



THE CLUB

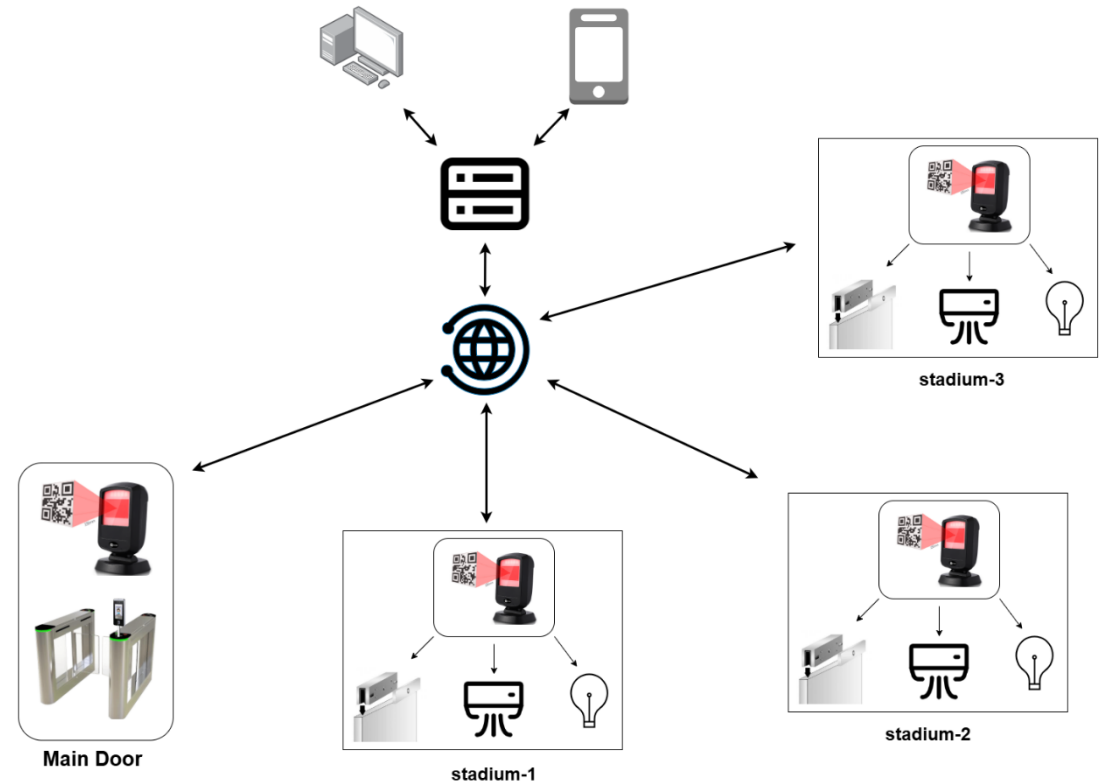
نادي النادي
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IoT-Based Access Control and Environmental Management

/ Overview

This IoT system is designed to manage secure access and environmental controls across a central Main Door and multiple sub-areas (stadiums). The architecture leverages QR code scanners, centralized server communication, and automated controls for doors, lighting, and air conditioning.

This system ensures secure access control while providing a comfortable environment through automated lighting and climate control, making it ideal for offices, stadiums, educational institutions, and secure facilities.



/ System Components

1. User Access Points:

- Main Door QR Scanner: Positioned at the primary entry point, this scanner reads QR codes and communicates with the central server to validate credentials. Upon successful validation, it triggers the opening of the main gate.
- Sub-Door QR Scanners (Stadium-1, Stadium-2, Stadium-3): Each sub-area features its own QR code scanner. After validation via the server, these scanners not only unlock the respective doors but also activate environmental controls such as lights and air conditioning.

2. Central Server

- The server acts as the backbone of the system, handling QR code validation for both the main door and sub-doors.
- It interfaces with user devices (computers and smartphones) for administrative control, monitoring, and real-time updates.
- All data flows through the network gateway, ensuring secure and streamlined communication between the scanners and the server.

3. Environmental and Access Control:

- Electronic Door Locks: Triggered by validated QR scans to allow entry.
- Lighting Systems: Automatically powered on in sub-areas post-validation.
- Air Conditioning Units: Activated in sub-areas when a user gains access, ensuring immediate comfort.

/ Workflow

1. Main Door Access:

- A user presents their QR code to the Main Door QR Scanner.
- The scanner sends the code to the server via the network for validation.
- Upon successful verification, the main door unlocks, granting access.

2. Sub-Door (Stadium) Access and Environmental Control:

- In sub-areas (stadium-1, stadium-2, stadium-3), users scan their QR codes at respective sub-door scanners.
- The scanner sends the data to the server for validation.
- If validated:
 - The sub-door unlocks.
 - Lights and AC units are automatically turned on to optimize user comfort.

3. Administration and Monitoring:

- Administrators can monitor access logs, manage QR code issuance, and adjust settings via desktop or mobile interfaces connected to the server.
- Real-time data and system status can be accessed from anywhere, ensuring flexibility and control.

/ Key Features

Centralized Authentication:

All access points validate credentials via a unified server, enhancing security.

Automated Environmental Control:

Lights and AC systems in sub-areas activate based on user presence, optimizing energy usage.

Real-Time Monitoring and Control:

Administrators can oversee system operations from any location using computer or mobile interfaces.

Scalable Architecture:

Additional sub-areas can be easily integrated by adding more QR scanners and linking them to the server.

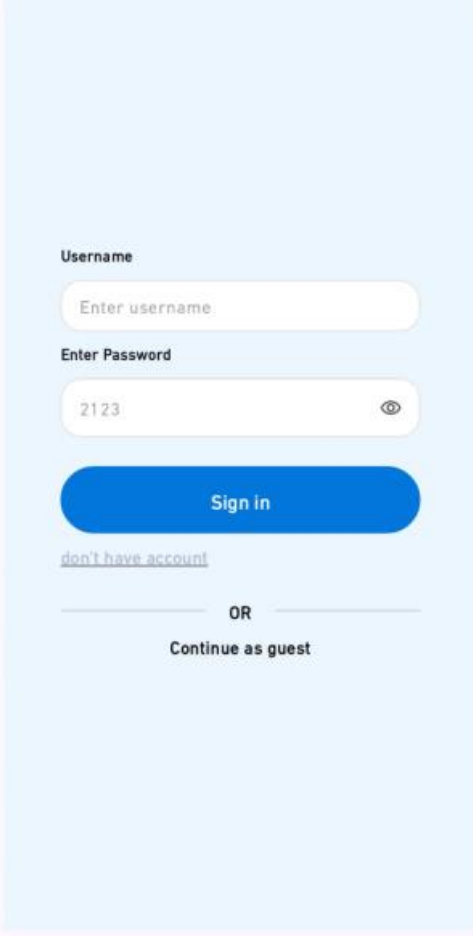
/ Mobile APP

The Club app simplifies court reservations with a seamless booking system and QR code access. Users can browse available courts, book their preferred time slot, and receive a unique QR code for secure, contactless check-in. The app helps to track real-time bookings, prevent double reservations, and verify user access by scanning QR codes.

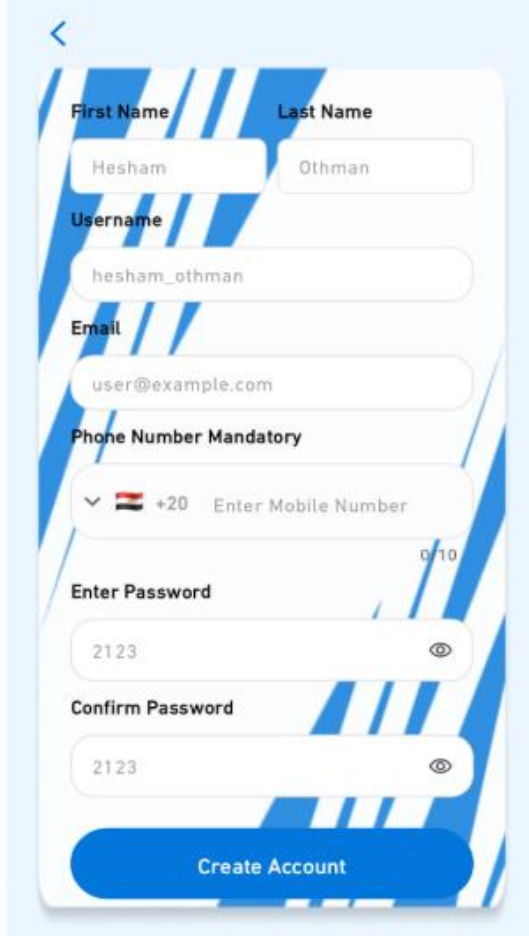


/ Login

Members can log in with their accounts, while guests can sign up as guest users.



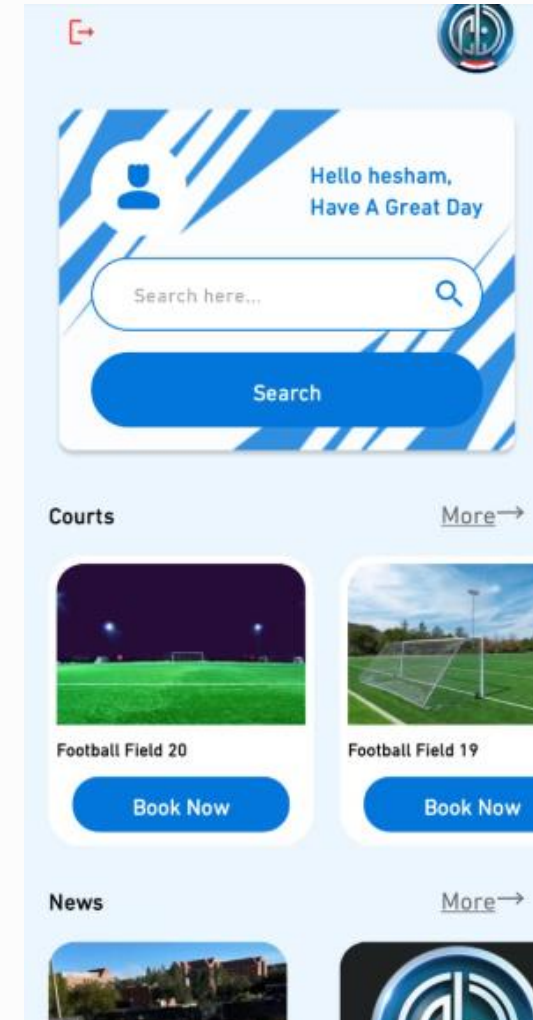
A web login form with a light blue background. It features two input fields: 'Username' with placeholder text 'Enter username' and 'Enter Password' with placeholder text '2123'. A blue 'Sign in' button is positioned below the password field. A link labeled 'don't have account' is located below the button. Below this, the text 'OR' is centered, followed by a link labeled 'Continue as guest'.



A mobile registration form with a light blue background and a blue and white striped pattern on the right side. It includes several input fields: 'First Name' (Hesham), 'Last Name' (Othman), 'Username' (hesham_othman), 'Email' (user@example.com), and 'Phone Number Mandatory' (with a dropdown menu showing '+20' and a field for 'Enter Mobile Number'). Below these is a field for 'Enter Password' (2123) and a 'Confirm Password' field (2123). A blue 'Create Account' button is at the bottom.

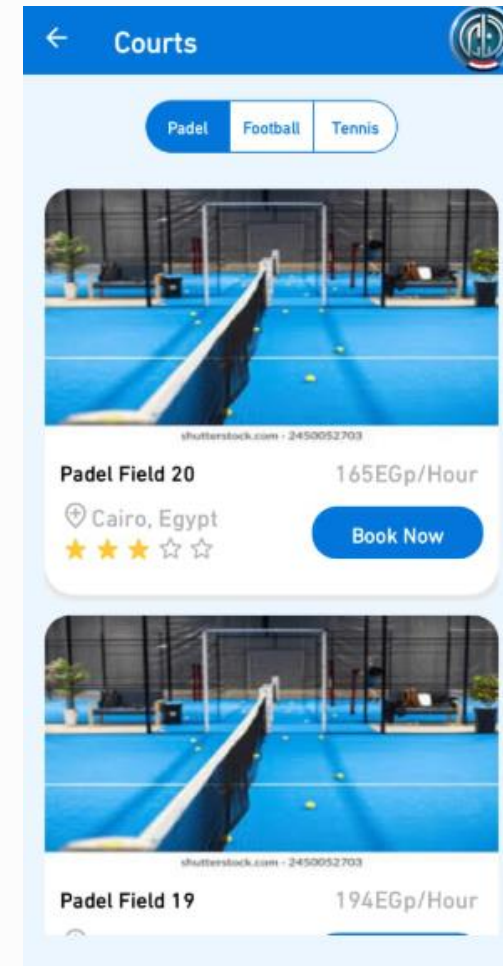
/ Home Page

The Home Page displays all available courts along with the latest news and announcements from the club.



/ Courts

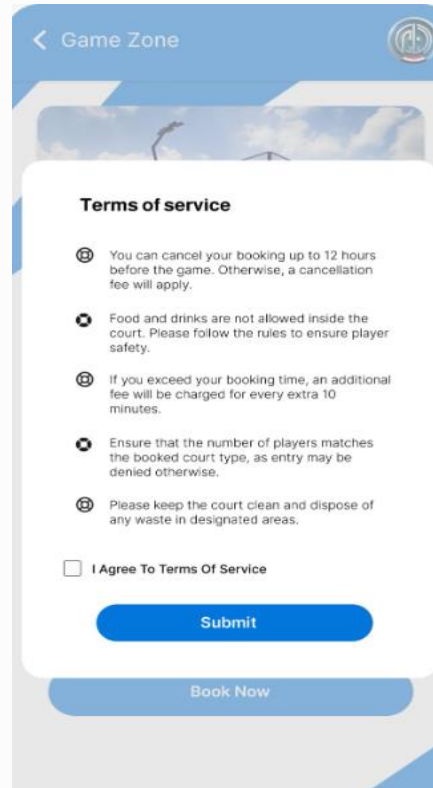
The Courts tab displays all available courts along with their ratings, prices, locations, and hourly rates. Prices vary for members and guests based on predefined pricing lists.



/ Bookings

Terms and Conditions

When the user clicks "Book Now," the terms and conditions section will appear, requiring agreement before proceeding.



The screenshot shows a modal titled "Terms of service" with a list of five conditions. At the bottom, there is a checkbox for "I Agree To Terms Of Service" and a blue "Submit" button. Below the modal, a "Book Now" button is visible.

Terms of service

- Ⓢ You can cancel your booking up to 12 hours before the game. Otherwise, a cancellation fee will apply.
- Ⓢ Food and drinks are not allowed inside the court. Please follow the rules to ensure player safety.
- Ⓢ If you exceed your booking time, an additional fee will be charged for every extra 10 minutes.
- Ⓢ Ensure that the number of players matches the booked court type, as entry may be denied otherwise.
- Ⓢ Please keep the court clean and dispose of any waste in designated areas.

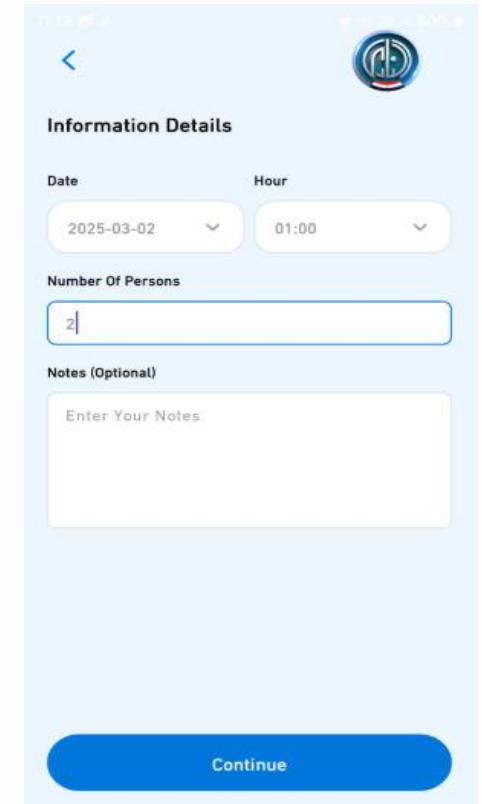
☐ I Agree To Terms Of Service

Submit

Book Now

Information Details

The user will enter booking details, including the date, time slot, and number of players.



The screenshot shows a form titled "Information Details" with fields for Date, Hour, Number Of Persons, and Notes (Optional). A blue "Continue" button is at the bottom.

Information Details

Date: 2025-03-02 Hour: 01:00

Number Of Persons: 2

Notes (Optional): Enter Your Notes

Continue

/ Bookings

Booking Confirmation

A QR code will appear for seamless check-in, along with the pre-entered booking details for confirmation.



Booking successfull

QR Code

Name: hesham

Email: hesham@hesham.com

Date: 2025-03-02

Hour: 01:00

Number Of Persons: 2

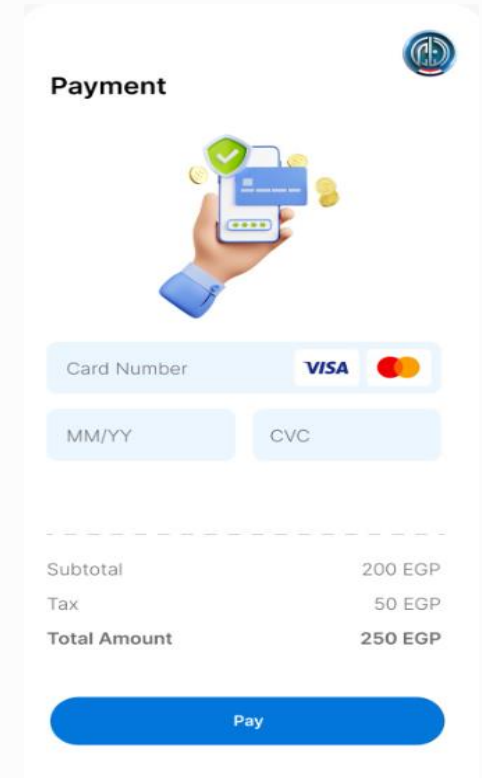
Payment Status: PENDING

Total Amount: 148.5 EGP

Back To Home

Payment

The user can conveniently pay the booking fees online.



Payment

Card Number: VISA

MM/YY: CVC

Subtotal: 200 EGP

Tax: 50 EGP

Total Amount: 250 EGP

Pay

/ Bookings IOT

The IoT controller generates a QR code within the allowed time range, which the user scans to unlock the court and activate electricity and AC. Once the booking time ends, the AC will turn off, and the electricity will gradually fade. The user then has a designated exit time; if they leave within this period, they can exit normally. If they exceed the allowed time, their violations will be reviewed.



/ Club Store

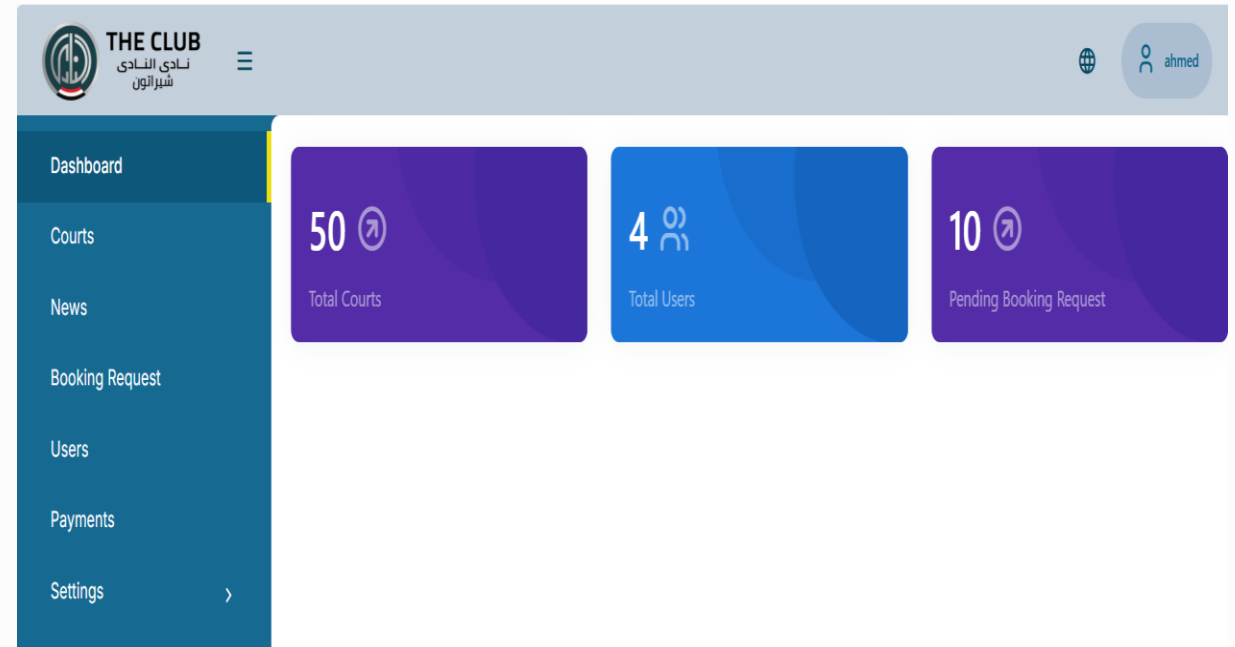
The Club Store sells sports gear, accessories, and club merchandise for members and guests. Users can browse, buy online, and track orders.



/ Admin Overview

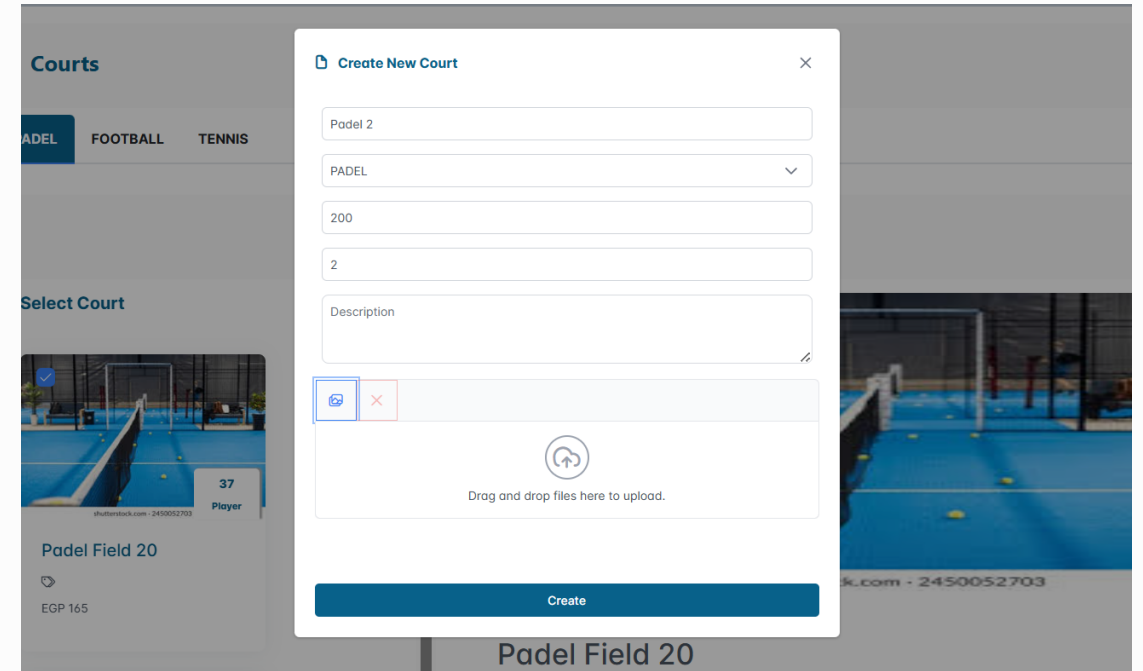
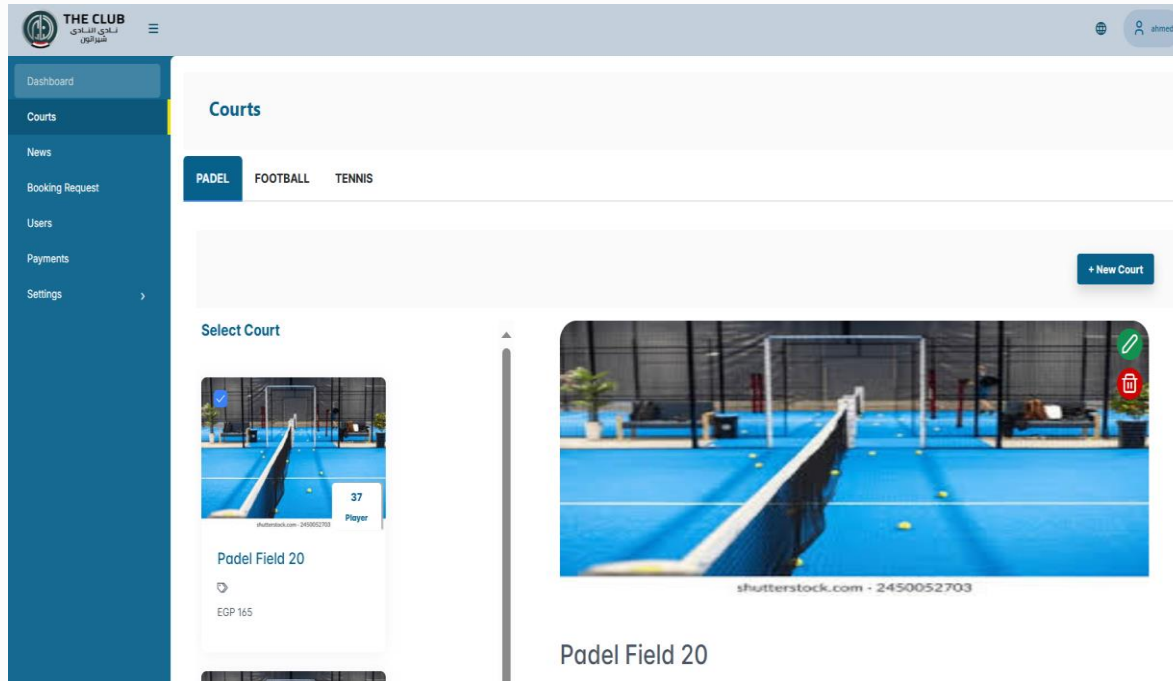
The Admin Application allows administrators to manage pricing, courts, bookings, and all related settings for seamless club operations.

Dashboard shows insights about the total courts, users and booking requests.



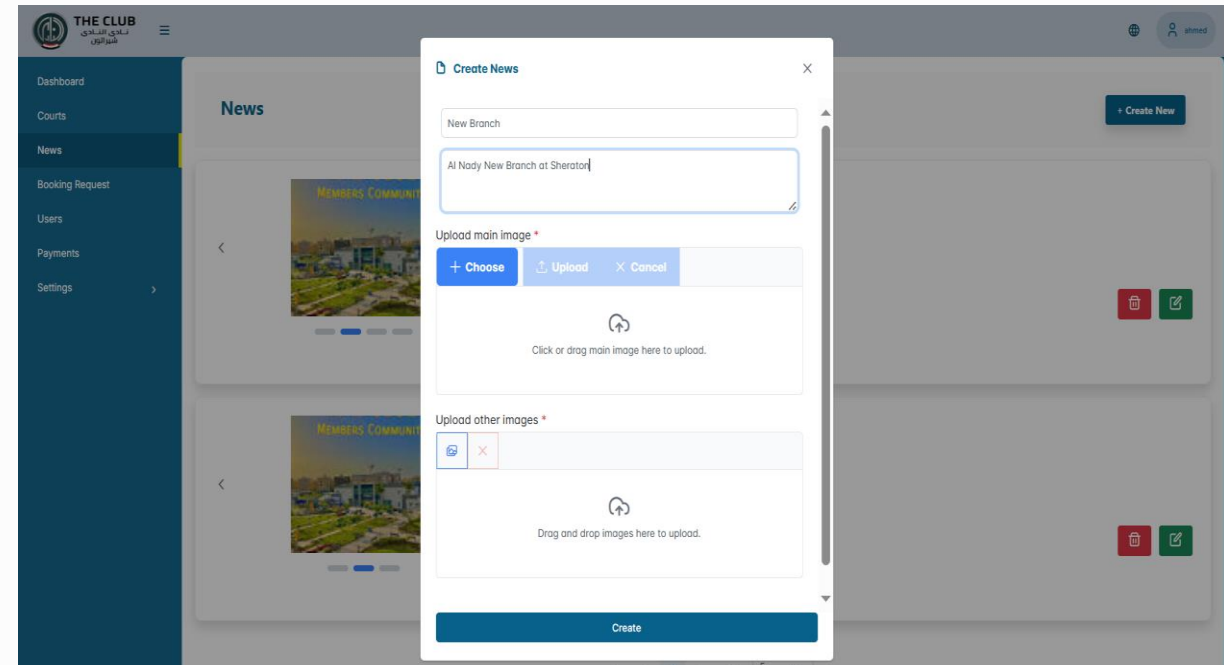
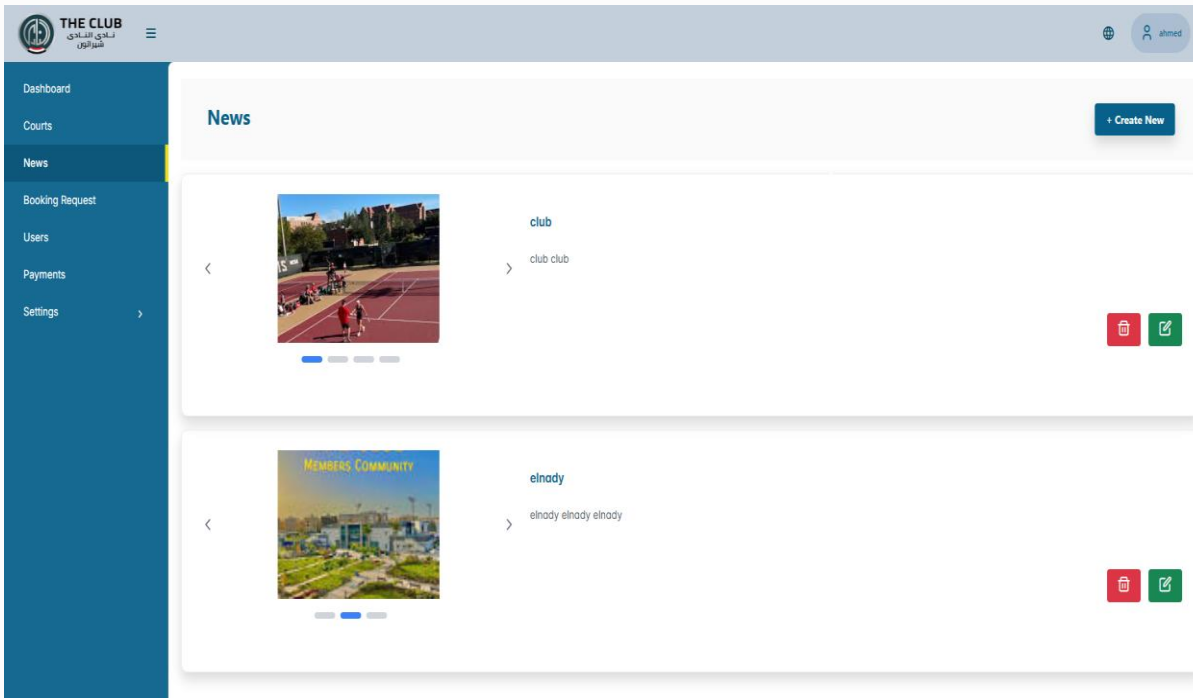
/ Admin Overview

The admin can add courts by specifying their type, player capacity, and attaching a court picture.



/ Admin Overview

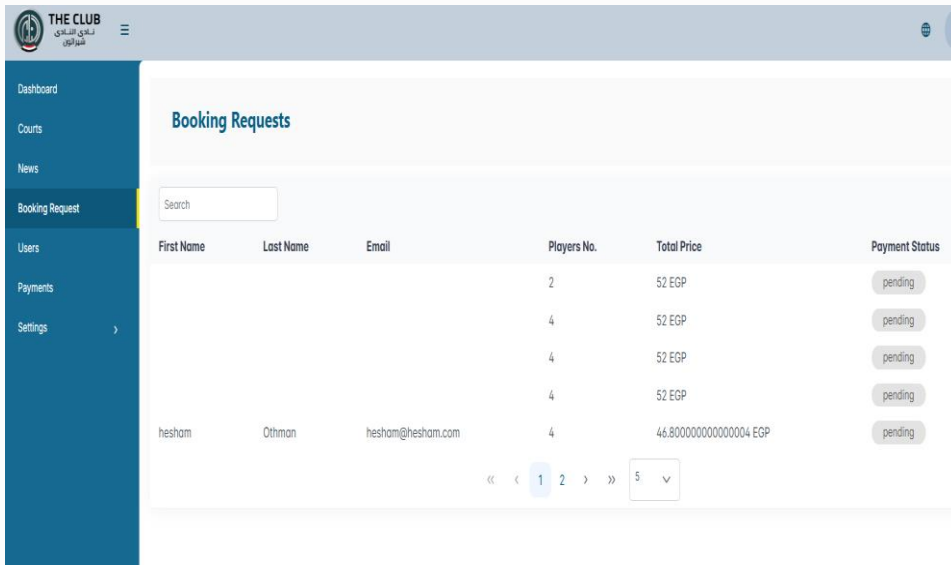
The admin can add news along with an image to be displayed in the application.



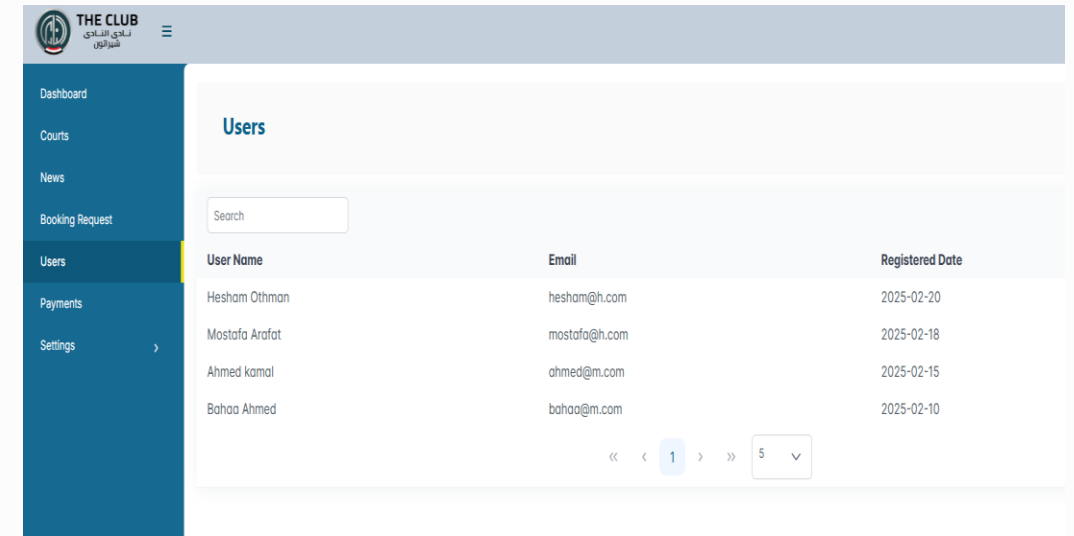
/ Admin Overview

The admin can manage all booking requests.

The admin can manage users with their information and registration date.



First Name	Last Name	Email	Players No.	Total Price	Payment Status
			2	52 EGP	pending
			4	52 EGP	pending
			4	52 EGP	pending
			4	52 EGP	pending
hesham	Othman	hesham@hesham.com	4	46.800000000000004 EGP	pending



User Name	Email	Registered Date
Hesham Othman	hesham@h.com	2025-02-20
Mostafa Arafat	mostafa@h.com	2025-02-18
Ahmed kamal	ahmed@m.com	2025-02-15
Bahaa Ahmed	bahaa@m.com	2025-02-10

/ Admin Overview

The admin can see all the payments and their statuses.
The admin can add different court types.

THE CLUB

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Dashboard

Courts

News

Booking Request

Users

Payments

Settings

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Court Types		
THE CLUB		
Dashboard Courts News Booking Request Users Payments Settings Court Type		
Search		
No.	Court Name	Action
C-001	Basketball Court	
C-002	Tennis Court	
C-003	Football Field	
C-004	Badminton Court	
<< < 1 > >> 5 ▼		

/ Status & Next

- ✓ IOT Hardware: Done, Installed
- ✓ Mobile APP: Done
- ✓ Payment gateway “Impact account”: Done

Next

The club management are kindly requested to:

- Provide Apple & Google accounts
- Provide the payment gateway credentials