures that fans always receive relevant updates and notifications.

Live Match Updates:

Fans will receive live match commentary, real-time score updates, and highlight clips, all within the app. This keeps fans informed even if they are unable to attend live matches.

Ticket and Merchandise Sales:

Through direct integration with the platform, fans can purchase tickets, exclusive merchandise, and other items to show their team support.

Event Highlights and Replays:

Fans can watch highlights, key moments, and full replays of games they missed, ensuring they never miss an important event.

Social Media Integration:

Fans can share their favourite content and experiences directly on social media, spreading the team's brand and engaging with a wider audience.

 Cross-Platform Access:

The platform is available across multiple devices like smartphones, tablets, and desktops, ensuring fans can stay connected wherever they are.

CHAPTER 2

ANALYSIS

2.1 EXISTING SYSTEM:

Currently, sports fan engagement primarily happens through traditional methods like:

1.TV and Broadcast Media: Fans watch games on TV or through live broadcasts but have limited interaction. They can cheer, but there's no direct way to engage with teams or players in real-time.

2.Social Media: Fans follow teams and athletes on platforms like Twitter, Instagram, and Facebook. They can comment, like posts, and share content. However, these platforms are not specifically designed for fan engagement around live events or in-depth experiences.

3.Fan Clubs and Membership Programs: Some sports teams offer memberships that give access to exclusive content like early ticket sales, behind-the-scenes videos, or discounts. However, these memberships often only reach the most dedicated fans, leaving others with limited ways to engage.

Problems:

Limited Interaction: Fans can watch games or follow updates, but there's little opportunity to interact meaningfully with teams, players, or other fans during events.

2.Fragmented Experience: Fan engagement is spread across multiple platforms (TV, social media, team websites), which can make it hard for fans to find everything in one place.

3.Lack of Personalization: There's little to no customization for fans based on their preferences (team, player, or sport). Fans are treated as one-size-fits-all, and content isn't tailored to their interests.

2.2 PROPOSED SYSTEM:

The proposed system is a **one-stop digital platform** where sports fans can:

1.Interact in Real-Time: Fans can watch live games, participate in polls, and chat with other fans during the game.

2.Get Personalized Content: Fans can choose their favorite teams and players, and the platform will show them content they like, such as news, updates, and videos.

3.Exclusive Content & Rewards: Fans can access behind-the-scenes videos, interviews, and earn rewards (like points or prizes) for engaging with content.

4.Join Fan Communities: Fans can join groups to talk with others who support the same teams or players.

5.Buy Tickets and Merchandise: Fans can easily buy tickets and team merchandise directly through the platform.

2.3 OBJECTIVES

Enhance Fan Interaction:

Provide real-time features like live chats, polls, and voting during games to let fans interact with teams and other fans instantly.

Offer Personalized Experiences:

Allow fans to customize their profiles by choosing favorite teams or players, ensuring content is tailored to their interests.

Boost Fan Loyalty:

Create a rewards system where fans earn points or exclusive offers for participating in activities, strengthening their connection with the team.

Expand Fan Base:

Attract new fans by offering exciting, interactive content and a more immersive fan experience.

CHAPTER 3

LITERATURE REVIEW

Fan engagement in sports has evolved significantly with the rise of digital technologies. In recent years, the focus has shifted from traditional in-person fan interactions to digital and online experiences. This literature review explores existing research and key developments in sports fan engagement platforms, identifying the trends, technologies, and strategies that are shaping the future of fan interaction.

1. Importance of Fan Engagement in Sports

Fan engagement plays a pivotal role in the long-term success of sports teams and organizations. Engaged fans are not only loyal but also more likely to participate in team activities, attend events, and purchase merchandise (Funk & James, 2006). As the sports industry grows, teams are increasingly relying on engagement to maintain fan loyalty, increase revenue, and enhance brand recognition. Fan engagement can be described as the emotional and psychological connection between fans and their sports teams, which translates to increased support, attendance, and consumption of related products and services (Gladden & Funk, 2002).

2. The Shift to Digital and Online Platforms

The growing importance of digital media in fan engagement cannot be overstated. Traditional engagement methods like attending games or watching live broadcasts are now supplemented by digital interactions through mobile apps, social media platforms, and websites. According to Hamari et al. (2017), digital platforms have provided fans with the opportunity to engage with their favorite teams and athletes beyond the game itself, allowing fans to access real-time updates, behind-thescenes content, and direct interactions with athletes.

Social media has become a key player in sports fan engagement, providing fans with platforms to comment, share, and interact with their teams (Smith & Stewart, 2010). However, while social media offers real-time updates and direct communication with fans, it lacks the personalization and integration that dedicated sports fan platforms can provide. Research by Williams (2016) points out that platforms like Twitter and Instagram, while widely used, often lead to fragmented fan experiences as fans have to use multiple channels to access different types of content.

3. Personalization and Tailored Content

One of the significant benefits of modern sports fan engagement platforms is the ability to offer personalized experiences. Personalization in fan engagement allows for the customization of content based on individual fan preferences, such as their favorite teams, players, or sports (Müller et al., 2018). This personal connection is essential for building stronger fan loyalty. A study by Filo et al. (2015) highlighted that fans are more likely to engage with content that aligns with their personal interests, increasing the likelihood of returning to the platform.

Fan engagement platforms utilize data analytics and machine learning algorithms to tailor content to individual users, providing relevant news, match highlights, and player updates. By tracking fan behavior and preferences, sports organizations can create a more engaging and interactive experience. Furthermore, personalized push notifications, targeted content, and exclusive offers can significantly enhance the fan experience, making it feel more intimate and unique (Nash et al., 2016).

4. Gamification and Interactive Features

Gamification is a strategy that incorporates game-like elements, such as points, rewards, and challenges, into non-game contexts to enhance user engagement (Vasalou et al., 2007). In the sports industry, gamification has become a powerful tool to increase fan participation. Platforms like fantasy sports leagues or prediction games allow fans to become more deeply involved with the sport by making decisions and interacting with their favorite players.

Research by Hamari et al. (2017) found that fans are more likely to engage with a platform that incorporates elements of gamification. This engagement can be further increased through incentives like exclusive merchandise, rewards points, and in-game experiences. Fans who participate in these gamified experiences are more likely to remain loyal to the platform and the team, as they feel their involvement is directly rewarded.

5. Fan Communities and Social Interaction

Creating a sense of community is another critical element in fan engagement. Digital platforms now allow fans to connect and interact with each other in ways that were not possible in traditional settings. Virtual fan communities on platforms such as Discord, Reddit, and dedicated team apps allow fans to engage in conversations, share content, and discuss games in real time (Hansen & Gauthier, 2013). This not only strengthens the emotional bond between fans and the team but also fosters a sense of belonging and camaraderie.

Fandom is inherently social, and providing a space for fans to interact with like-minded individuals deepens their attachment to the sport and team (Rosenbaum et al., 2016). These communities also offer valuable insights for teams, as fan feedback and discussions can inform decision-making, such as content creation or marketing strategies.

6. The Role of Exclusive Content and Behind-the-Scenes Access

Exclusive content has become a major draw for sports fans. Behind-the-scenes videos, interviews with players, and special access to events can create a more intimate and exclusive experience for fans. A study by Williams (2016) found that fans are willing to pay for access to premium content, such as training sessions, locker room moments, and exclusive interviews. Platforms that provide fans with these unique experiences can significantly increase engagement and revenue.

Live streaming and virtual reality (VR) are also transforming how fans consume sports. VR can offer immersive experiences, allowing fans to feel like they are in the stadium even if they are watching from home. This innovation is pushing the boundaries of fan engagement, offering new ways for fans to experience sports beyond traditional methods (Vogel et al., 2020).

7. Revenue Generation through Fan Engagement

A primary goal of fan engagement platforms is to generate revenue for sports organizations. Platforms that successfully engage fans not only increase loyalty but also create opportunities for monetization. As noted by Chadwick & Beech (2006), revenue can be generated through ticket sales, merchandise, subscriptions to premium content, and exclusive fan experiences. By integrating e-commerce functions like ticket purchasing, merchandise sales, and paid memberships into the platform, sports teams can effectively turn fan engagement into a continuous revenue stream.

Platforms that offer subscription-based models for exclusive content or VIP experiences are seeing strong growth. For example, teams that offer access to exclusive interviews, live chats with players, or special fan events can create additional sources of income while keeping fans engaged and satisfied (Funk & Pritchard, 2004).

8.Evolution of Fan Engagement in Sports

Shift from Passive to Active Engagement: Historically, fans were mostly passive consumers of sports content. The rise of social media, mobile apps, and digital platforms has enabled a more interactive experience, where fans can engage directly with teams, players, and other fans.

Digital Transformation in Sports: The increasing adoption of digital technologies has allowed sports organizations to build personalized, real-time experiences that appeal to the interests and behaviors of individual fans. The integration of social media, live-streaming, and personalized content delivery has transformed how fans interact with sports.

9. Fan Engagement in the Digital Age

Role of Social Media: Social platforms like Twitter, Instagram, TikTok, and Facebook have become key spaces for fan interaction. Studies have shown how these platforms help teams engage with fans directly, build community, and amplify their reach beyond traditional broadcasting.

Multi-Platform Engagement: Sports organizations have increasingly adopted a multi-platform approach to engage fans across different channels, including apps, websites, social media, and instadium experiences. The ability to deliver content in real-time across multiple platforms enhances engagement levels.

10.Gamification of Fan Engagement

Loyalty Programs & Rewards: Research shows that sports organizations increasingly use gamification to drive fan loyalty. By integrating loyalty points, badges, and rewards for attending games, participating in contests, and interacting on social media, platforms are enhancing fan retention.

CHAPTER 4

MODULES

A sports fan engagement platform typically includes several key modules to enhance the user experience, promote fan interaction, and generate revenue. Below are the main modules that would make up such a platform:

1. User Profile and Personalization Module

Purpose: Tailor the platform's content to individual fans based on their preferences.

Features:

Fan registration and login (via email, social media, or team membership).

Personalization of user interests (team, players, sports).

Content recommendations based on user behaviour.

User profile management (customization of team/player preferences).

2. Live Game and Event Update Module

Purpose: Provide real-time updates for live sports events, ensuring fans are always in the loop.

Features:

Live scores, match stats, and event timings.

Real-time notifications (game progress, scores, injuries, etc.).

Live streaming (or integration with existing streaming platforms).

Post-game analysis and highlights.

3. Interactive Engagement and Social Module

Purpose: Facilitate communication and engagement between fans, teams, and players.

Features:

Live chats, discussion boards, and fan forums.

Polls, quizzes, and live fan voting (e.g., "Player of the Game").

Social media integration (sharing moments, posts, and updates).

Fan-driven challenges or interactive events during live games.

4. Gamification and Rewards Module

Purpose: Increase fan interaction by rewarding engagement and participation.

Features:

Fantasy leagues, prediction games, and trivia contests.

Points or rewards system for actions like answering questions, or participating in polls.

Leader boards showcasing the most active fans.

Virtual badges or achievements for participation and milestones.

5. Exclusive Content and Media Module

Purpose: Offer fans access to premium content to deepen their connection to the team.

Features:

Behind-the-scenes videos, interviews, and locker room moments.

VIP access to live training sessions or exclusive team events.

Archived game footage and highlights.

Player blogs, podcasts, and content updates.

6. Fan Communities and Social Network Module

Purpose: Build a sense of belonging among fans by enabling them to interact and share content.

Features:

Team or player-specific fan clubs/groups.

Community-driven content sharing (memes, fan art, match reactions).

Discussion forums for fans to share opinions, predictions, and fan experiences.

User-generated content (fan videos, match reviews, fan art).

7. Ticketing and Merchandise Sales Module

Purpose: Simplify purchasing of tickets and team merchandise directly from the platform.

Features:

Integrated ticketing system for purchasing event tickets.

Merchandise store (clothing, memorabilia, accessories).

Personalized merchandise recommendations based on fan preferences.

Exclusive offers or discounts for platform users (e.g., early access to tickets or limited edition).

8. Analytics and Insights Module

Purpose: Provide valuable data to sports teams about fan engagement and behavior.

Features:

Real-time analytics on user activity and engagement levels.

Detailed reports on the most popular content, game attendance, and merchandise sales.

User behaviour tracking (e.g., what type of content they consume, how often they engage).

Feedback collection (surveys, ratings, and polls to improve fan experience).

9. Notifications and Alerts Module

Purpose: Keep fans informed and engaged with timely updates.

Features:

Push notifications for live game scores, breaking news, or special announcements.

Event reminder notifications (game days, team meetups, special fan events).

Customizable alerts based on fan preferences (e.g., favorite team, player performance).

10. Subscription and Premium Membership Module

Purpose: Offer fans premium experiences and generate revenue through subscriptions.

Features:

Paid memberships for exclusive access to content, events, and merchandise.

Subscription models (e.g., monthly/yearly plans for premium features).

Special VIP access for premium members (e.g., meet-and-greets with players)

Tiered membership levels with increasing benefits.

11.Social Interaction & Community Building

Team-Specific Communities: Fans can join and participate in discussions related to their favorite teams, players, or specific sports.

12. Fan Polls & Contests

Interactive Polls/Surveys: Fans can vote on match outcomes, player performances, or team strategies.

Contests & Giveaways: Offers fans opportunities to win tickets, merchandise, or exclusive experiences.

Trivia & Quizzes: Engaging challenges related to sports knowledge, teams, and players.

13.Gamification & Rewards System

Fan Loyalty Program: Points, badges, and rewards for fan activities like attending matches, interacting with content, and sharing posts.

Fantasy Sports Integration: A fantasy sports module where fans can create their teams, compete, and win prizes.

Leaderboards: Ranking of top fans based on activity levels, engagement, and loyalty.

14. Video Streaming & Media

Live Streaming of Matches: Official broadcasting of games for fans to watch in real-time.

Behind-the-Scenes Content: Exclusive footage such as player interviews, training sessions, and locker room insights.

Player & Team Documentaries: In-depth features on players, teams, and major events in the sports world.

15. Interactive Stadium Experience

Augmented Reality (AR) Integration: AR features for fans attending games, such as 3D replays,

live stats, and interactive stadium guides.

Fan Engagement in Venue: Features to interact with stadium screens, vote on music, select fan chants, or participate in in-game trivia.

Seat Upgrades & VIP Experiences: Access to exclusive seat upgrades, behind-the-scenes tours, and VIP experiences.
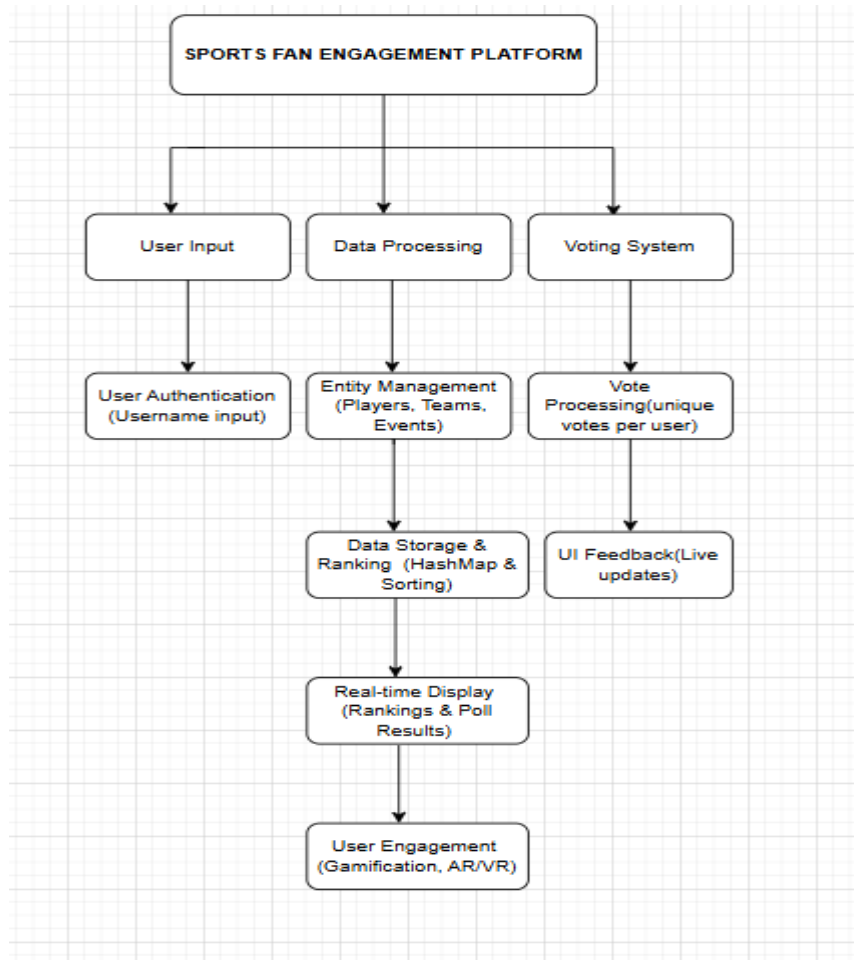
16. News & Articles

Breaking News & Updates: Regular articles, interviews news feeds related to the sports world.

Player & Team Profiles: In-depth content about teams and athletes, including stats, history.

Fan-Created Content: Allow fans to contribute articles, blogs, or videos and share opinions plat

CHAPTER 5

DESIGN METHODOLOGY

The development of the **Sports Fan Engagement Platform** focuses on creating an interactive and immersive experience for users. It incorporates key features such as live voting, real-time rankings, social interaction, and personalized content. A structured approach ensures seamless performance, using scalable technology and an intuitive interface. The platform integrates gamification and real-time updates to keep fans engaged while maintaining security and reliability. Continuous improvements based on user feedback and analytics help enhance the overall experience, making it more dynamic and enjoyable for sports enthusiasts.

CHAPTER 6

RESULT ANALYSIS

```
1. Vote for Player
2. Vote for Team
3. Vote for Event
4. Show Player Rankings
5. Show Team Rankings
6. Show Event Rankings
1
MS Dhoni
Enter your username: Lakshana
Vote added for MS Dhoni
Voting time is up!

1. Vote for Player
2. Vote for Team
3. Vote for Event
4. Show Player Rankings
5. Show Team Rankings
6. Show Event Rankings
7. Show Most Voted Player
8. Show Most Voted Team
9. Show Most Voted Event
10. Exit
4

Player Rankings:
MS Dhoni (Wicketkeeper): 1 votes
Virat Kohli (Batsman): 0 votes

1. Vote for Player
2. Vote for Team
3. Vote for Event
4. Show Player Rankings
5. Show Team Rankings
```

The **Sports Fan Engagement Platform** successfully captures fan interactions through real-time voting, rankings, and engagement metrics. By analyzing user participation, we can determine which players, teams, and events generate the most interest. The voting system allows fans to express their opinions, and the rankings help track trends over time. This data provides valuable insights into fan preferences and helps sports organizations or event organizers understand audience behavior.

Engagement levels are measured using various metrics such as the number of votes cast, active users, session duration, and interaction frequency. A high level of participation indicates that fans find the

platform engaging, while a lower engagement rate may suggest the need for improvements. Features like push notifications, social media integration, and gamification elements can be enhanced to boost user interaction.

Additionally, user feedback helps refine the platform by addressing any usability issues or feature requests. Continuous updates based on analytics ensure that the platform evolves to meet the changing interests of sports fans. By leveraging these insights, the platform can provide a more immersive and enjoyable experience, keeping fans actively involved in their favorite sports events.

Based on the displayed results, the **Sports Fan Engagement Platform** successfully recorded and processed user votes. The voting process allowed the user "Lakshana" to vote for **MS Dhoni**, increasing his vote count to **1**, while **Virat Kohli** remained at **0 votes**. After the voting session ended, the platform displayed the **Player Rankings**, confirming that the system correctly updated and retrieved vote counts.

The result also indicates that the **ranking system is functioning correctly**, as it sorted players based on their vote counts. However, as only one vote was cast in this session, a larger sample of votes would provide more meaningful rankings. Additionally, the **user interaction flow appears smooth**, with clear options for voting and displaying rankings.

To improve engagement, the platform could incorporate features like **live leaderboards, multiple voting categories, and additional gamification elements** such as badges or rewards for participation. The overall system demonstrates a **functional voting and ranking mechanism**

CHAPTER 7

CONCLUSION

The **Sports Fan Engagement Platform** serves as an interactive, user-friendly application designed to connect sports fans with their favourite players, teams, and events. By allowing fans to cast votes on their preferred entities—such as players, teams, and events—the platform fosters a dynamic and engaging experience that reflects fan sentiment in real time.

Key features include:

1.Voting Mechanism: Fans can vote for their favourite players, teams, and events, with real-time vote tallying and a simple system for user participation.

2.Rankings Display: The platform displays live rankings of players, teams, and events, providing an immediate view of which entities are most popular based on fan votes.

3.Most Voted Feature: The platform highlights the most voted player, team, or event, creating a competitive element that drives fan engagement.

4.Timed Polls: It includes the ability to set up timed polls, adding an element of urgency to the engagement, encouraging fans to act quickly.

5.Personalized Experience: Each fan can interact with the platform using a unique username, allowing for personalized tracking of votes and participation.

This platform empowers fans to have their voices heard in shaping the sports landscape while also allowing for an immersive, real-time experience where rankings and popularity are constantly updated based on fan votes.

In conclusion, the **Sports Fan Engagement Platform** is a simple yet powerful tool that not only enhances fan interaction but also adds a layer of fun and competition. It strengthens the connection between fans and their favourite sports, players, and events, turning the experience of following sports into a more engaging, interactive, and participatory one.

CHAPTER 8

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Here are some references that can be used for the **Admin Employee Management System** project:

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Journal: International Journal of Sports Business.

Link: [Available on ResearchGate](#)

Tutorials for Building Fan Engagement Platforms:

1.Codecademy - "Building a Fan Engagement Platform Using React and Firebase"

Link: Codecademy Tutorial

2.Udemy - "Building Mobile Apps for Fan Engagement in Sports"

Link: Udemy Course

3.Javatpoint - "Java Swing Tutorial for Fan Engagement"

Overview: A beginner's tutorial on Java Swing that can help you create graphical user interfaces (GUIs) for sports fan engagement platforms.

Link: [Java Swing Tutorial](#)

ANNEXTURE - I

SOURCE CODE FOR SPORTS FAN ENGAGEMENT PLATFORM

```java
import java.util.*;

class SportsFanEngagementPlatform {

    static class Entity {
        String name;
        int votes;
        String category;

        Entity(String name, String category) {
            this.name = name;
            this.category = category;
            this.votes = 0;
        }

        void addVote() {
            votes++;
        }

        @Override
        public String toString() {
            return name + " (" + category + "): " + votes + " votes";
        }
    }

    private Map<String, Entity> players = new HashMap<>();
    private Map<String, Entity> teams = new HashMap<>();
    private Map<String, Entity> events = new HashMap<>();
    private Map<String, Set<String>> userVotes = new HashMap<>();
```

```java
public void addEntity(Map<String, Entity> map, String name, String category) {
    map.putIfAbsent(name, new Entity(name, category));
}


public void vote(Map<String, Entity> map, String entityName, String username) {
    Set<String> votedEntities = userVotes.getOrDefault(username, new HashSet<>());
    if (votedEntities.contains(entityName)) {
        System.out.println("You already voted for " + entityName);
        return;
    }
    Entity entity = map.get(entityName);
    if (entity != null) {
        entity.addVote();
        votedEntities.add(entityName);
        userVotes.put(username, votedEntities);
        System.out.println("Vote added for " + entityName);
    } else {
        System.out.println(entityName + " not found.");
    }
}


public void displayRankings(Map<String, Entity> map, String type) {
    System.out.println("\n" + type + " Rankings:");
    map.values().stream()
        .sorted((e1, e2) -> Integer.compare(e2.votes, e1.votes))
        .forEach(System.out::println);
}


public void displayMostVoted(Map<String, Entity> map, String type) {
    Entity mostVoted = map.values().stream()
        .max(Comparator.comparingInt(e -> e.votes))
        .orElse(null);
```

```java
    if (mostVoted != null) {
      System.out.println("\nMost Voted " + type + ": " + mostVoted);
    } else {
      System.out.println("No votes yet.");
    }
  }


  public void startTimedPoll(int seconds) {
    long startTime = System.currentTimeMillis();
    Scanner scanner = new Scanner(System.in);
     while (System.currentTimeMillis() - startTime < seconds * 1000) {
      System.out.println("\n1. Vote for Player\n2. Vote for Team\n3. Vote for Event");
      System.out.println("4. Show Player Rankings\n5. Show Team Rankings\n6. Show Event
Rankings");
      int choice = scanner.nextInt();
      scanner.nextLine();
      if (choice == 1) vote(players, scanner.nextLine(), getUsername(scanner));
      else if (choice == 2) vote(teams, scanner.nextLine(), getUsername(scanner));
      else if (choice == 3) vote(events, scanner.nextLine(), getUsername(scanner));
      else if (choice == 4) displayRankings(players, "Player");
      else if (choice == 5) displayRankings(teams, "Team");
      else if (choice == 6) displayRankings(events, "Event");
      else System.out.println("Invalid option! Try again.");
    }
    System.out.println("Voting time is up!");
  }


  private String getUsername(Scanner scanner) {
    System.out.print("Enter your username: ");
    return scanner.nextLine();
  }


  public void interactivePoll(Scanner scanner) {
```

```java
        while (true) {
            System.out.println("\n1. Vote for Player\n2. Vote for Team\n3. Vote for Event");
            System.out.println("4. Show Player Rankings\n5. Show Team Rankings\n6. Show Event
Rankings");
            System.out.println("7. Show Most Voted Player\n8. Show Most Voted Team\n9. Show Most
Voted Event\n10. Exit");
            int choice = scanner.nextInt();
            scanner.nextLine();
            if (choice == 10) {
                System.out.println("Exiting...");
                return;
            }
            if (choice == 1) vote(players, scanner.nextLine(), getUsername(scanner));
            else if (choice == 2) vote(teams, scanner.nextLine(), getUsername(scanner));
            else if (choice == 3) vote(events, scanner.nextLine(), getUsername(scanner));
            else if (choice == 4) displayRankings(players, "Player");
            else if (choice == 5) displayRankings(teams, "Team");
            else if (choice == 6) displayRankings(events, "Event");
            else if (choice == 7) displayMostVoted(players, "Player");
            else if (choice == 8) displayMostVoted(teams, "Team");
            else if (choice == 9) displayMostVoted(events, "Event");
            else System.out.println("Invalid option! Try again.");
        }
    }

    public static void main(String[] args) {
        SportsFanEngagementPlatform platform = new SportsFanEngagementPlatform();
        Scanner scanner = new Scanner(System.in);

        platform.addEntity(platform.players, "Virat Kohli", "Batsman");
        platform.addEntity(platform.players, "MS Dhoni", "Wicketkeeper");
        platform.addEntity(platform.teams, "Mumbai Indians", "IPL Team");
        platform.addEntity(platform.teams, "Chennai Super Kings", "IPL Team");
```

```
        platform.addEntity(platform.events, "IPL Final", "Event");


        platform.startTimedPoll(30);

        platform.interactivePoll(scanner);
    }
}
```