Futsal Management & Booking System: System Description Report

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1. System Overview

The **Futsal Management & Booking System** is a modern, integrated web-based platform designed to digitalize futsal discovery, booking, management, and community engagement throughout Nepal.

The platform establishes a seamless digital ecosystem connecting **players**, **futsal owners**, and **system administrators**, simplifying scheduling, enhancing venue visibility, and fostering a robust local sports community.

Key Platform Features:

- **Real-time Futsal Discovery** based on user location.
- **Easy Slot Booking** with integrated digital payments.
- **Social & Interactive** futsal profile pages.
- **Comprehensive Tools** for tournaments, memberships, and analytics.
- **Dedicated Dashboards** for futsal owners and players.

2. System Objectives

The primary objectives of this system are to:

- **Enable players** to discover nearby futsals using real-time location access and advanced filtering.
- **Allow futsal owners** to efficiently manage bookings, promote their venues digitally, and analyze business performance.
- **Provide features** for easy tournament hosting and participation management.
- **Introduce membership** and recurring booking functionality to secure regular income and guaranteed slots.
- **Create a community-driven experience** through interactive posts, reactions, and peer-to-peer ratings.
- **Support native Nepali digital payment gateways**, including **eSewa**, **Khalti**, and **ConnectIPS**.

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3. User Roles & Access Levels

3.1 Players / Users

Functionality	Access Level
Discovery	Browse futsals by location, name, rating, or availability (without login).

Interaction	Login to book slots, participate in tournaments, or interact socially.
Management	Manage personal bookings, payments, and notifications.
Community	Join or create teams, participate in tournaments, and track performance.
Feedback	Rate, review, and react to futsal posts.

3.2 Futsal Owners / Admins

Functionality	Access Level
Profile	Manage futsal profile (photos, description, pricing, location, facilities).
Booking Control	Control slot availability with a visual time-slot interface.
Management	Accept or reject bookings (single, multiple, and recurring).
Tournament	Create and manage tournaments (fixtures, registration, results).
Marketing	Post updates, announcements, or offers (with reactions & comments).
Reporting	Access comprehensive booking and financial analytics/revenue charts.

3.3 Super Admin (System Owner)

Functionality	Access Level
Verification	Approve or reject futsal registration requests.
Oversight	Manage all users, futsals, reported content, and platform security.
Financial	Oversee all payments, commissions, and global transactions.
Analytics	Monitor platform-wide analytics (total bookings, revenue, user growth).
Monetization	Manage subscriptions, advertisements, and promotional campaigns.

4. Core Features

4.1 Futsal Discovery & Recommendation

- **Location-Based Search:** Users can enable location access to find futsals nearby.
- **Map Integration:** Map-based listings powered by the **Google Maps API**.
- **Display Data:** Listings show: **Name, Location, Rating, Price/Hour, Facilities, and Images**.
- **Filtering:** Advanced filtering by price range, location, facilities, and real-time availability.

4.2 Booking Management

- **Real-time Calendar:** Visual calendar interface for checking available slots.
- **Booking Types:**
  - **Single Booking**
  - **Multiple Booking** (e.g., booking 3 slots on different days)
  - **Recurring Booking** (e.g., every Monday 7–8 PM)
- **Payment:** Direct integration with major Nepali gateways (**eSewa, Khalti, ConnectIPS**).

- **Documentation:** Automatic booking summary and receipt generation.
- **Policy:** Futsal-configurable cancellation and refund policies.

4.3 Membership Functionality

- **Purpose:** Designed for regular players or teams requiring guaranteed access.
- **Benefit:** Allows members to reserve specific slots **permanently** (e.g., 7–8 PM every weekday).
- **Pricing Model:** Subscription-based membership pricing (monthly/weekly).
- **Features:** Time-slot locking, discounted rates, and auto-renewal options.

4.4 Tournament Management

- **Hosting:** Futsal owners can host tournaments (set name, rules, teams, entry fee).
- **Registration:** Team registration and roster management via the platform.
- **Automation:** Automatic fixture/bracket generation and dynamic leaderboards.
- **Tracking:** Teams can track performance and match history; public can view results and updates.

4.5 Futsal Profile Page

- **Information:** Comprehensive page featuring photos, address, Google map, contact details, and social links.
- **Booking:** Direct booking calendar visible on the profile.
- **Social Feed: Facebook-like posts** for updates, offers, and tournament announcements.
- **Interaction:** Users can **React (Like, Heart, Fire)** and **Comment** on posts, and **Follow** the profile for updates.

4.6 Ratings, Reviews & Reactions

- **Ratings:** Users can rate the futsal **after completing a booking**.
- **Reviews:** Includes text reviews and the option to upload photos.
- **Summary:** Average rating is prominently displayed on the profile and listings.
- **Moderation:** Option to report inappropriate reviews or content.

4.7 Dashboards

Dashboard	Key Functionalities
Player Dashboard	My Bookings, My Teams/Tournaments, Wallet & Payment History, Favorite Futsals, Notifications.
Futsal Dashboard	Booking Overview, Profile & Availability Management, Tournament & Post Creation, **Booking Statistics & Revenue Charts**, Membership Management, Customer Reviews.
Super Admin Dashboard	Platform Analytics, User & Futsal Verification, **Commission Tracking**, Advertisement Management, Global Financial Reports.

4.8 Subscription & Revenue Model

Plan	Description	Price (Monthly)
Free	Basic listing, manual booking, limited photos.	**Free**
Pro	Unlimited photos, posts, full analytics, priority listing.	**NPR 1,500**
Business	Homepage banner, SMS alerts for bookings, premium analytics.	**NPR 3,000**

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    Booking Commission: A **5% platform fee** is charged only for futsals on the **Free** plan. **0% commission** for Pro/Business subscribers.
- **Optional Ads:** Paid featured placements and homepage banners.

4.9 Payment & Wallet System

- **Gateways:** Secure integration with **eSewa, Khalti, FonePay, and ConnectIPS**.

- **Futsal Wallet:** Digital wallet where payment settlements are received, with auto-deducted commission (where applicable).
- **Withdrawal:** Futsal owners can withdraw their balance anytime.
- **History:** Transparent transaction history and reports.

4.10 Notification System

- **Real-time:** Web notifications for new bookings, cancellations, and payments.
- **Updates:** Notifications for tournament updates and social interactions (post reactions/comments).
- **External:** Email and SMS confirmations for critical events like bookings and cancellations.

4.11 Language & Accessibility

- **Bilingual:** Interface fully supported in **English** and **Nepali**.
- **Design: Mobile-first responsive design** ensures optimal experience on all devices.
- **Usability:** Accessible UI with clear navigation, filtering, and high contrast design.

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5. Technical Stack (Suggested)

Layer	Technology	Rationale
Frontend	**React.js** + Tailwind CSS + Shadcn/UI + Framer Motion	Modern, efficient, component-based UI development with utility-first styling for speed and quality.
Backend	**Node.js (Express)** or **Laravel (PHP)**	Scalable and high-performance server-side logic; popular choice for building robust APIs.
Database	**PostgreSQL** or **MySQL**	Reliable, relational database for complex data integrity (bookings, transactions, user data).

Authentication	**JWT** (Email, Google login)	Standard token-based security for user sessions.
Cloud Storage	**Cloudinary** or **AWS S3**	Optimized storage and delivery of futsal profile images and videos.
Payments	**eSewa, Khalti, ConnectIPS API**	Direct API integration for handling digital transactions in Nepal.
Mapping	**Google Maps / Mapbox**	Geocoding and map display for futsal discovery.
Notifications	**Firebase Cloud Messaging (FCM)**	Reliable delivery of real-time web and potential future mobile notifications.
Deployment	**Vercel** (Frontend) + **Render/DigitalOcean** (Backend)	Modern, scalable, and cost-effective cloud hosting solutions.

6. Future Enhancements

These features are planned for subsequent phases of development to expand market reach and user retention.

- **Mobile App:** Development of native mobile applications (**React Native or Flutter**) for superior performance and push notifications.
- **AI Recommendations:** Implementing **AI-powered recommendations** for the best futsals/slots based on player history and popular trends.
- **In-App Communication:** Introduction of an **in-app chat** feature for direct communication between teams, players, and futsal admins.
- **Video Integration:** Allowing the upload and sharing of **video highlights** from tournaments and matches.

- **Advanced Leaderboards:** Global and local leaderboards for top teams and players based on platform activity/tournament performance.
- **Sponsorship & Partnerships:** Integration of official sponsorship banners and partnership features with sports brands.

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7. Expected Impact

The Futsal Management & Booking System is projected to have the following positive impacts on the Nepalese futsal community:

- **Simplifies the Booking Process:** Streamlines futsal discovery and booking from a complex manual process to a **fast, transparent, digital experience**.
- **Reduces Operational Load:** Significantly **reduces manual management** overhead (calls, ledgers, no-shows) for futsal owners.
- **Encourages Digital Community:** Fosters a digital sports community through ratings, social posts, and integrated tournament participation.
- **Provides Data Insights:** Offers valuable **data insights** and analytics, enabling futsal owners to optimize pricing, capacity, and marketing efforts.
- **Strengthens Local Ecosystem:** Elevates the standard of the local futsal ecosystem by providing professional-grade tools for management and community engagement.