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by

**Mahdi Mohammad Al Ajami 202302965**

**Ahmad Ghalayini 202301419**

**Aya Akila 202301091**

**Moustapha Aajineh 202304458**

**Ahmad Khalil 202303762**

**Bilal Shehade 202303538**

**Walid Al Rayis 202201414**

Department of Electrical and Computer Engineering

Faculty of Engineering

Supervised by Dr. Iman Haidar

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# **Project Description**

## **Introduction**

HJEZLE is a cutting-edge mobile application developed using flutter that revolutionizes the booking process for sports facilities. The application offers a user-friendly interface where sports enthusiasts can register, explore a wide variety of sports venues, and communicate directly with facility owners to reserve slots and obtain real-time updates. Facility owners, in turn, benefit from a platform that enables them to efficiently list, manage, and promote their venues. By integrating real-time backend services, HJEZLE aims to eliminate inefficiencies in traditional booking systems and foster enhanced communication engagement in the sports and recreational sectors.

## **Project Statement**

In Lebanon, access to sports facilities such as tennis courts, paddle arenas, and football fields remains a significant challenge due to the lack of a centralized and efficient booking system. Currently, individuals seeking to reserve a sports venue must rely on manual, time-consuming processes, often making multiple phone calls to inquire about availability, pricing, and location suitability. This fragmented approach not only results in inconvenience and inefficiency but also discourages people from engaging in sports activities, ultimately affecting community well-being and physical fitness. Moreover, there is a lack of transparency and accessibility regarding sports venues. Many individuals are unaware of the full range of facilities available near them, leading to missed opportunities and underutilized venues. The absence of a unified platform means users struggle to compare options based on location, cost, amenities, and time slots, forcing them to rely on word-of-mouth recommendations or outdated information. This issue is further exacerbated by inconsistent pricing models and limited communication channels between venue owners and potential users. To address these inefficiencies, we propose the development of a comprehensive mobile application that streamlines the sports venue reservation process. This platform will serve as an integrated marketplace, allowing users to seamlessly search for nearby facilities, view real-time availability, compare pricing, and book their preferred slots with minimal effort. By leveraging within Lebanon, digital automation and user-friendly interfaces, our solution aims to eliminate unnecessary hassle, enhance accessibility, and foster a more active sports culture. This application will not only benefit sports enthusiasts but will also provide venue owners with a structured and efficient way to manage their reservations, optimize facility usage, and increase revenue. By bridging the gap between demand and availability, our platform aspires to redefine sports facility booking, making it a streamlined, data-driven, and user-centric experience.

## **Project Overview**

**HJEZLE** is a revolutionary Flutter-built mobile application transforming sports facility booking. It provides a streamlined and intuitive solution for both sports enthusiasts and venue operators. Users can easily browse a wide range of sports venues, check availability, and reserve spaces, all from their mobile devices. Beyond field reservations, the app also allows users to book spots for sports events. **HJEZLE** also provides a user-friendly interface enabling users to explore available sports facilities, check real-time availability, and communicate directly with venue owners. The app aims to replace inefficient manual booking processes with an automated, digital solution that enhances accessibility and convenience.

For venue owners, **HJEZLE** offers an efficient platform to manage facilities, set available timeslots, and streamline the entire booking process. Real-time updates and direct communication features empower owners to effectively promote, manage, and optimize bookings, enhancing operational efficiency.

**HJEZLE** eliminates tedious phone calls and inquiries, providing instant access to information and facilitating a faster, more reliable booking experience. The platform operates on a revenue-sharing model, taking commission from each booking to ensure sustainable growth for both the app and the venues. With **HJEZLE**, finding and booking sports facilities is effortless. Simply open the app, choose your venue, and secure your reservation in seconds. Built using Flutter for cross-platform support and powered by Firebase for real-time backend services, **HJEZLE** bridges the gap between facility providers and users, fostering a more organized and efficient booking experience.

## **Project Objectives**

The objectives of **HJEZLE** revolve around improving the accessibility and efficiency of sports venue reservations. Traditional booking methods often involve phone calls, in-person visits, or social media inquiries, which can be time-consuming and unorganized. By leveraging a digital platform, the project aims to centralize all booking-related tasks, ensuring a seamless experience for both users and venue owners. The platform not only facilitates easy reservations but also provides a marketplace where venue owners can promote their services, set pricing, and communicate with potential customers. Additionally, security and reliability are key aspects of the system, ensuring that users' data is protected and that transactions are carried out smoothly.

The main objectives of the project are the following:

* Developing a mobile application that allows users to browse and book sports venues in a few simple steps.
* Integrating a secure authentication system that enables users to register and log in easily.
* Providing venue owners with a platform to list their sports facilities, including location, pricing, and availability.
* Enabling real-time communication between users and venue owners for better coordination.
* Implementing a secure payment system that supports online transactions for booking confirmations.
* Ensuring scalability and performance by using an efficient backend, such as Firebase.

## **Background**

The sports and recreational industry have seen tremendous growth in recent years, driven by increased health awareness and the popularity of organized sports. In countries like Lebanon, local communities place great value on accessible sports facilities, yet many venues suffer from outdated booking systems and manual processes. Traditional methods often result in double bookings, inefficient resource allocation, and a disconnect between service providers and customers. In this context, digital transformation becomes essential. By adopting modern software solutions such as HJEZLE, stakeholders in the sports industry can enjoy faster, more reliable reservation processes, improved communication channels, and enhanced customer satisfaction. This digital shift not only addresses immediate operational challenges but also supports long-term growth by promoting local sports and recreational activities. Furthermore, integrating real-time communication and data management features fosters a more interactive and responsive environment, which is vital for competitive markets.

In response to the growing need for a streamlined booking system, the HJEZLE mobile application was conceived. Built using Flutter, the app aims to address these pressing challenges by providing an all-encompassing solution for booking sports facilities. HJEZLE allows users to effortlessly browse, and book available sports venues based on location, sport, and availability, eliminating the need for lengthy phone calls and manual coordination. Venue owners, in turn, will be able to manage their facilities, track bookings, and promote their offerings on a centralized platform designed to increase operational efficiency.

The app seeks to provide a seamless and secure booking experience, with features such as real-time availability updates, instant bookings, and a secure payment system, designed to cater to both sports enthusiasts and venue operators. Moreover, HJEZLE’s user feedback system, personalized profiles, and social media sharing will foster greater engagement, enhance user experience, and help users make informed decisions based on reviews and preferences.

By addressing the gaps in the current sports booking system, HJEZLE is poised to revolutionize how sports facilities are booked in Lebanon, making it easier for individuals to enjoy recreational activities and for venue owners to operate their facilities more efficiently. The app stands to contribute to the growth of the sports culture in Lebanon, providing a more connected and active community.

## **Literature Review**

A review of similar products and academic research underscores the need for a sophisticated, user-friendly booking system in the sports industry. In Lebanon, a study by Abdul Rahman et al. (2022) explored the optimization of sports facility booking systems, emphasizing the benefits of localized, cost-effective solutions while also noting challenges related to scalability and user interface design. Commercially, the Sporty app—reviewed by Global Innovations Inc. (2021)—demonstrates strong real-time booking capabilities and an intuitive user interface tailored to its local market; however, despite its usability, it lacks integrated communication tools that can streamline customer support. On an international level, the PlayFinder platform, as analyzed by TechCrunch (2020), offers a comprehensive multi-vendor database and advanced functionalities, yet it suffers from high subscription fees and a complex navigation structure that may deter casual users. These examples illustrate a common trend: while many existing solutions excel in specific areas, they often struggle to provide a holistic experience that combines real-time functionality, ease of use, and integrated communication.

The literature indicates that the ideal solution should merge the benefits of real-time booking and dynamic user interfaces with robust communication features and efficient administrative management. HJEZLE is designed to meet these demands by leveraging modern cross-platform technologies and backend-as-a-service (BaaS) platforms that offer scalable, secure, and flexible support.

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| Ref # | Authors/Sources | Description | Advantages | Problems |
| 1 | Abdul Rahman et al. (2022) | Study on optimizing sports facility booking systems in Lebanon with a focus on localized, cost-effective solutions. | Cost-effective; user-centric; addresses local market needs. | Scalability challenges; occasional interface design issues |
| 2 | Global Innovations Inc. (2021) – Sporty App Review | Review of the Sporty app for sports venue booking, emphasizing real-time booking and an intuitive UI | Real-time booking; simple and intuitive interface; group booking feature. | Lack integrated communication tools; limited administrative functions for venue owner. |
| 3 | TechCrunch (2020) – PlayFinder App Analysis | Analysis of PlayFinder, a global platform offering multi-vendor support and advanced booking functionalities. | Extensive database; robust multi-vendor support; advanced features. | High subscription fees; complex navigation structure. |
| 4 | OpenPlay | OpenPlay is a UK-based app for booking community sports venues like football, tennis, and cricket. | Wide network of sports venues; user-friendly interface; group booking; venue reviews and ratings. | Limited to the UK; lacks comprehensive management tools for venue owners. |
| 5 | BookMySports | BookMySports is an Indian platform for real-time booking of various sports facilities, including cricket, badminton, and football. | Extensive range of facilities; real-time booking; strong customer support; discounts and offers. | Limited international reach; inconsistent availability and pricing; unreliable user reviews. |

## **Applications:**

Real-Time Availability: Without having to phone or come to the facility, users can see the current availability of different pitches in their area, making it easy for them to choose and reserve a time window that works for them.

Group Booking and Management: By allowing users to invite friends or teammates to join a game, the app can help with group bookings. In addition, it can send out notifications for next games and handle payments.

Rating and Reviews: Based on their personal experiences, users are able to evaluate and review pitches. This feature encourages facility owners to uphold high standards and assists others in making well-informed decisions.

Discounts and Promotions: To entice regular users to make reservations through the app, it may provide exclusive discounts, loyalty plans, or promotions.

Event Planning: Using the app, users can plan tournaments or informal get-togethers, setting up games, inviting players, and even keeping score or statistics for competitive play.

## **Alternative Design:**

The "Community Sports Hub" is an innovative design concept for a pitch reservation app that emphasizes user engagement and social interaction. It features a personalized dashboard that displays upcoming bookings, favorite pitches, and recent activities, along with a map integration that highlights nearby pitches filtered by sport type, availability, and user ratings. Users can click on each pitch for detailed information, including photos and amenities. The app also incorporates social features, allowing users to connect, form teams, and challenge friends to matches, while enabling the creation and sharing of community events. Additionally, it offers skill level filters to help users find suitable matches and groups, and includes push notifications for booking confirmations, reminders for upcoming matches, and alerts for available pitches nearby. This design aims to foster a vibrant sports community while streamlining the pitch reservation process.

# **References:**

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