

Business Document

The NBA is facing challenges managing league statistics due to reliance on an outdated spreadsheet system. To resolve this, they are requesting a modern, user-friendly database system that organizes information by teams, players, and coaches. This system will be used primarily by award voters and analysts to evaluate season performance and determine recipients of end-of-season honors such as Most Valuable Player, Most Improved Player, and Defensive Player of the Year.

Users of the Database:

- NBA analysts
- Award voters
- Team officials

Supported Operations:

- Search for individual players and view detailed season statistics
- Filter players based on statistical totals or averages
- Calculate per-game averages
- Compare players by position, team, or performance category

Data to Be Stored:

- Player information (name, position, team, statistics such as points, assists, rebounds, shooting percentages, defensive stats, etc.)
- Team information (team name, wins/losses, conference)
- Coach information
- Conference affiliations

Assumptions:

- All players are assigned to one team at a time
- Each team has one head coach
- The system will be updated regularly throughout the season to ensure accuracy
- Users require both individual and comparative performance metrics

Business Rules

1. Each player must belong to exactly one team at a time.
2. Each team belongs to one conference (e.g., Eastern or Western).
3. Each team is managed by one head coach.
4. A coach can only be assigned to one team at a time.
5. Players have one designated position (e.g., guard, forward, center).
6. Player statistics are recorded per season.
7. Statistical data tracked for each player includes (but is not limited to):
 - Points per game
 - Rebounds
 - Assists
 - Steals
 - Blocks
 - Field goal percentage
 - Free throw percentage
 - Three-point percentage
8. Users must be able to calculate season averages from game-level data.
9. Users can filter or sort players based on statistical totals, averages, team, or position.
10. The system must allow searching for individual player profiles by name or team.
11. Award eligibility is based on statistical performance tracked in the system.
12. A player can only be eligible for an award if they've played in a minimum number of games in the season (assumed to be enforced externally).

Relational Schema

CONFERENCE(ConferenceID, Name)

TEAM(TeamID, Name, City, Wins, Losses, ConferenceID, CoachID)

PLAYER(PlayerID, Name{FirstName, LastName }, Position, JerseyNumber, Points, Rebounds, Assists, Blocks, 3PTAttempts, 3PTMakes, FTAttempts, FTMakes, GamesPlayed, TeamID)

HEAD_COACH(CoachID, Name{FirstName, LastName}, ExperienceYears, TeamID)

EER Diagram

