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Faculty of Engineering & Technology
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PScore

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A Graduation Project submitted to the Department of Electrical and
Computer Engineering in partial fulfillment of the requirements for the
degree of B.Sc. in Computer Engineering

An Najah
6 February, 2024

Table of Contents

- Table of Contents** **I**

- Acknowledgment** **II**

- Disclaimer statement** **III**

- Abstract** **IV**

- 1 Introduction** **1**
 - 1.1 General background 1
 - 1.2 Objectives 1
 - 1.3 Significance or importance of your work. 2
 - 1.4 Organization of the report 2

- 2 Theoretical Background** **3**
 - 2.1 Digital Transformation in Sports 3
 - 2.2 User-Centered Design 3
 - 2.3 Community-Driven Content 3

- 3 Methodology** **4**
 - 3.1 Introduction 4
 - 3.2 Standards and Specifications 4
 - 3.3 Constraints 4
 - 3.4 Tools and Technologies 5
 - 3.5 Features Implementation 6

- 4 Conclusion** **23**
 - 4.1 Results and Analysis 23

- 5 Discussion** **25**

Acknowledgment

We would like to sincerely thank the following people and institutions, without which this project would not have been feasible:

Dr Samer Arandi We will always be indebted to our project manager, Dr.Samer Arandi, for his invaluable advice, mentorship, and critical comments during the project. We were inspired to work hard and deliver a top-notch project by his knowledge and support.

Our constant source of motivation has been our friends and family's unwavering support, encouragement, and belief in us. Throughout the difficult times, your tolerance and comprehension were greatly appreciated.

Finally, we would like to thank the instructors of the Computer Engineering Department at An Najah National University for creating a positive learning atmosphere and sharing insightful information.

Disclaimer statement

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Abstract

Our application offers a way to improve sports in Palestine. Our application is used by athletic individuals like football players to advance their careers. Users can showcase their skills and stats on this app to help them become professionals in the future.

The application has several types of users: players, managers, stadium owners, admin, and scouts.

The player profile contains information such as the player's position (striker, goalkeeper, defender), stats like goals.

The stadium page contains stadium information like location and size. As a player, you can reserve the stadium to play matches instead of the traditional method. Multiple players can reserve the stadium, and the number of reservations allowed depends on the stadium size/type (11 players, 7 players, 5 players per team). Users can view matches that players have reserved, as well as results. Additionally, they can mark players and stadiums as favorites.

The application also includes features such as a news page, profile page, login and register functionality, player teams, videos showcasing player skills, player stats (e.g., goals), user types and stadiums. Live score by volunteers (the score of the match): In our

country, there's no API available for accessing the scoreboard or any necessary information about a match. Therefore, we will create our own API. Typical users of the app will watch a match, and if a team scores a goal, those users can report it. The app will consider this reported information as accurate. Additionally, there will be a ranking system where users who provide accurate information will earn credit points. These points will determine whether they become special users, trusted for the information they provide, or remain normal users with standard points.

Chapter 1

Introduction

Contents

1.1	General background	1
1.2	Objectives	1
1.3	Significance or importance of your work.	2
1.4	Organization of the report	2

1.1 General background

In Palestine, the sports industry, particularly football, has immense potential for growth but faces significant challenges due to limited resources and infrastructure. Aspiring athletes often lack the platforms and opportunities to showcase their skills and advance their careers. The traditional methods of booking stadiums for matches and tracking player performance are cumbersome and inefficient, hindering the overall development of sports.

1.2 Objectives

The primary objective of our application is to enhance the sports ecosystem in Palestine by providing a comprehensive platform for athletes, particularly football players, to showcase their skills and advance their careers. The app aims to streamline the stadium booking process, enabling players to reserve fields easily and efficiently. Additionally, it facilitates real-time match reporting through community involvement, ensuring timely and accurate score updates. By promoting interaction among players, managers, scouts, and stadium owners, the app fosters a collaborative environment. It supports various match formats and includes detailed user profiles, a news page, team management features, and secure login functionalities. Ultimately, the application seeks to contribute to the development of sports in Palestine by offering equal opportunities for athletes to progress and participate in organized activities.

1.3 Significance or importance of your work.

Our application holds significant potential for transforming the sports landscape in Palestine by addressing critical gaps and inefficiencies in the current system. By providing a digital platform for athletes to showcase their skills and track their performance, we empower them with the visibility needed to attract scouts and managers, potentially leading to professional opportunities. This is particularly important in a region where traditional pathways to professional sports are limited.

1.4 Organization of the report

The report's structure aims to give readers a thorough understanding of the application and its evolution. The study commences with an introduction that provides background information and delineates the format. Subsequently, a literature review expounds on the contemporary obstacles facing Palestine's sports business and highlights the necessity of our proposal. The aims section outlines the purposes and anticipated advantages of the app. Testing, user research, and the development process are all covered under the technique. Important elements include player profiles, stadium reservations, real-time score reporting, and user interaction are covered in the features and functionalities section. Next, we describe the various roles and user types. The technological elements and technologies employed are explained in the system architecture part, while front-end and back-end development are covered in the implementation details. Impact analysis and preliminary comments are included in the results and discussion.

The report concludes with a summary, significance of the application, and future directions, followed by references and appendices containing additional data and user guides.

The report ends with References that acknowledge the foundational research that informed our project. Join us on this journey as we explore the integration of automation technology in traditional candy production, charting a new course for the industry.

Chapter 2

Theoretical Background

Contents

2.1	Digital Transformation in Sports	3
2.2	User-Centered Design	3
2.3	Community-Driven Content	3

2.1 Digital Transformation in Sports

Digital transformation involves the integration of digital technology into all areas of a business or sector, fundamentally changing how it operates and delivers value to its stakeholders. In sports, digital transformation can enhance player performance analysis, fan engagement, and operational efficiencies. Our application leverages digital tools to streamline processes such as stadium booking, match reporting, and player scouting, thereby modernizing traditional methods.

2.2 User-Centered Design

User-Centered Design is a design philosophy that places the user at the forefront of the design and development process. This approach ensures that the final product is both usable and useful, addressing the specific needs and preferences of its users. By conducting thorough user research and gathering feedback from players, managers, scouts, and stadium owners, we ensure that our application meets the real-world requirements of its diverse user base.

2.3 Community-Driven Content

The concept of community-driven content highlights the importance of user-generated content in building an engaging and dynamic platform. By allowing users to report match scores and contribute to the live scoreboard, our application harnesses the power of the community to provide timely and accurate information. This participatory approach also increases user investment in the platform.

Chapter 3

Methodology

Contents

3.1	Introduction	4
3.2	Standards and Specifications	4
3.3	Constraints	4
3.4	Tools and Technologies	5
3.5	Features Implementation	6

float

3.1 Introduction

In this document, we present the methodology employed in the development of our sports application aimed at enhancing the sports ecosystem in Palestine. Our project focuses on providing a comprehensive platform for athletes, particularly football players, to showcase their skills, streamline stadium booking, and facilitate real-time match reporting. We combine state-of-the-art technology with agile development practices to create a user-centric, efficient, and scalable solution that meets the diverse needs of players, managers, scouts, and stadium owners.

3.2 Standards and Specifications

We managed to follow Engineering standards in PScore project, going with Agile Method with weekly meetings and discussion about each of the features, Starting with the design ending by the project testing and modifying, we built the system step by step, each step as a feature.

3.3 Constraints

Time constraints:

Building the software was a time-consuming process that involved learning new technologies, researching a topic, designing the user interface, and implementing the software on

both the front-end and the back-end. Despite time constraints, certain constraints such as time constraints to search and implement the best libraries for specific attributes have been encountered.

3.4 Tools and Technologies

frameworks

For the front-end development of both the web and mobile applications, we chose React and React Native, respectively. These technologies were selected for their robustness and ability to provide a seamless, responsive user experience. On the backend, MongoDB, a versatile NoSQL database, was utilized for its adeptness in managing complex and varied data, which is crucial for our application's diverse functionalities such as listings and reviews.

github

We utilized GitHub as our version control system, enabling efficient collaboration, code management, and tracking of changes throughout the development process. This was vital for maintaining code integrity and facilitating collaborative work among our distributed team members.

Project Goals and Development Approach

By integrating these tools and methodologies, we aimed to not only meet the technical requirements of the project but also foster a collaborative and adaptive development environment. Our goal was to deliver a comprehensive, reliable, and user-friendly application that enhances the sports ecosystem in Palestine. By providing athletes with a platform to showcase their skills, streamline stadium booking, and facilitate real-time match reporting, we aim to contribute positively to the development of sports in the region, empowering players, managers, scouts, and stadium owners alike.

3.5 Features Implementation

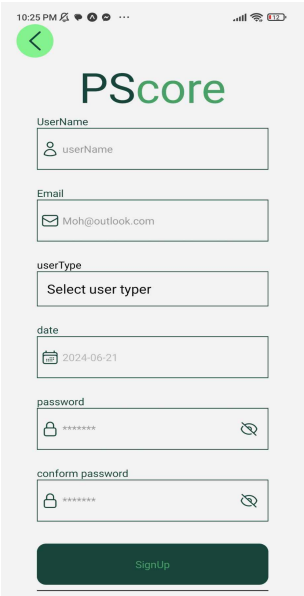
welocme page



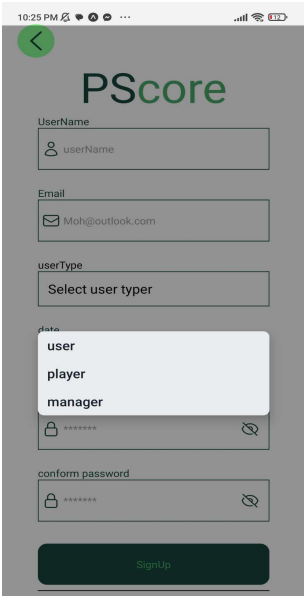
welcome page for the app

sign up page

in the mobile sign up we have 3 types of accounts:Player for accounts that will plays mathes and join Teams,manager for accounts that will made teams and make matches or approve invited matches,user for accounts that just watch matches and record statics.

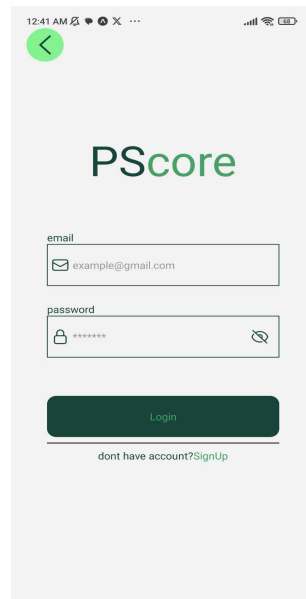


Description of the first image.



Description of the second image.

log in page



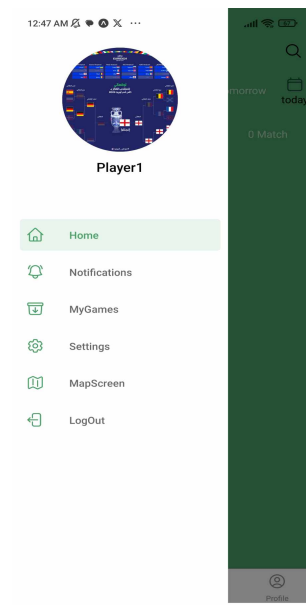
login page

home page

in this page you will see your account and the matches that will play today or in certain day.



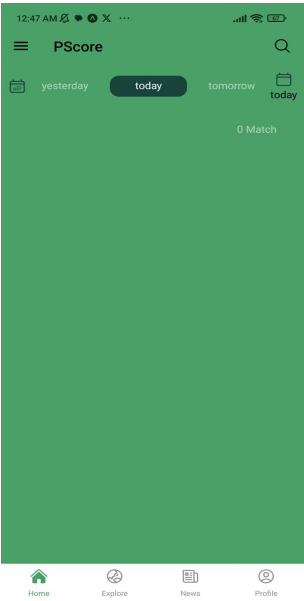
main page for the application.



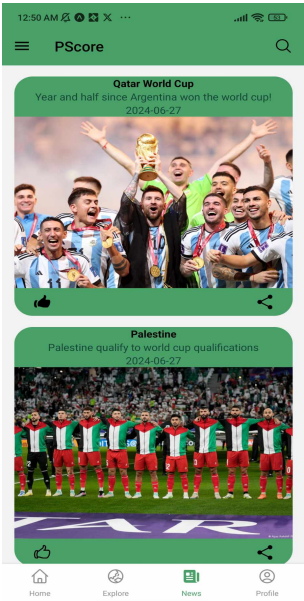
drawer menu with username.

explore and news

here you will explore nearest playGrounds and top scorer players this week.



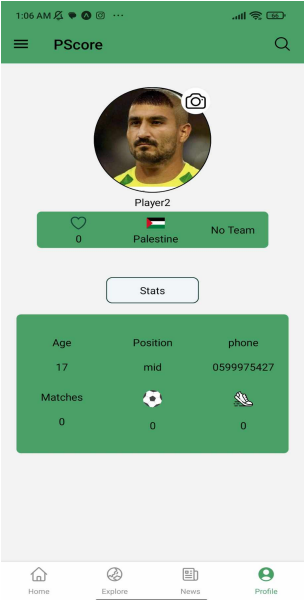
explore page.



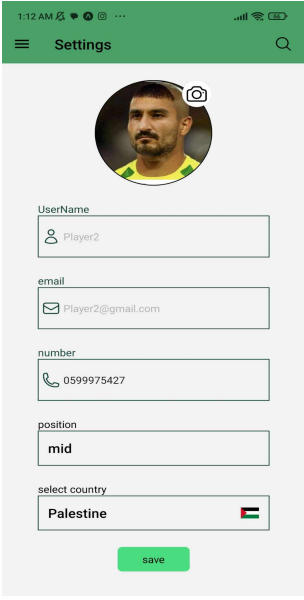
news page.

profile page

here you can see the profile for the account like the image ,country,number,position,age and stats.



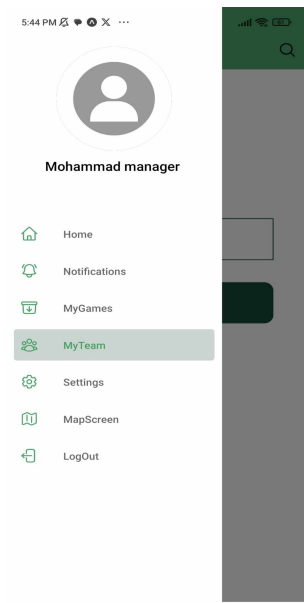
profile.



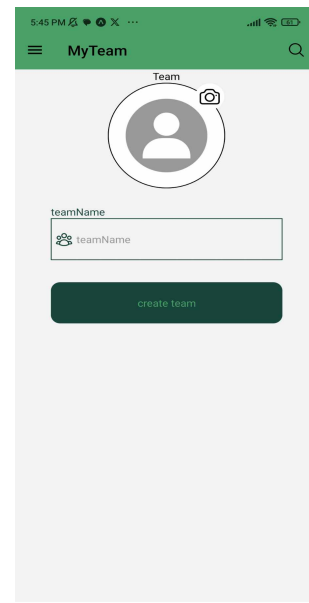
edit profile.

manager page

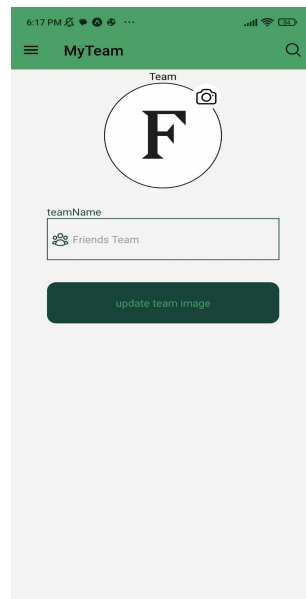
here we made manager account to make team to add player to it and join matches



profile.



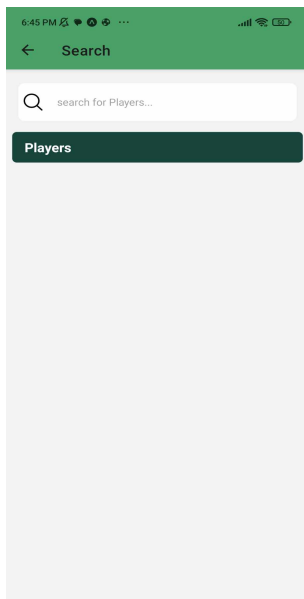
edit profile.



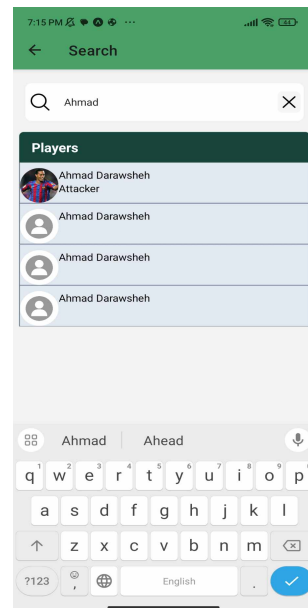
here we create a team with name Freinds Team

search and add Player

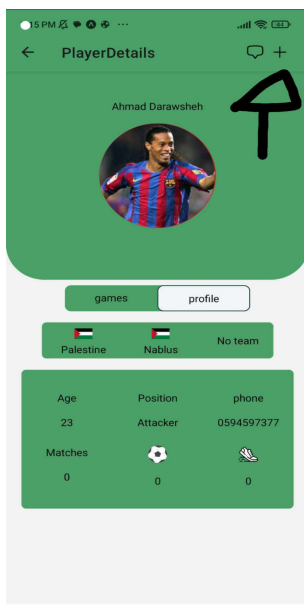
here you can search for player you know and add them to team.



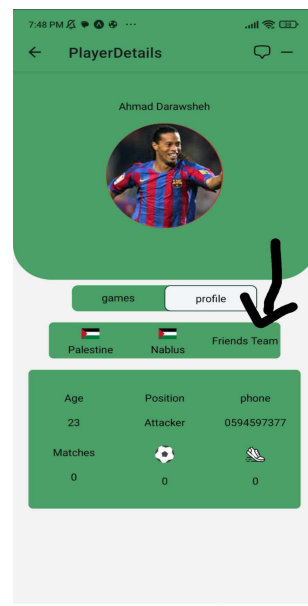
search page.



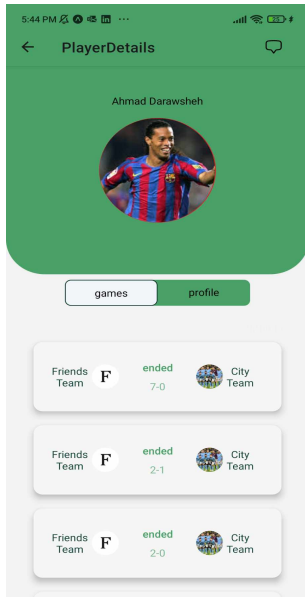
search for ahmad done.



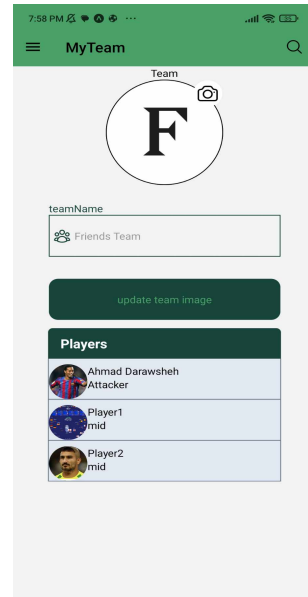
here we can add Ahmad.



the profile updated to new team.



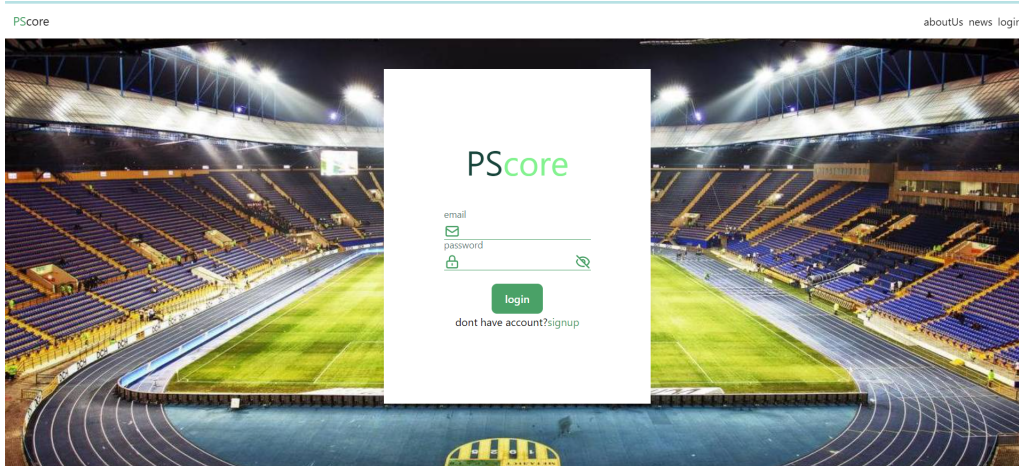
here we can see Ahmad matches.



here you can see your team members

playgrounds

now we will add new playground as admin first we must login to admin page



here the admin page we will login to add new playground

now we will add new playground as admin first we must login to admin page

The screenshot shows the PScore admin interface. On the left is a dark sidebar with navigation links: dashboard, addStadium, settings, and logout. The main content area has a search bar at the top. Below it is a form for adding a new playground. The form fields are: username (BetWazan), email (betWazan@gmail.com), password (masked with dots), playground name (BetWazanStad), a file upload section labeled 'Choose Files' with '3 files' and three image thumbnails, and coordinates (32.22155781100051, 35.2281368593096). A 'Submit' button is located at the bottom of the form.

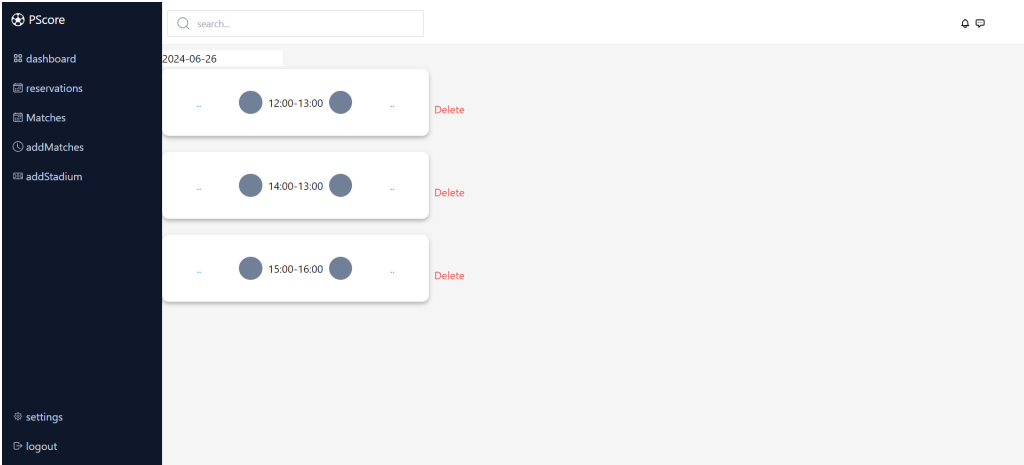
here we add new playground and new owner user

add new match

The screenshot shows the PScore admin interface. On the left is a dark sidebar with navigation links: dashboard, reservations, addMatches, addStadium, settings, and logout. The main content area has a search bar at the top. Below it is a form for adding a new match. The form fields are: a date field (2024-06-26), a time range field (12:00 to 14:00), and an 'add Match' button.

now we will add an empty match

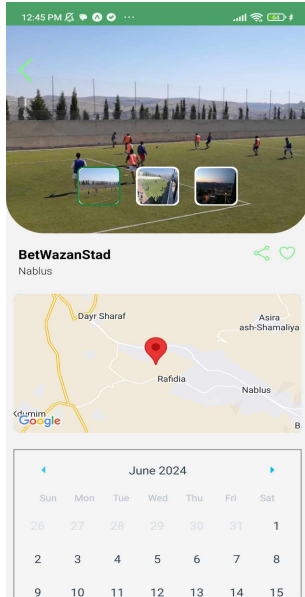
owner matches



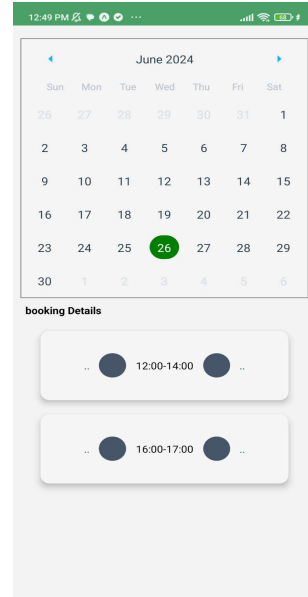
owner matches.

matches on mobile

now the new empty match will show in the mobile app in the playground page to reserve it by the team manager and make a play.



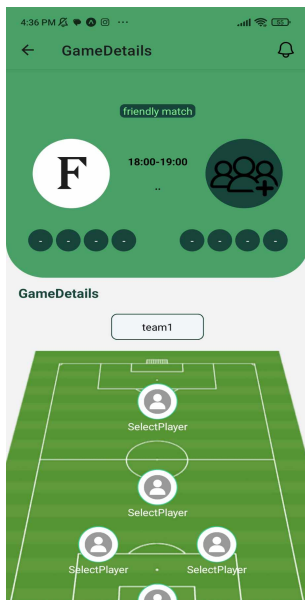
here we can see the play ground we add.



now we can see the match we added early.

make a match

when manager click on match now he can invite another team to a match

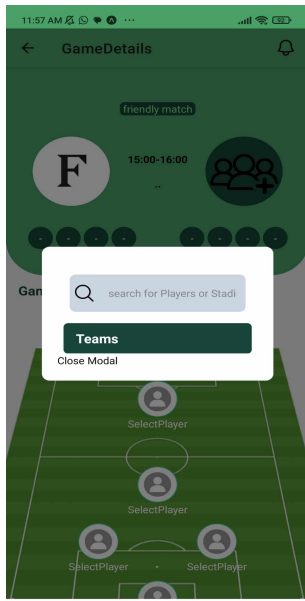


invite team.

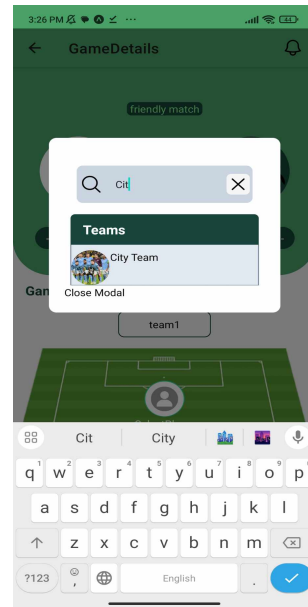


invite team.

now the manager must choose the team he will against and the players in his team .

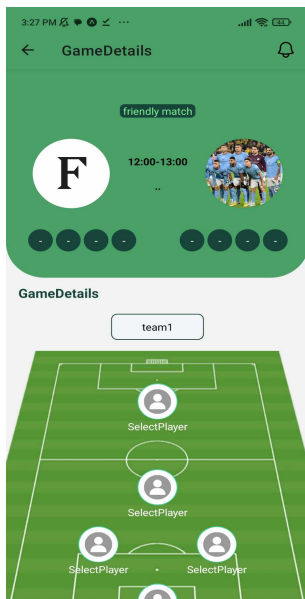


search team.

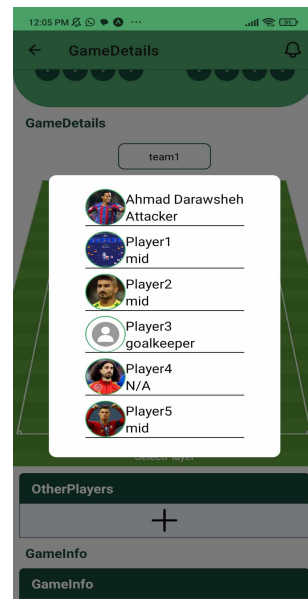


found team.

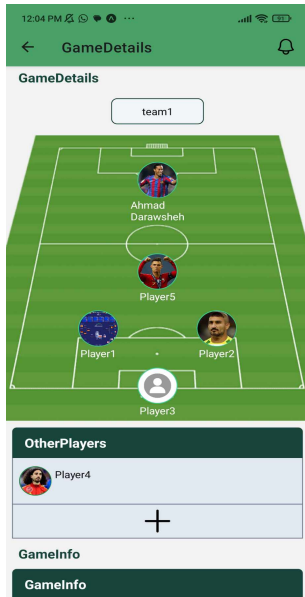
now when we find team we will make the lineup.



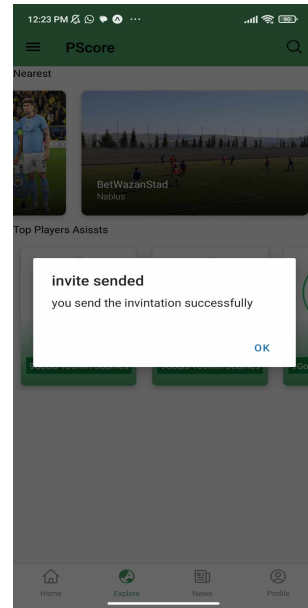
add team.



choose Players.



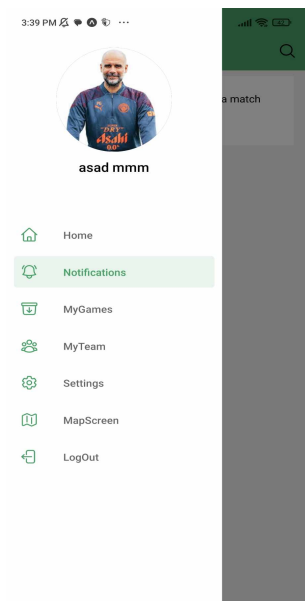
team added.



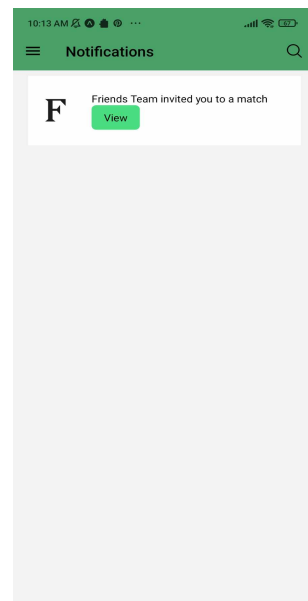
invite sent.

get the invite

ok now in the manager account the invite will be in notifications so he will accept or deny it.



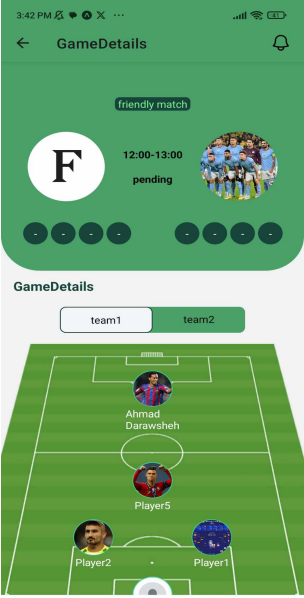
this account is for city team manager.



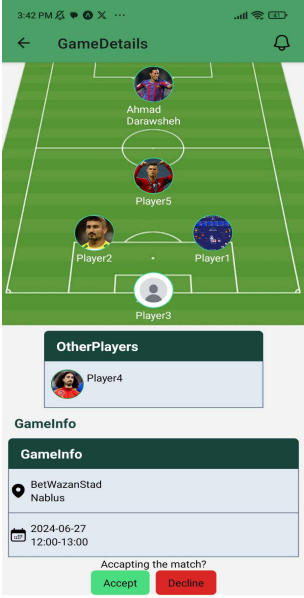
notifications.

accept or deny the invite

ok now in the manager account the invite will be in notifications so he will accept or deny it.



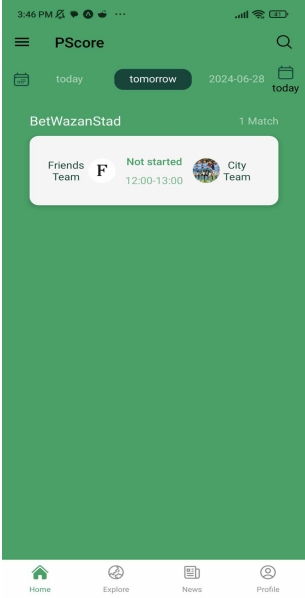
this account is for Hlll team manager.



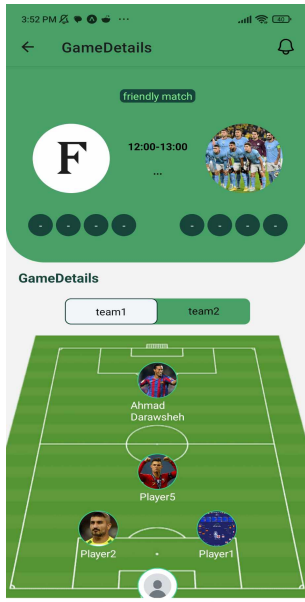
notifications.

timed Match

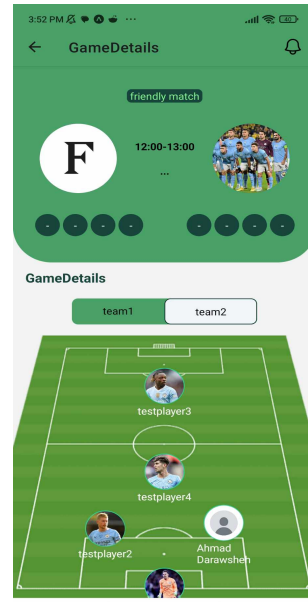
now the match go to timed so it appears in main page.



timed match



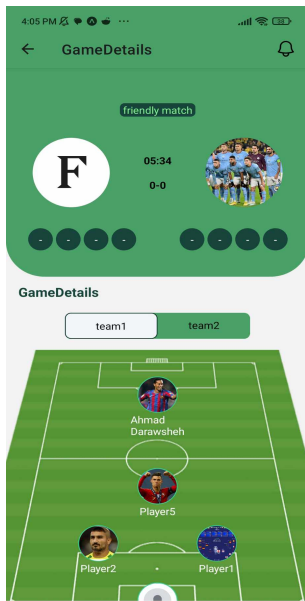
timed Match team1 Players.



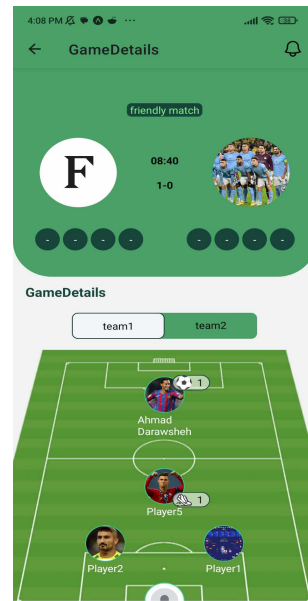
timed Match team2 Players.

live Match

when the time of match start the game will start and show the score.

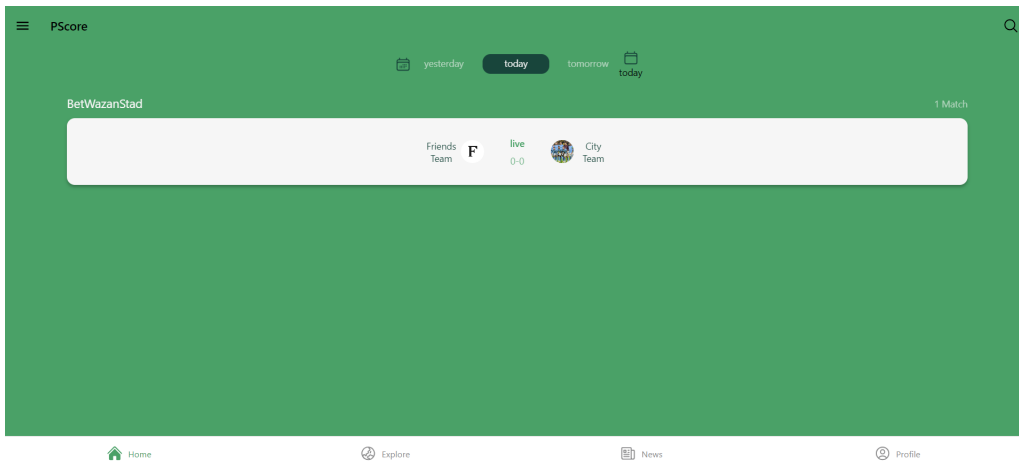


match start score 0-0.



team1 score goal.

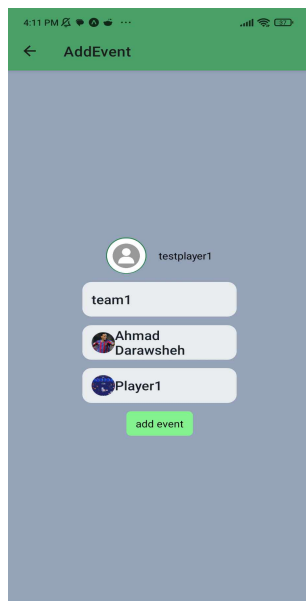
live Match View on web



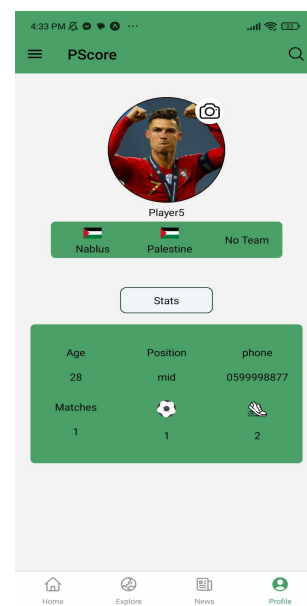
now we will add an empty match

Add stats

when the match is live the users can add goals and assists so its update in profiles.



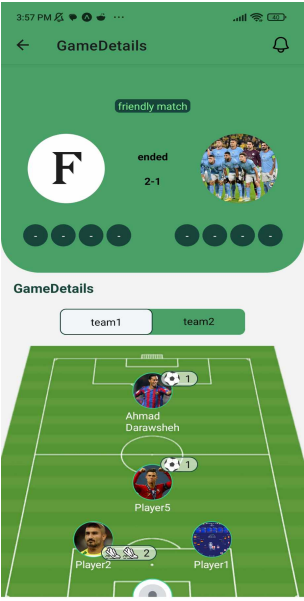
here when the match live users can add stats.



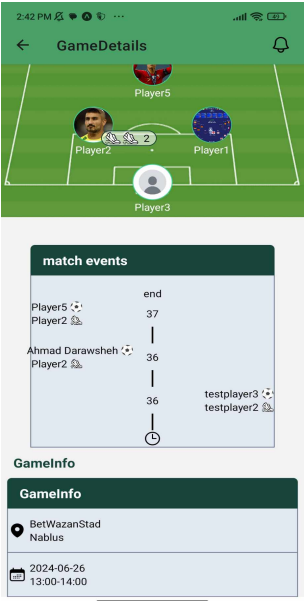
stats update.

ended Match

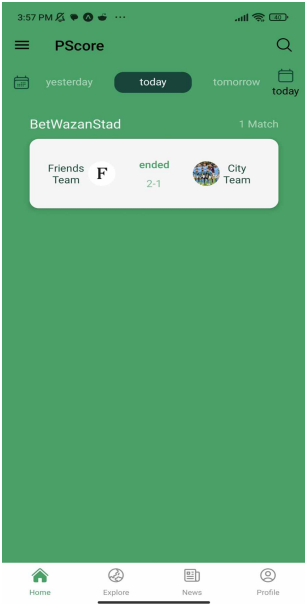
when the time of match end you can see match events(goals and assists)



match ended score 2-1.



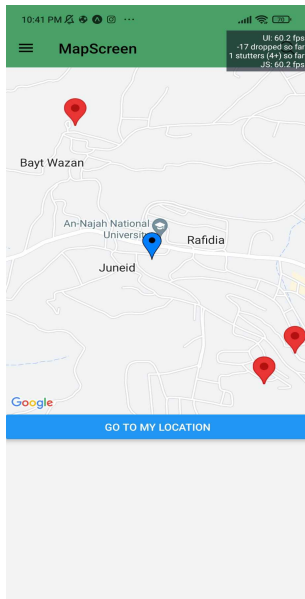
match event.



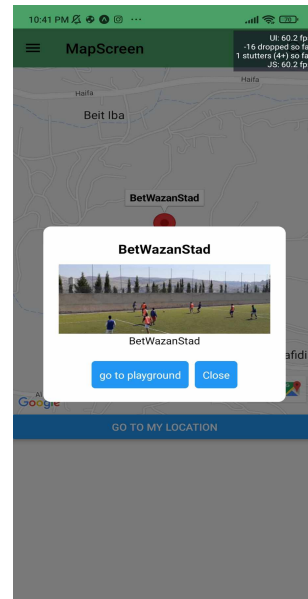
match ended in main page,

nearest playgrounds.

map view for nearest playgrounds.



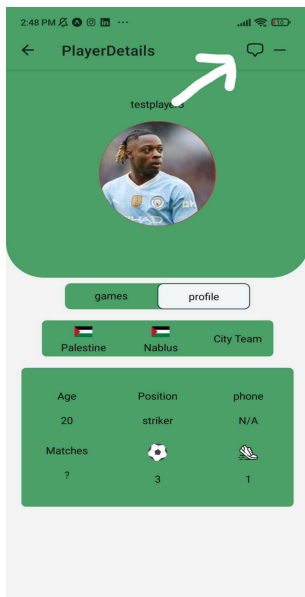
match ended score 2-1.



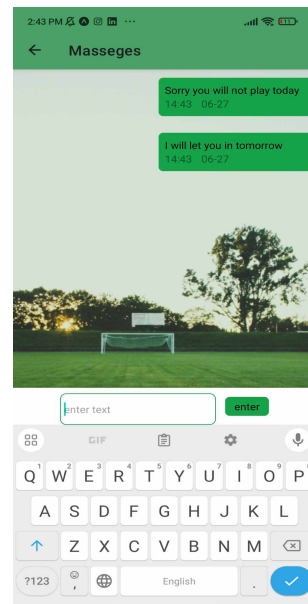
match event.

Messages.

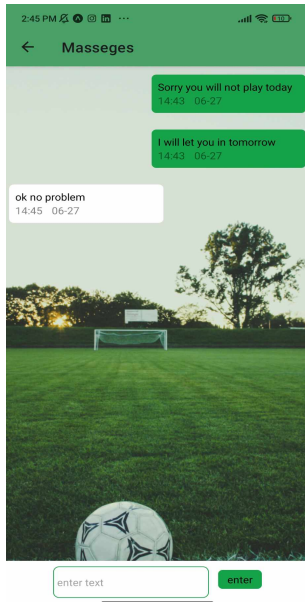
text players.



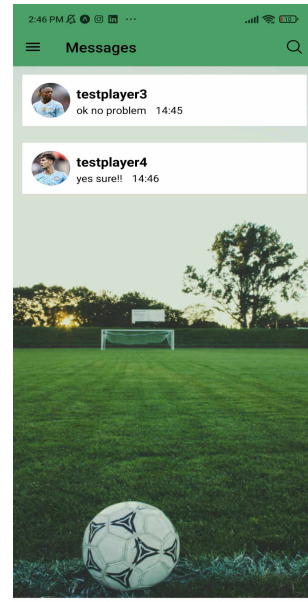
from playerprofile you can text him.



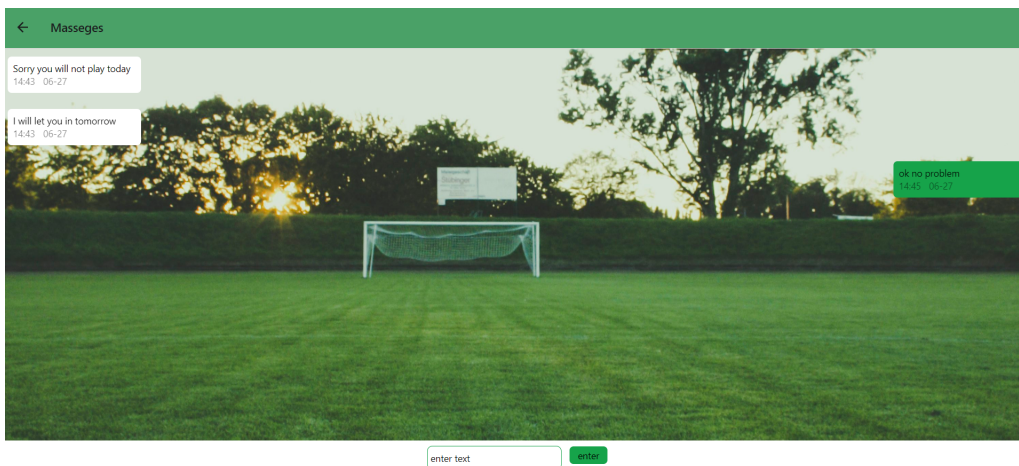
manager text his player.



player responded.



all messages page.



the player responded from web.

Chapter 4

Conclusion

Contents

4.1 Results and Analysis	23
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the application offers a way to improve sports in Palestine. Our application is used by athletic individuals like football players to advance their careers. Users can showcase their skills and stats on this app to help them become professionals in the future.

The development phase encompassed thorough planning, design, implementation, and testing, ensuring the system’s reliability and safety.

The inclusion of a user-friendly mobile application further enhances the system’s accessibility and interaction.

4.1 Results and Analysis

The application offers players in Palestine useful options to improve their athletic lives while addressing many of the major issues they confront. The following is how the app uses these features:

Preserving Match Data:

Players that participate in local miniteam matches can preserve their statistics. This tool assists players in monitoring their progress over time, pinpointing areas in need of development, and showcasing their abilities to prospective managers and scouts.

Players can join teams in their local area and participate in matches with other teams. This encourages community engagement, fosters teamwork, and provides regular opportunities for competitive play. Participating in Local Teams and Games:

Playing Matches and Joining Local Teams:

Players can sign up for local teams and play against other teams in the area. In addition to promoting teamwork and community involvement, this offers frequent chances for competitive play.

Team Management by Managers:

Managers have the ability to create teams and add players, organizing matches against other teams. This structure supports organized competition and ensures that teams are well-coordinated.

Match Invitations and Scheduling:

Managers can invite other teams to matches, specifying which players will participate. The opposing manager can then accept or deny the invitation. Upon acceptance, the match is scheduled for a specific time, promoting proper planning and preparation.

Live Match Tracking:

Once a match is accepted and scheduled, it will go live at the designated start time. The app will display the live score, providing real-time updates to players and spectators. The match will automatically end and log the final score when the allotted time expires.

Management of Playgrounds:

Playground owners are in charge of controlling the facilities' availability by adding and removing matches as needed. This tool helps to have a structured match schedule and guarantees that playgrounds are used effectively.

The app not only tracks match results but also provides detailed analysis of player performance. This data-driven approach helps players understand their strengths and weaknesses, and it enables managers to make informed decisions about team composition and strategies. The analysis can also be used by scouts to identify promising talent.

Overall, the app integrates these features to create a comprehensive solution for enhancing the sporting experience in Palestine, addressing key challenges, and fostering a vibrant sports community.

Users can message each other within the app. This feature facilitates communication, allowing players, managers, and other stakeholders to coordinate, discuss strategies, and build a stronger sporting community.

Chapter 5

Discussion

The analysis delves into the intricacies of an innovative sports application tailored for the Palestinian sports community, emphasizing its user-centric design and multifunctionality. Notable features such as the comprehensive match statistics tracking and local team integration are highlighted for their contribution to player development and community engagement.

Attention is given to the streamlined process of team management, where managers can effortlessly create teams, add players, and schedule matches with other teams, ensuring organized and competitive play. The feature allowing managers to invite other teams and coordinate match schedules, coupled with real-time live match tracking, is pivotal in promoting proper planning and providing real-time updates to all stakeholders.

Further scrutiny is applied to the role of playground owners, who can manage match availability, ensuring efficient use of facilities. Additionally, the in-app messaging system is noted for its facilitation of communication, fostering stronger connections within the sports community.

Central to the evaluation is the system's impact on enhancing the overall sporting experience, reducing logistical challenges, and promoting a data-driven approach to performance improvement. These features collectively contribute to the overarching objectives of improving sports organization, fostering talent development, and strengthening the sports community in Palestine.

Summary

The sports application developed for the Palestinian sports community effectively addresses key challenges faced by players, managers, and playground owners. By providing features such as detailed match statistics tracking, local team integration, streamlined team management, real-time match tracking, and efficient playground management, the app enhances the overall sporting experience. The in-app messaging system further fosters communication within the community. These functionalities collectively contribute to a well-organized, competitive, and data-driven approach to sports, promoting player development and community engagement.

Future Work

Future developments for the application could focus on expanding its features and improving user experience. Potential areas for enhancement include:

- **Advanced Analytics:** Incorporating more sophisticated analytics tools to provide deeper insights into player performance and match outcomes.
- **Scouting Platform:** Developing a dedicated scouting platform within the app to help scouts identify and recruit promising talent.
- **Training Modules:** Adding training modules and resources to help players improve their skills and knowledge of the game.
- **AI-Powered Recommendations:** Implementing AI algorithms to offer personalized recommendations for players and teams, such as training tips, match strategies, and player matchups.
- **Enhanced Security:** Strengthening security features to protect user data and ensure the integrity of match results and player statistics.
- **Community Features:** Expanding community features, such as forums, events, and social media integration, to foster a stronger sense of community and engagement.
- **International Integration:** Allowing for the integration of international matches and teams, providing opportunities for players to gain broader exposure and experience.
- **Sponsorship and Advertising:** Introducing opportunities for sponsorships and advertising to generate revenue and support the sustainability of the app.

By focusing on these areas, the application can continue to evolve, providing even greater value to its users and further enhancing the sports ecosystem in Palestine.

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