

# Functional Requirements Specification (FRS)

The Functional Requirements Specification (FRS) document provides a comprehensive overview of the functionalities, features, and operational behavior of the **CourtWala** application. This document defines how the system will work, the interactions between users and the application, and the performance criteria needed for successful operation. CourtWala is designed to simplify the process of court booking, sports matchmaking, and community engagement for players and court owners.

## System Overview

CourtWala is a mobile and web-based platform connecting players and court owners for various sports such as football, padel, badminton, and cricket. The platform enables court owners to register their courts and manage bookings, while players can find, book, and join matches. The system also integrates features for team matchmaking, community engagement, and performance tracking.

## Objectives

- Streamline court booking processes.
- Facilitate easy communication between players and court owners.
- Enable fair matchmaking for players based on skill level and preferences.
- Promote community engagement through events and sports discussions.
- Provide a scalable and secure system for both users and administrators.

## Functional Requirements

### 1. User Registration & Authentication

- Players and court owners must be able to register using email or phone number.
- The system should support secure login using passwords or OTP verification.
- Profile management with personal details, preferences, and ratings.

### 2. Court Management

- Court owners can add, edit, or delete court listings.
- Court details include name, location, images, pricing, available time slots, and type of sport.
- Owners can view and manage bookings through a dashboard.

### 3. Booking System

- Players can view available courts, book time slots, and receive instant confirmation.
- Option to cancel or reschedule bookings.

### 4. Matchmaking & Team Formation

- Players can find others with similar interests or skill levels.
- The system should suggest potential teammates or opponents.
- Match requests can be accepted or declined through notifications.

### 5. Community Engagement

- Forums or discussion boards for users to interact.
- Option to organize local tournaments and events.
- Chat system for players and court owners.

### 6. Admin Panel

- Admin can monitor all bookings and disputes.
- Admin can remove fraudulent users or inappropriate content.
- Reports and analytics for system performance.

## 7. Notifications & Alerts

- Push notifications for booking confirmations, cancellations, and reminders.
- Email or SMS alerts for updates and promotions.

## Non-Functional Requirements

- **Performance:** The app should handle at least 1,000 concurrent users without lag.
- **Scalability:** The system must support expansion for more sports and regions.
- **Security:** All sensitive data must be encrypted.
- **Usability:** The interface should be intuitive and mobile-friendly.
- **Reliability:** System uptime should be at least 99%.
- **Maintainability:** Modular code structure for easier updates.
- **Portability:** Support Android, iOS, and web browsers.

## Key Use Cases

1. **Book a Court:** A player searches for nearby courts, checks availability, and books a time slot.
2. **Register a Court:** A court owner registers their facility and manages booking availability.
3. **Join a Match:** Players receive or send match invites and join based on preferences.
4. **View Analytics:** Admin views reports on user activity, booking trends, and system usage.

## Conclusion

CourtWala aims to revolutionize the sports booking ecosystem by offering a unified, secure, and user-friendly platform for both players and court owners. Through its smart matchmaking, event management, and community features, it not only enhances convenience but also fosters engagement and growth in the local sports community. This FRS document serves as a foundation for future design, development, and implementation phases.