

Web-Based Sports Arena Booking Hub

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Abstract

The Web-Based Sports Arena Booking Hub is a user-friendly digital platform designed to simplify the reservation and management of turf-based sports grounds. It caters to the needs of local communities, schools, sports clubs, and recreational groups by providing a centralized system for organizing and overseeing playground bookings. With a clean, accessible interface, this system enhances coordination between users and ground managers, ensuring more efficient use of sports facilities. The platform is built around three main roles: Users, Ground Owners, and Administrators. Each role is equipped with specific features to ensure smooth interaction and clear responsibilities. Users can easily browse available turfs, check their availability, and request bookings through an intuitive process. Ground Owners have the ability to register their playgrounds, update their listings, and manage incoming booking requests according to their availability. The Admin module plays a crucial oversight role, handling approvals and ensuring the integrity of all registrations and interactions on the platform. One of the key highlights of this booking hub is its minimalistic approach. It intentionally excludes complex features like payment integration or notification systems to keep the platform lightweight, fast, and easy to maintain. This makes it an ideal solution for organizations seeking a straightforward, low-maintenance system without unnecessary complications. By focusing on ease of use, basic yet essential functionality, and compatibility across different devices, the platform encourages participation from users of all technical backgrounds. Its modular design ensures long-term maintainability and flexibility for future improvements. Ultimately, the Web-Based Sports Arena Booking Hub promotes better organization and transparency in the use of sports grounds, helping communities make the most of their recreational resources.

Keywords: Sports arena booking, turf management system, online playground reservation, community sports coordination, ground booking platform, user-friendly interface, ground owner management, admin supervision, modular system design, low-maintenance solution, web-based sports platform, school and club sports scheduling, turf availability management, digital booking hub, recreational facility organization.

I. INTRODUCTION

The rapid development of digital technologies has deeply changed the provision of services in different fields and the management of entertainment facilities is no exception. Traditionally, the placement of

sports areas such as the pitch is related to manual and ineffective processes, including direct visits, phone confirmation and paper records - methods that often take time, suffer errors and lack of transparency. These outdated systems often lead to common problems such as double booking, poor time, irresponsibility and limited access to external operating hours. To deal with these challenges, this research document presents the design and development of a web sports booking center, a focused platform to scan and rationalize the entire reservation process for sports facilities.

The system provides a structured digital environment and user, where the parties are different - users, scene owners and administrators - can interact through separate modules that adapt to their role. By segmenting the platform in modular components, the system supports effective activities based on the role, reduces overlapping and promotes responsibility and real-time coordination. User -user allows individuals to register, approve the available arenas and send reservation requests; The land owner allows the owner to manage the comfort of the settings, see the reservation requirements and update the ground details; And the administration facilitates the monitoring of all user activities, ensuring the consistency of data, resolving conflicts and maintaining the integrity of the platform. The system intentionally avoids complex functions such as online payment or automatic notifications to maintain simplicity and focus on essential interactions and focus on tasks. In terms of technology, the platform is built with Java for strong and expandable auxiliary handling, HTML for content structure, CSS to ensure reaction design and attractive interface and MySQL to manage data safely and effectively. This battery provides high performance, easy maintenance and adaptability to institutional or community environment with limited technical infrastructure. The platform not only improves the easy and transparent reservation process, but also contributes to sustainable digital transformation by minimizing the use of paper and craft interventions. The design includes it to ensure that users of different technical platforms can easily navigate and use the system without specialized training.

Overall, the Web-Based Sports Arena Booking Hub contributes to the modernization of sports facility management by offering a reliable, transparent, and accessible solution. It simplifies the interactions between users, ground owners, and administrators, fostering better communication and efficient allocation of sports resources. This research paper outlines the system's design, modules, and operational flow, demonstrating how technology can effectively meet the growing demands of the sports community.

II. BACKGROUND AND PROBLEM STATEMENT

In the context of digital speed today, the integration of technology in daily services has become necessary to improve the efficiency and convenience of users. While areas such as education, health care and retail mainly apply digital systems, many entertainment services, including reserving sports areas, still believe in outdated manual methods. In schools, colleges, local communities and even private organizations, placing a sports facility often involved in unofficial communication, physical visits or handwritten newspapers. These processes must be confused, human errors and conflict planning, which not only has an impact on users seeking to reserve the installation, but also the responsibility of the administrators responsible for managing these spaces.

The absence of a centralized and automatic system often leads to reservation, missing reservation and limited transparency. Users do not have a clear view of the existing time slots and administrators face challenges to keep specific records or update time in real time. This fragmentation approach also makes it difficult for the implementation of coherent use policies, obeying the participation of users or ensuring

fair access to all participants. In addition, there is no rationalization process, many settings are struggling to operate effectively during peak time, this may lose the ability to maximize the maximum use.

web-based sports arena booking center is provided as a modern solution to solve these persistent problems. By introducing a structured online platform, the system aims to eliminate chaos related to manual defense. It provides a clean and specific interface for the role of allowing users, managers and administrators to interact in their own glasses while retaining the connected work process. Instead of integrating unnecessary features such as payment gateway or automatic warning, the platform focuses only on simplifying the reservation lifecycle, making it more accessible, more organized and transparent. This study discovers the development of such a system to provide a reliable, expandable and user-friendly environment to manage effective booking for sports facilities, especially in the contexts that limited resources and clarity are essential.

III. RELATED WORK

In recent years, a number of digital platforms and research initiatives have appeared to simplify the management and reservation of sports facilities. These systems mainly focus on improving the convenience, accessibility and transparency of the reservation process for users and facilities. One of the most popular approaches involves creating web applications that allow users to search for nearby sports websites, check the use and send reservations. For example, platforms like "Bookmyturf" and "Playo" have been developed to provide real reservation capabilities for sports facilities on some locations. These systems often combine features such as localized search, time selection and user management based on records. However, they often require an online payment integration and may include high-end registration, which limits access to all types of users. Some projects and school prototypes have also been provided in the reservation of digital sports facilities, focusing on sports or specific areas. These systems often discover the use of technologies such as GPS monitoring, automatic notifications and integrated mobile applications. Although many of these solutions reach the basic function level, they often lack administrative control and detailed verification process, which is important to ensure the organization and site management. In addition, very few systems are specially designed for the playgrounds on the pitch, with unique requirements on space allowances, game type planning and user expectations.

An important part of this development has been observed in areas such as hotel booking, appointment planning for clinics, library location management and public reservation. These systems often share features such as user authentication, time selection, administrative supervision and data storage features. Although they have managed to improve user experience and minimize administrative burden, their executives are often generalized and in electable with the unique needs of the management of entertainment facilities.

Some university and community projects have proposed booking requirements for sports fields and training courses. However, many of these deployment emphasizes complete platforms, including payment systems, calendar synchronization, mobile application management or integrated with third tools. Although these features provide added value, they often complicate the system, which makes it less suitable for organizations or organizations to search for light and easy to use platforms. In addition, these existing solutions may not be suitable for the needs of small activities, in which simplicity, transparency and easy maintenance are the main concerns.

Is unlike these models, the system is provided - a booking center for a web -based sports arena - adding a target and minimalist requirement. It emphasizes the basic functions on additional layers, prioritizing the separation of user gears, the ability to display real -time of the arena available and structural reservation process without relying on external integration. Previous research has shown that user - centered platforms with specific interfaces of the role tend to reduce confusion and increase the commitment of the platforms, especially when they are deployed in the environment with different groups of users and non -technical participants. while many current works solve larger installation or management problems, search for special limits aimed at web platforms to reserve local sports facilities. This creates a distance in which a system is structured but simplified can add value. Current research is aimed at contributing to this space by providing a framework of the -lunar and development framework that can be easily implemented in schools, colleges, clubs or local guidance agencies. By checking the current methods and only adapting the most appropriate aspects, the system is designed for efficiency, low maintenance and adapting to non -commercial environment with limited resources.

IV. METHODOLOGY

The development of the web-based sports arena reservation center under a method of focusing on access and access with structure and modulus design. The system is proposed to introduce a digital environment where users can effectively participate in booking activities for sports facilities and regardless of traditional manual processes. At its center, the system is divided into three separate modules -each - - mun is adjusted to a specific group: shared users, installation managers (land owners) and administrators. Personalization connection. After being verified, users can discover the available land, send a reservation request or track their existing schedule. The land owner is capable of recording the playgrounds under their management, modifying the list and meeting the booking requirements. Meanwhile, administrators focus mainly on the monitoring of the system operations and confirm the land owner account, thus respect the integrity of the platform without interfering in daily reservation processes. This layered structure ensures a good and decentralized activity in which users operate in authorized authorization. The system is built on a three -class architecture including presentation layer, logical application layer and data management layer. User interface, developed by web technology, acts as an entry point for all users. It is associated with an auxiliary layer motivated by Java engines running on Apache Tomcat server, where handling, authentic and logical control requirements. Behind the scenes, MySQL database acts as a system data skeleton, holding structured tables for users, playgrounds, reservations and owner records on the ground. JDBC (Java database connection) is used to fill out the application and database, allowing perfect recovery and update data. This -tissue strategy ensures a minimum diagonal and simplifies the troubleshooting, update and expansion ability in the future. Global architecture also supports clear audit trails, allowing transparent monitoring of user actions and system events.

Although the system does not include complex features such as integration of payment or actual notifications to maintain simplicity, its platform is strong enough to adapt to these supplements for the future. By giving priority to structural work processes, safety data streams and rationalized interactions, this method ensures that the web -based sports arena booking center is reality, maintained and adapted to medium to medium -sized deployment in an academic or community environment.

Users benefit from easy access to turf availability and a straightforward booking process. Prior to deployment, essential setups such as MySQL database installation, JDBC driver integration, and Java environment configuration are completed to ensure a stable and efficient platform operation.

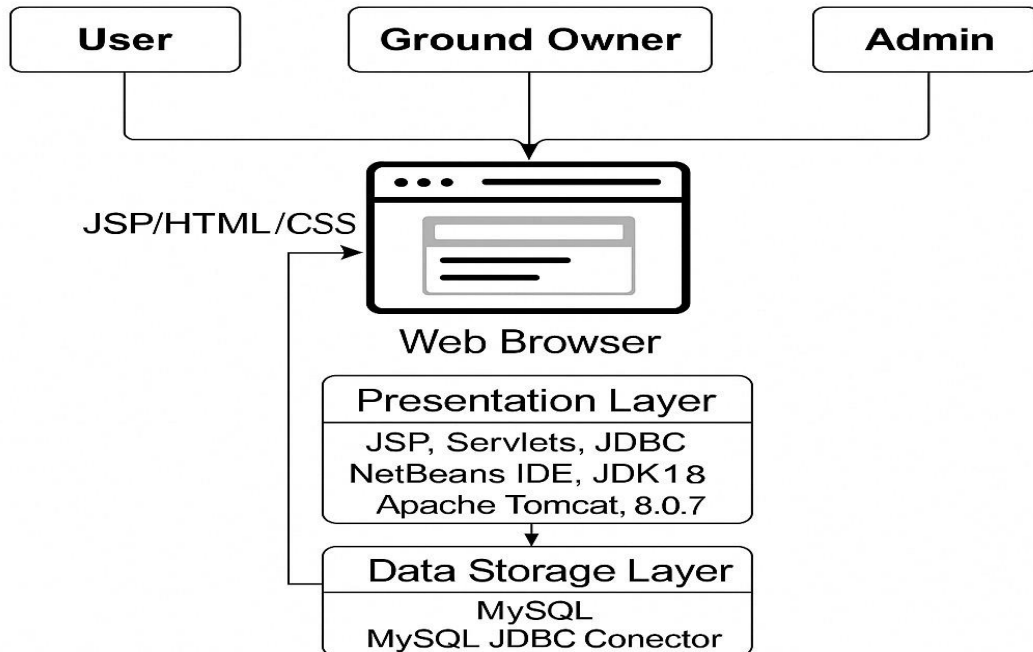


Fig. 1. System Architecture

V.OBJECTIVES

The objective of this project focuses to develop a web-based sports arena booking hub that simplifies and streamlines the process of booking turf playgrounds for sports activities such as football, cricket, rugby, and tennis. This platform is designed to overcome the inefficiencies of traditional booking methods, which often involve manual communication and lead to scheduling conflicts or delayed responses. By introducing a digital solution, the system aims to ensure convenience, transparency, and reliability for all its users. One of the key objectives is to create a centralized platform where users can register, log in, and browse available turf playgrounds easily. Users should be able to view detailed ground information, including location, ground name, and other essential features, and then send booking requests for specific time slots. The system will present available slots clearly to reduce confusion and overlapping reservations, allowing users to make informed decisions when selecting their preferred time.

The center for booking the web sports arena is designed with the intention to reclaim the way that entertainment facilities can access and manage in modern contexts. Basically, the system tries to set up a dynamic but simplified environment, where all stakeholders involved in installation reservations may interact through a centralized digital platform. Unlike conventional systems that depend on outdated or decentralized communication methods, this initiative focuses on eliminating barriers to prevent transparent booking and transparent land use. One of the main goals is to automate the usual management tasks related to booking processes, such as verifying the usability, registering the user's operation and updating the booking laws, to reduce the amount of manual work and ineffective operation.

Another major goal is to enable ground owners to register and submit accurate and detailed information about their sports playgrounds. This includes uploading the name of the ground, its location, features, and other necessary data that will help users understand the facilities offered. By collecting and organizing this data, the system ensures a comprehensive and informative user experience, helping users choose the best playgrounds based on their preferences. The main objective of this platform is to improve the plan to set up plans and avoid conflicts by making sure the data is updated and accessed in real time. This ensures that users can rely on the platform to provide accurate information before making commitments, while land managers can monitor booking without the risk of double reservation or loss of important details.

In addition, the project emphasizes long-term sustainability by using development design principles, allowing the platform to adapt to the number of users increasing or installing without decline in performance. It also aims to support the use of institutions, where different parts or organizations can manage some arenas under a umbrella. The role and control of security-based access are also decentralized, ensuring that users can only interact with data and relevant features for their role, thus maintaining data security and operational integrity. The last the system aims to encourage the use of organized public and private sports facilities by promoting equity, by reducing booking errors and by recording the usable models can illuminate future improvements. When doing so, the project not only solves a logistics problem, but also contributes to the broader goal rather than making entertainment sports more accessible, well managed and friendly thanks to digital innovation. The platform is also designed to be scalable, allowing more playgrounds and users to be added over time without affecting the performance or functionality. By focusing on structured access through well-defined modules, the system aims to increase efficiency in managing sports ground bookings.

VI. LITERATURE SURVEY

S.no	Title	Author(s)	Year	Approach	Advantages	Disadvantages
1	Online Cricket Ground Booking Management. [1]	Sneh Prabha, Saurav Kumar Singh, Mayank Kumar Jha	2024	Web-based booking system	Easy access for users, streamlined booking process	May require internet access, potential for system overload
2	A Web-Based Sport and Tournament Booking System: Enhancing Reservation and Event Management	Dr. P. Raja Pandian, O. Pavani, K.S.S. Sudeepthi	2024	Developed using AngularJS (frontend) and PHP with SQL Server (backend) for	Simplifies booking processes, provides real-time updates, efficient	Limited to internet-dependent users, Initial implementation may require technical expertise and infrastructure upgrades.

	for Sports Enthusiasts [2]			a scalable, real-time sports booking system.	management for admins and users, scalable and user-friendly.	
3	Application Designed to Revolutionize the Way People Discover and Book Sports Grounds Effortlessly (Game Snap). [3]	E.K. Muhammed Jaseel, R. Kokila	2024	Game Snap integrates a centralized platform for sports ground discovery and booking. It provides real-time availability updates and a user-friendly interface for easy booking .	Real-time availability updates, Secure payment options, Easy modification and cancellations, Community interaction, Profile management and event organization	Relies on internet access for real-time updates, Potential issues with system downtime affecting availability
4	Research on the Framework of Sports Event Management System of Colleges and Universities Based on Big Data. [4]	Yi Xie, Guo Shuqing, Wang Shuling	2024	Collaborative framework using the SFIC model integrating starting conditions, catalytic leadership, system design, and synergistic processes.	Enhanced management effectiveness with over 0.96 correlation; insights into equitable governance dynamics.	Limited applicability beyond academic sports events; survey confined to university participants.
5	Empowering Sports Enthusiasts and Facility Owners: An Online Sports Field Booking System for Bhutan.[5]	Younten Tshering, Tashi Yangchen, Karma Jigme Wangchuk,	2024	Iterative development using Laravel framework, PHP, and MySQL	Real-time field availability, User-friendly search and booking, Centralized	Limited to web-based platform, Lacks integrated payment system, Booking cancellation relies on manual conditions

		Sameer Bhujel, Lodey Wangmo, Benita Gurung			data management, Supports multiple sports	
6	Sports Facility Reservation System (STFS): Development and Usability Study.[6]	M. F. Ahmad, M. I. A. Julaihi, N. Sakawi, A. J. A. Stephen, and S. A. M. Dzulkifli	2024	Development of a facility reservation platform using web technologies, Usability testing to assess the interface	Simplifies a facility reservation process, Improves accessibility for users	May have compatibility issues with certain browsers, Limited features for large-scale events
7	Research on Optimization Management of Sports Venue Facilities Resources Based on Intelligent Scheduling Algorithms[7]	Xiaoli Wang	2024	Scheduling algorithms to optimize resource allocation, Intelligent analytics for predictive maintenance	Increases efficiency in resource use, Reduces downtime through predictive scheduling	Complex algorithm implementation, Requires continuous data monitoring for accuracy
8	Digitizing Sports Arenas: New Trends and Technologies.[8]	Malak Jibraili	2024	Digital transformation of sports arenas, Incorporation of AI and machine learning for fan engagement	Enhances fan engagement through digital interfaces, Provides real-time data for stadium operators	Requires substantial infrastructure overhaul, Privacy concerns with data collection
9	Next-Gen Sport Center: Innovative Mobile-based System for Sport Facility Reservations[9]	Gathan Andhika Febriansyah and Anita Fira Waluyo	2023	Developed a mobile and web-based reservation system using REST API. Tools include	Streamlines sports facility booking, provides real-time schedule	Limited focus on scalability for larger user bases, Dependence on reliable internet access.

				PHP, HTML, CSS, JavaScript, Laravel, Kotlin, and Android Studio.	access, reduces human error and automates reporting.	
10	Reservation System for Football Matches Using Machine Learning. [10]	B.Muthazhagan, R.Shalini, K. Srinithi	2023	Developed a Java-based web application using the Spring framework, integrated with MySQL for database management, and employed multi-objective optimization techniques for team formation and scheduling.	Simplifies match scheduling, ensures efficient team selection, includes live streaming, user-friendly ticket booking, and payment system.	Limited to football; scalability to other sports or larger systems not addressed.
11	Sports Solutionz – A Court Reservation System. [11]	Kiran H. N. and Rakshitha Kiran P.	2023	Development of an online system for badminton court booking, equipment ordering, and scheduling.	Convenient online booking and payment options, Efficient court utilization, Comprehensive court and equipment details available online	Dependence on internet connectivity, Potential technical issues affecting booking process
12	Web Design Structure with	Nor Sajidah Ab Ghani,	2023	Hierarchical web design	User-friendly interface,	Limited scalability for

	WordPress Content Management for Sports Centre Booking System. [12]	Murizah Kassim, Aziati Husna Awang		using WordPress CMS integrated with Stripe for payments, XAMPP, PHP, and MySQL	Efficient booking and payment processes, Real-time QR code confirmation.	larger systems, Dependency on WordPress and predefined templates.
13	Design of Field Rental System on Web-Based Garuda Mataram Badminton Club.[13]	Khairan Marzuki, Anthony Anggrawan, Helna Wardhana, Lalu Ganda Rady Putra, Canggi Wahyu Rinaldi	2023	Web-based System, Waterfall Method	Improves booking process by enabling remote reservations - Efficient admin management, Streamlined data processing and report generation, Increased user satisfaction (83% usability)	Relies on internet access for field bookings, Limited to the specific Garuda Mataram Badminton GOR and may need customization for other venues
14	Online Service Booking Platform with Payment Integration. [14]	Shashikala K, Ankur Singh, Gulshan Kumar, Vrindwan Kumar, and Mahesh T R	2023	Development of an online service booking platform using HTML, CSS, and PHP with payment gateway integration.	Provides convenience, mobile and desktop accessibility, secure payment processing, and enhanced user experience.	Potential concerns about service provider quality, data security, and privacy need to be addressed.
15	Online Events	Nassimbwa	202	Development	Increases	Requires strong internet

	Ticketing Management System: A Case Study of Namboole Stadium. [15]	Fatumah and Ntirandekur a Moses	3	of an online ticketing platform, Integration with stadium management systems for event coordination	ticket sales and reduces fraud, Provides a seamless user experience for event-goers	connectivity, May face technical issues during high-demand events
16	Optimizing Sports Center Recommendation System in Malaysia Through Content-Based Filtering Technique and Web Application. [16]	Z. Othman, K. A. F. A. Samah, N. H. M. Zain, and A. F. Zulkifli	2023	Content-based filtering for sports facility recommendations, Web application for personalized venue selection	Provides personalized recommendations to users, enhances user experience by suggesting relevant facilities	May require large datasets for accurate recommendations, Potential for inaccurate suggestions with limited data
17	The Development of Sports Facilities Booking System. [17]	MD. SHAHRIL, Nur Farrah Wahidah	2023	Online booking system development, User-centered design for improved usability	Reduces time spent on booking and inquiries, Improves management of sports facility usage	Can be prone to system downtimes, Requires constant maintenance and updates
18	The Development of a Web-Based Booking System for Badminton Court in Batu Pahat. [18]	Xin Woei Lim and Rozanawati Darman	2023	Web-based booking for badminton courts, Integration with payment gateway for transaction processing	Simplifies booking process for users, Offers secure payment options	May not handle high traffic efficiently, Limited to badminton courts only
19	Web Application for Booking Management and the Organization of Events in a Sports	Brais Seijal Reino	2023	Event management web application, Integration	Streamlines event planning and coordination, Provides	May not be scalable for larger events, Requires consistent internet access for full functionality

	Town. [19]			with multiple sports facilities for coordination.	centralized management for different venues	
20	Sports Arena Booking. [20]	Abhishek Shrikant Nazare, Kaushik T Kundar, Mahammad Yasar Arafath, R Tejas, Shruthi L	2023	Online booking system for multiple sports arenas, Mobile application for easy access and booking.	Increases convenience for users, Provides quick updates on booking status.	App dependency may limit access, needs to handle high concurrency during peak times.
21	User Experience Evaluation of the Booking Website using System Usability Scale and Usability Testing. [21]	A. F. Hutapea, L. H. Sitohang, S. K. Sihombing, and Sunardi	2023	Usability testing with the System Usability Scale (SUS), Testing the booking system's user interface.	Provides valuable user feedback for system improvement s, Identifies potential barriers in user experience.	Time-consuming testing process, Results may vary based on user demographics
22	Automatic Stadium Reservation System in Universities Based on Number of Students in Each Departmen[22]	T. M. Ali, Y. S. Mohammed, H. A. Abdullah, and M. S. Anwar	2022	Automated reservation system using student data	Efficient resource use based on demand	Limited to university settings, may not account for external events
23	Design of a Web-Based Platform: Event-Venues Booking and Management System. [23]	P. S. JosephNg, S. M. Al-Sofi, Phan Koo Yuen, Lim Jit Theam	2022	Event venue booking system development, Centralized platform for event management.	Simplifies event organization, Reduces booking conflicts and management overhead.	May require frequent updates to stay relevant, Could face security issues if not properly managed
24	Online Booking	I.Arzhoumani	2022	Sustainability	Promotes	May have a limited audience

	Platforms: Towards Making More Sustainable Choices. [24]	dis, L. Petti, 2 and A. Raggi		-focused booking platform, Integration of eco-friendly practices into reservation systems.	environment al sustainability, Increases awareness about sustainable practices.	interested in sustainability, Implementation can be costly
25	Development of an Innovative Seat Reservation System for University Buildings Based on BIM Technology. [25]	M. J. García-Granja, E. B. Blázquez, G. Cimadomo, and F. Guzmán Navarro	2022	BIM-based seat reservation for university buildings, Integration with campus management systems.	Provides real-time seat availability, Enhances space utilization efficiency.	High complexity in system setup, Needs constant updates for accurate data
26	Sport Field Reservation Based on Mobile Application. [26]	T. Claudinus, M. Prayoga, N. K. Sitorus, and M. A. Gustiandza	2020	Mobile app for sports field reservation, GPS-based location features for nearby field suggestions	Convenient mobile access, Real-time booking and notifications	Dependent on mobile device usage, Connectivity issues may disrupt booking
27	Reservation System for Synthetic Soccer Fields Under the Scrum methodology. [27]	A. Estevan, V. Freddy and L. Enciso	2019	Scrum methodology for developing reservation systems, Focus on synthetic soccer fields.	Agile development ensures timely updates, Focuses on user needs for a specific facility.	Limited to soccer fields, May require frequent iterations and testing.
28	On The Design of Web-Based Information and Booking System for Futsal Field Rental Business.	M. Sarosa, V. Nurohmansah, W. I. Permana, and Y. H. P.	2018	Web-based system for futsal field bookings, Integration of payment	Increases convenience for futsal players, Reduces time spent on	Limited to futsal fields, Potential for errors in payment processing

	[28]	Isnomo		systems for manual convenience. bookings.		
29	Developing and Implementing Web-based Online University Facilities Reservation System. [29]	D. Alkhalidi, D. Alkhalidi, A. S. Aldossary, and M. K. Alsmadi	2018	Web-based system for university facility reservation, Integration with campus event schedules.	Improves resource allocation efficiency, Reduces administrative overhead.	May not scale well for large universities, Potential security risks with sensitive student data.
30	Design and Implementation of Online Booking System of University Sports Venues. [30]	Can Li, Junjie Li, Hongxiang Cao and Zhan Meng	2017	Online booking system for university sports venues, Integration with scheduling and event manage.	Facilitates easy booking for students, Increases utilization of sports venues.	May require a large IT infrastructure, System can be slow under heavy usage

VII. RESULTS

Through this research, a fully functional sports booking system has been designed and implemented to meet the needs of simplified management and play room booking. The results of my project show that a structural foundation based on the role can effectively manage land placement without complex functions such as integration of payment, selection of time slots or notification services. By focusing on essential features and by maintaining clear limits between roles, the system provides a practical and effective reservation solution.

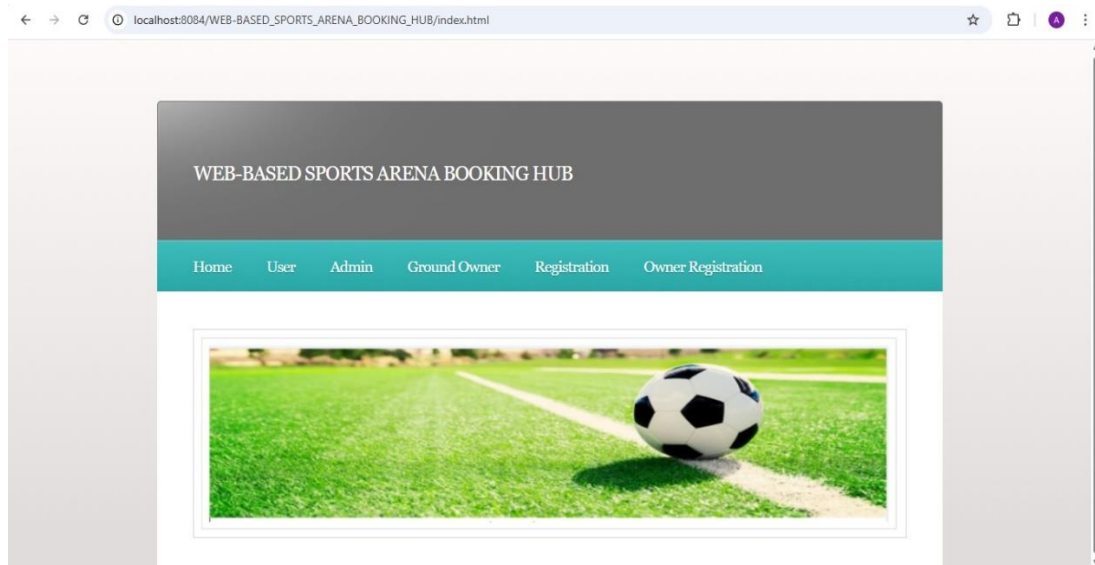


Fig. 2. Home Page Screen

From the user's perspective, the system allows anyone to register, connect and approve the playgrounds available by different land owners. After being connected, users can easily launch reservation requirements, then display the conditions of these requirements - if approved or not - through a simple control panel. This ensures the experience of liquid and intuitive for users without forcing them to manage trading or advanced planning steps.



Fig. 3. User Registration Page Screen

After registration user Login into the page by clicking User module where they login by username and password. Now they get the User Home Page Screen where the page designed to provide a seamless user experience for managing sports facility reservations. Upon successful login, the user is greeted with a personalized welcome message ("Welcome To: Raj"), indicating that the session is active and user-specific data has been successfully fetched from the backend. The interface is cleanly organized with a top navigation menu featuring options such as 'Home', 'View Play Grounds', 'View Booking Status', and 'Logout', which facilitates easy navigation and access to key functionalities.

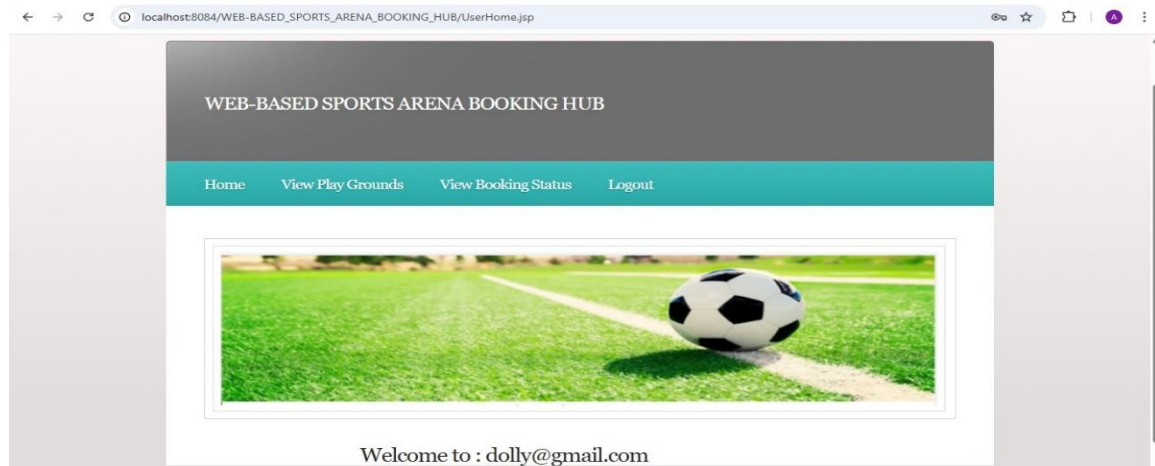


Fig. 4. User Home Page Screen

As for the ground owners, they can register and connect to the platform with their contact details. After verification, they can add some playgrounds in their accounts, visualize them and directly manage the reservation requirements sent by users. Only land owners have the right to accept or refuse these reservations. This decentralized control provides the most responsible land owners to their own property while simplifying the flow of the approval work.



Fig. 5. Ground Owner Registration Screen

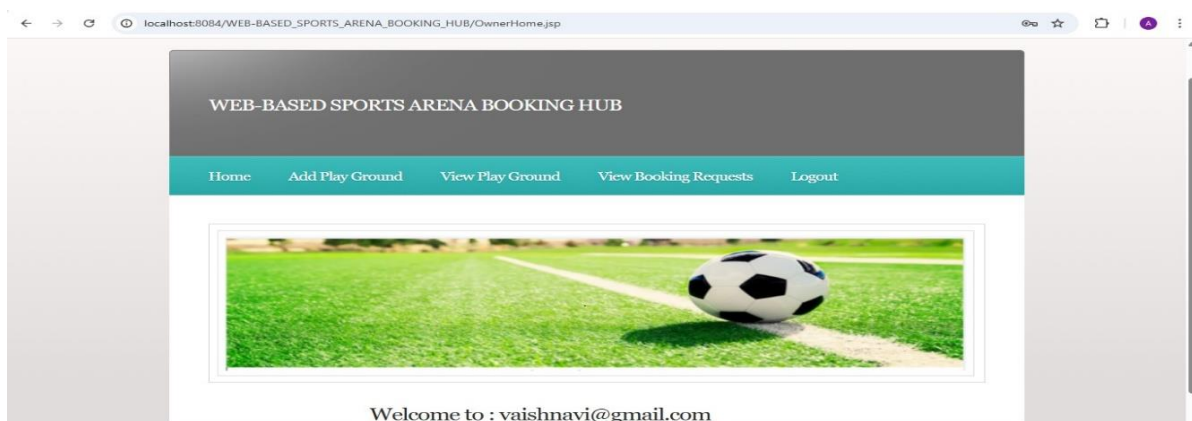


Fig. 6. Ground Owner Home Page Screen

On the administrative side, the administrators can connect to display and approve new registration for land owners, ensuring that only reliable contributors are authorized to list playgrounds on the platform. In addition, administrators can access the registered user list, add a playground and all booking documents. However, administrators do not interfere with the process of making room approval - this role is still for the scene.



Fig. 7. Admin Login Screen

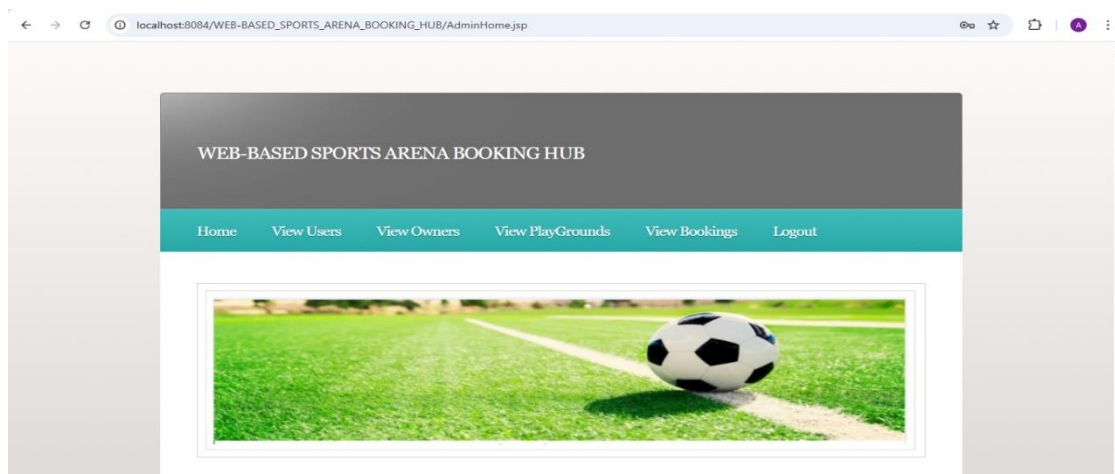


Fig. 8. Admin Home Page Screen

To implement this system, to deploy this system, I used Java for auxiliary features, HTML and CSS to build user interface and MySQL to manage structured data storage. The integration of these technologies allows me to maintain the separation between the logic layers, presentation and databases of the application. JDBC connection has been used to ensure real -time interactions between applications and databases.

These images display registration forms and connectivity, user reservation table, control panel of the owner on the ground and administrator's control pages. Each part of the interface confirms that the main features have been implemented effectively and effectively with the original goals of this system. A total of valid results are a simple architecture but based on the role that can manage effective booking for sports playgrounds. This platform is a function, easy to use and highly maintained, especially for small and medium websites. The nature of its tissue also provides flexibility for future improvements if necessary.

VIII. FUTURE WORK

Future research of the proposed Web-Based Sports Arena Booking Hub is provided on the web to throw a solid basis to rationalize the reservation of the grass playground through a centralized digital platform. However, there are many opportunities to improve in the future that can improve both functions and satisfaction of users. Currently, the lack of payment functions to integrate limit the convenience of the user and the school owner. The development of the booking center for a web -based sports arena has a solid framework to manage the booking room, but there is still an important potential to enhance its capacity thanks to future improvements. One of the main areas of growth lies in creating a mobile application partner, allowing users to interact with a more transparent foundation through their smartphones. This will not only increase access to but also provide features such as push warnings to reserve feedback or reminders. Additional screening may include a combination of an intuitive interface that allows users to identify and select available positions more easily and clearly. Although the current system overlooks the time -based time management, future repetitions can explore the integration of detailed planning tools to improve user control. The addition of notification mechanisms such as e-mail or SMS warnings can provide real-time updates to set or confirm, enhance user communication. On the administrator, the introduction of automated tests for overlapping reservations, as well as data control panel for use analysis, can streamline operation management. These tools will allow related parties to monitor trends and make data decisions related to the usability and expansion of settings. In addition, the implementation of multilingual options will make the system more and expand the support of the platform for a series of sports websites, such as room shorts or community centers-can turn it into a more complete booking solution. To improve system safety, options such as connecting with two elements, Captcha verification and delicate user authorization can also be approved. Finally, the introduction of a feedback and ranking mechanism will allow users to share their experiences, thus contributing to global improvement in service quality.

IX. CONCLUSION

The Web-Based Sports Arena Booking Hub project offers an innovative solution to streamline the reservation of turf playgrounds for various sports activities. This booking center of the web sports arena shows a step targeted towards digitizing local sports infrastructure management, providing organized support for users, landowners and system administrators that can interact transparent. One of the main results of this project is the clarity that it brings to the role -based interactions, which helps reduce communication congestion between users and the installation manager. Thanks to the performance and actual inspection, the system has proven the ability to reduce manual dependence, prevent planning confusion and minimize administrative backup, everything has no general payment cost or notice. Specifically, the project confirms that even a minimalist design can provide high function value when the system roles are accurate and work processes performed in accordance with the user's expectations. The decision to eliminate time slots and complex trading features allows the platform to retain light and towards users, improving the overall access capacity. In addition, the development and analysis experience of this system has revealed valuable views on the road where small sports ecosystems can benefit from structured digital tools without financial investment or high technical costs. Therefore, this project opens up the field to explore evolutionary and friendly digital solutions in the field of sports to balance simplicity with essential functions. In the future, the system not only acts as a prototype that can

be used but also acts as a search model for streamlined web platforms and is inclined to entertainment infrastructure.

In conclusion, the Web-Based Sports Arena Booking Hub successfully fulfills its objective of creating a structured and efficient digital environment for turf playground reservations. Its modular design, combined with robust backend support and a focus on usability, positions it as a valuable tool for users and facility managers alike. While it currently operates without a payment integration, its core strengths lie in automation, real-time availability checks, and clear communication channels. As user adoption grows, future enhancements such as payment gateways, feedback systems, and advanced analytics could further elevate its impact. Overall, the system demonstrates how technology can bridge gaps in recreational infrastructure management and promote more organized and inclusive access to sports facilities.

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