XD School Facility Booking System – Case Study Report

A community-driven digital solution to fund education

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1.0 Background and Problem Statement

This case study presents a real-world digital solution developed for XD School, an inclusive and gamified learning platform supporting underprivileged youth. The primary objective was to create a sustainable, user-friendly system to raise USD 1,000 monthly by renting out school facilities, funding essentials like uniforms and school supplies for 10 students.

The school has underutilized facilities available on weekends from 8 AM to 12 PM. To support the 2024 school year, a simple, intuitive, and rapidly deployable rental system was required to minimize administrative burden.

3.0 Solution Overview

3.1 Booking System ()

The booking system was developed as a responsive, mobile-optimized web application utilizing HTML5, CSS3, and JavaScript. The interface incorporates a structured form with input fields for full name, email address, and phone number, alongside dropdown menus for time slot selection and booking duration. A multi-select checkbox group enables users to choose from available facilities, with a JavaScript-implemented revenue calculation algorithm leveraging a predefined rate table. The design employs the Poppins font family, a custom gradient background, and a maximum container width of 700px to ensure readability and aesthetic consistency across devices. A QR code, generated via the QRServer API, is integrated for enhanced accessibility, aligning with the platform's child-friendly blue theme.

3.2 Response Tracker (Google Sheets)

The form data is synced to a Google Sheet with real-time updates. Columns auto-calculate rental income, and a manual status column (Pending / Confirmed / Declined) uses conditional formatting for admin visibility.

3.3 Promotional Poster and QR Code

A digital poster was created to drive awareness and engagement, especially on social platforms. The design features a child-friendly blue theme with clear facility options and rental prices. A scannable QR code directs users to the live booking form.

3.4 Social Media Campaign

A light social media plan was created, including four weeks of post ideas and caption templates. The campaign focuses on the message: 'Your booking supports 10 students.' This approach highlights social impact and invites the community to take part in education focused giving.

4. Results & Testing

The system was tested across devices and users, confirming smooth operation from submission to revenue calculation. Data is reliably saved in the Google Sheet, and email confirmations are sent to the user's provided email. Screenshots and email examples are in the appendix. The system is launch-ready with minimal support.

5. Future Possibilities

While this solution was designed for quick deployment, it provides a strong foundation for future improvements. Here are several opportunities to expand the platform's capabilities:

• **Online Payments:** Integrate Stripe, DuitNow, or Google Pay for seamless confirmation.
• **Availability Display:** Connect to a calendar grid for real-time slot visibility.
• **Reminder Emails:** Automate notifications using Apps Script.
• **Revenue Dashboards:** Add visual analytics in Google Sheets.
• **Multilingual Forms:** Offer options in Bahasa Malaysia, Tamil, and Mandarin.
• **PWA/Mobile App:** Create a mobile-friendly version as usage grows.
These enhancements are scalable and designed to grow with community demand.

Appendix

• Web Form Link & screenshot of the interface: XD School Booking
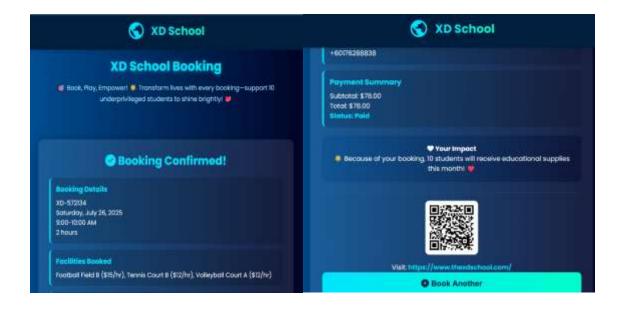
• Booking tracker sample (Google Sheets) :

[Booking Sheet - Google Sheets](#)

• Poster and QR code

• Screenshots of booking confirmations:

These are screenshots from 2 responders receiving confirmation after booking.

- Social media promotion file

The File is updated here in this Github link:

[XD-School-Booking/XD_Social_Media_Strategy.pdf at main · camelliagrace/XD-School-Booking](#)

• Github link to check all the important files:

[camelliagrace/XD-School-Booking: A booking system for XD School facilities to empower students.](#)