

Designing a Smart Sports Facility Booking Experience for Campus Students

Name - Sarvesh Shukla

Email - shuklasarvesh495@gmail.com

Figma Wireframe Link -

<https://www.figma.com/design/ydz9NVwmxeS73oqGuhgP1f/Smart-Sport-facility-booking?node-id=0-1&t=jTq8rzsfgZcYQfe1-1>

Introduction - This document outlines a proposed system for a smart sports facility booking experience tailored to meet the needs of campus students.

Key Features of the Booking System

1. **Facility Overview Dashboard** The dashboard is the central hub where students can easily view and manage bookings. It offers:
 - **Calendar View:** A visual calendar displaying time slots for each sports facility. Pre-scheduled activities from 6-9 PM could be in **red** , denoting fixed hours when booking is restricted.
 - **Availability Highlights:** Open slots could be shown in **green** , to indicate periods when students can reserve facilities.

This colour-coded system ensures help in differentiating between compulsory and open hours.

2. User-Friendly Booking Interface - The booking system focuses on simplicity and intuitive design, enabling students to reserve slots:

- **Search and Filter Options:** Students can filter available slots by sport, facility, and preferred timing to quickly find suitable options.
- **Responsive Design:** The system should be mobile-friendly, allowing students to book facilities on the go.
- **Step-by-Step Booking Process:** A guided booking flow where users select a time slot, confirm details, and receive booking confirmation with real-time updates.

Handling Time Slot Conflicts

To manage potential conflicts where multiple students attempt to book the same time slot:

- **Real-Time Slot Updates:** Implement an automated, real-time updating mechanism that locks slots immediately after they are booked to prevent overlaps.
- **Waitlist Feature:** If a time slot is already reserved, students can join a waitlist and receive notifications if the slot becomes available.

- **Conflict Alerts:** When a user tries to book a conflicting time slot, a prompt informs them of the overlap and suggests alternative available slots.

Notifications and Prompts Clear communication with students is essential for seamless interaction with the system:

- **Available Slot Notifications:** The system tells students about available slots via notifications and emails, especially if they are on a waitlist or an opening has emerged.

Differentiating Between Fixed and Open Hours The design must make the distinction between compulsory hours (6-9 PM) and open booking hours clear:

- **Visual Cues:** Utilise distinct colours and icons in the interface to mark compulsory hours.
- **Dedicated Schedule Banner:** A banner or notice at the top of the dashboard can remind students that specific facilities are booked during the compulsory hours and are not available for individual reservations.

Error Handling and User Support

- **Double-Booking Prevention:** The system should have validation rules that prevent accidental double bookings by the same user.
- **User Support Chatbot:** we can implement a chatbot that offers quick responses to common booking questions and assists students if they encounter any issues.
- **FAQ Section:** Include a comprehensive FAQ to address common concerns such as how to cancel or modify bookings.

User Personas - The primary personas include:

1. **Group Participants:** These students engage in compulsory group activities between 6-9 PM, such as team practices, training programs. Their main need is to check facility availability to avoid conflicts with their mandatory schedules.
2. **Independent Practitioners:** Students looking for open slots to practise individually or with friends outside of 6-9 PM. These users prioritise flexibility and quick access to book free time slots for sports activities.
3. **Casual Users:** Students who occasionally use sports facilities for recreational purposes, seeking ease of use and spontaneous booking capabilities.

Wireframes - outlines the basic structure and navigation of the booking system. The proposed design incorporates:

- **Homepage Dashboard:** A clear overview of all sports facilities with a calendar view. Time slots from 6-9 PM could be marked in **red** to indicate fixed, compulsory usage, while other hours could be displayed in **green** for open bookings.
- **Booking Page:** interface that enables users to select their desired facility and time slot, with real-time slot updates.

- **Notification Centre** : A panel that displays alerts related to bookings, such as waitlist status and reminders for reserved slots.

Conflict Resolution Approach Handling conflicts effectively ensures a seamless user experience. Key strategies include:

- **Real-Time Updates**: The system locks time slots immediately after a booking to prevent double-booking.
- **Waitlist Feature**: If a user attempts to book an already reserved slot, the system places them on a waitlist and notifies them if the slot becomes available.
- **Conflict Alerts**: If multiple students try to book the same slot simultaneously, the system triggers an alert prompting users to choose alternative slots or join the waitlist.
- **Alternative Suggestions**: The system suggests nearby facilities or alternative time slots that match the user's criteria, ensuring a quick resolution.

Handling Fixed vs. Open Booking Hours The system must clearly distinguish between fixed, compulsory activities and open booking times:

- **Highlighted Slots**: Compulsory hours are marked with a subtle but prominent colour to indicate they are non-bookable by students.
- **Filter Options**: Users can filter the calendar to show only available slots, making it easier for them to focus on open booking hours.
- **Messages**: When a student clicks on a 6-9 PM slot, a message reminds them that the slot is reserved for compulsory activities and cannot be booked.