

# Pickleball Court Schedule Display and Cancellation Management System

**Date:** July 17, 2025

## Project Overview

This project aims to build a responsive web-based platform that displays court schedules and allows users to cancel their reservations with reasons. In addition, the platform will enable users to view important information such as company or organization policies. Administrators will have tools to manually input schedules, edit entries, and efficiently monitor cancellations.

## Implementation Options

We offer two implementation options for this system, each with its own set of tools, advantages, and trade-offs. The client may choose between the following:

### Option A: Internal System (Custom-Built Platform)

- **Reservation & Cancellation System:** Custom forms built using a React-based UI (GForms-like experience).
- **Schedule Display:** FullCalendar React integration for real-time and interactive court calendar view.

#### Pros:

- Fully customizable user experience and features
- Enhanced control over data, design, and flow
- Scalable and flexible for future expansions

#### Cons:

- Higher complexity and may require longer development time
- Will need developer support for future changes or upgrades

### Option B: External Tools (Google Ecosystem)

- **Reservation & Cancellation System:** Google Forms for submission of reservation and cancellation requests
- **Schedule Display:** Google Calendar integration to show court availability

#### Pros:

- Faster setup with familiar tools
- Cost-effective for small-scale operations
- Easy to manage with existing Google Workspace

## Cons:

- Limited customization
- Dependent on third-party reliability and interface

## Objectives

- Provide an intuitive landing page with necessary information and allow quick access to court schedules.
- Allow users to reserve and cancel their reservations and provide a reason for doing so
- Let administrators manually input schedules and manage or edit reservations with clear records of actions taken.
- Implement role-based access control (RBAC) for secure administrative management.
- Design a clear interface for displaying multiple courts (five courts) in a tabbed or equivalent layout.
- Fully mobile responsive and optimized for cross-platform compatibility across modern browsers and devices.

## System Features

### For Users

- **Public Information and Schedule Display**
  - View schedules for five different courts
  - General company/organization info:
    - Homepage
    - Calendar View (static or interactive)
    - Policies, Rates, Location
    - Custom sections as needed by the client
- **Reservation Module**
  - **Option A (Internal):** Custom reservation form on the website.
  - **Option B (External):** Reservation via Google Forms.
  - Admins approve and manually encode requests into the calendar system.
- **Cancellation Module**
  - Log-in required to cancel (only applies to Option A)
  - Cancellation requires reason submission
  - Cancellation entries are recorded for transparency

### For Administrators

- **Manual Input and Monitoring**
  - Input schedules based on approved reservations

- Unified dashboard to track reservations and cancellations
- **Edit / Update Reservations**
  - Modify reservation entries
  - Approve changes or log cancellations
- **RBAC (Role-Based Access Control)**
  - Restrict access to sensitive features by role
- **Audit Trail**
  - Record who created, edited, or canceled reservations and when

Technical Specifications

- **Frontend:** React.js
- **Backend:** Node.js with Express.js
- **Database:** MongoDB
- **Hosting:** Vercel
- **Authentication:** JWT with RBAC

Development Timeline

Target Completion: September 26, 2025

PHASE	SUBTASKS	ASSIGNED	STATUS	Jul 14 - 25	Jul 28 - Aug 29	Sept 1 - 12	Sept 12 - 26
Requirements & Wireframes	Meet with stakeholders	ALL	NOT STARTED				
Requirements & Wireframes	Define requirements	ALL	NOT STARTED				
Requirements & Wireframes	Create wireframes	ALL	NOT STARTED				
Frontend & Backend Dev	Public Info Display	ALL	NOT STARTED				
Frontend & Backend Dev	Reservation Module	ALL	NOT STARTED				
Frontend & Backend Dev	Cancellation Module	ALL	NOT STARTED				
Frontend & Backend Dev	Courts	ALL	NOT STARTED				
Frontend & Backend Dev	Edit / Update Reservations	ALL	NOT STARTED				
Frontend & Backend Dev	Authentication	ALL	NOT STARTED				
Integration & Testing	Connect frontend & backend	ALL	NOT STARTED				
Integration & Testing	Test features	ALL	NOT STARTED				
Integration & Testing	Gather feedback	ALL	NOT STARTED				
Integration & Testing	Fix bugs	ALL	NOT STARTED				
Final & Deploy	Final Adjustments and Improvements	ALL	NOT STARTED				
Final & Deploy	Setup hosting	ALL	NOT STARTED				
Final & Deploy	Deploy system	ALL	NOT STARTED				
Final & Deploy	User acceptance test	ALL	NOT STARTED				

Implementation Table

Feature / Component	Option A: Internal	Cost A	Option B: External Tools	Cost B
Reservation System	Custom-built form and logic	₱5,000	Google Forms setup	₱3,000
Cancellation System	Authenticated with reason logging	₱4,000	Google Forms with manual tracking	₱3,000

<b>Calendar Integration</b>	FullCalendar React with editable display	₱5,000	Google Calendar with restricted editing	₱4,500
<b>Admin Dashboard</b>	Full-featured panel with RBAC and audit logs	₱5,000	Lightweight dashboard with RBAC (Sheets-based or embedded UI)	₱4,000
<b>User Pages</b>	Custom homepage, calendar UI, and org info	₱3,000	Static pages with embedded content	₱2,500
<b>Testing &amp; QA</b>	Extensive testing and optimization	₱2,000	Extensive testing and optimization	₱2,000
<b>Deployment</b>	Vercel setup, domain config, server-side setup	₱2,000	Google Workspace deployment + Netlify/Vercel static	₱2,000
<b>Support &amp; Training</b>	Admin guide, walkthrough, and documentation	₱2,000	Admin guide, walkthrough, and documentation	₱2,000
<b>Scalability</b>	High: Custom DB/API enables feature expansion	₱1,000	Medium: Tied to Google limitations	₱1,000
<b>Post-Production Maintenance</b>	Future support for hosting, bug fixes, upgrades	₱500+	Minimal dev dependency; updates if Google changes	₱500+
<b>Hosting Costs</b>	Vercel (free tier or scalable plan), domain optional	₱500	Vercel (free tier or scalable plan), domain optional	₱500
<b>Total Estimated Cost</b>		<b>₱30,000</b>		<b>₱25,000</b>

## Budget Justification

Both options fall within the originally proposed ₱30,000 budget. Option A's custom platform justifies the higher cost through:

- Customizability and advanced feature control
- Long-term scalability
- Full integration with APIs and databases

Option B provides simplicity and low barrier to deployment, ideal for clients who:

- Are comfortable with Google tools
- Need faster deployment
- Require a simple booking workflow

## **Maintenance and Hosting Notes**

### **Internal Option (A):**

- Requires developer involvement for bug fixes, enhancements, or new features post-launch.
- Hosted on Vercel (free tier available; scalable to paid plans depending on traffic).  
Database (e.g., MongoDB Atlas) hosting may incur small monthly fees for higher usage tiers.
- Scalable architecture enables future expansion and integration.
- **Disclaimer:** Future updates or changes beyond the agreed project scope are not included in the initial cost and may be billed separately through a maintenance contract or per-task basis.

### **External Option (B):**

- Minimal technical upkeep; admins can modify forms and calendars directly.
- Deployed using Google Workspace tools (Forms, Sheets, Calendar); embedded via Netlify/Vercel if needed.
- Limited scalability due to constraints of Google tool features.
- Changes in Google APIs or service limitations may require occasional developer support.
- **Disclaimer:** While post-launch support needs are minimal, significant changes or tool deprecations may necessitate additional development work, which will not be covered by the initial project fee.

## **Conclusion**

This proposal outlines a comprehensive and scalable Pickleball Court Schedule Display and Cancellation Management System. Whether opting for a fully customized solution or leveraging Google's ecosystem for rapid deployment, both paths prioritize usability, efficiency, and transparency for all users.

We look forward to collaborating and delivering the solution on or before September 26, 2025.

For further inquiries, feel free to reach out.

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