Sportbit
Sport Management System

Backend Scopes

MarketPlace:

APIs to:

1. View available players for sale.
2. Buy/Sell players between clubs.
3. Handle transfer validation (ownership checks, balance updates).
4. Add transaction logging system for transfers.

Admin Analytics:

1. totals by role, growth by month, active vs blocked
2. players on market vs signed
3. Admin role protection
4. Stable aggregation pipelines with indexes

Chat System(socket.io)

Real-time chat between clubs, managers, or players.

1. WebSocket integration using Socket.io.
2. Typing indicators, unread message tracking.

Performance Tracking

1. Store match statistics (goals, assists, ratings).
2. Build:

/performance/:playerId GET → fetch player stats.

/performance/update POST → update match data.

3. Future: integrate with analytics to visualize performance trends.

Future Expansion Areas

1. Add payment module for transfers or subscriptions.
2. Add analytics API for club & player performance graphs.

3. Build notification system (email + push).
4. Implement caching (Redis) for frequent endpoints.
5. Add testing (Jest / Supertest) for backend APIs.

Data Validation & Sanitisation:

1. Validate all input on the server side.
2. Prevent SQL/NoSQL injections, XSS, and command injections.
3. Sanitize data before storing or returning it.

Secure APIs:

1. Protect API endpoints using authentication and authorization.
2. Use rate limiting to prevent brute force or DoS attacks.
3. Use HTTPS (TLS) for encrypted communication.

Database Security:

1. Avoid exposing database credentials.
2. Implement least privilege access for database users.

Error Handeling:

1. Never expose sensitive stack traces or database errors to users.
2. Log errors securely without leaking information.

Data Protection:

1. Encrypt sensitive data (e.g., user info, tokens).
2. Securely store files and uploads.

ML Scopes:

1. Player Performance Prediction
2. Injury Risk Detection
3. Match Outcome Predictor
4. Performance Monitoring
5. Health Recovery Tracker
6. Pitch Mapping Optimization
7. Training Program Personalization
8. Tournament Seeding Optimization
9. Equipment Allocation Forecast
10. Real-Time Performance Alerts
11. Live Sentiment Feedback
12. Smart Maintenance Alerts