NBA Management System

Introduction

The professional basketball requires efficiency in overall management of players' stats, teams' information, and additional game data. The more the teams start to use data in their decision making, the more efficient system to monitor performance and enhance strategies is needed. The purpose of this project is to create a prototype of a sport management system to handle basketball game related information so that coaches may have access to such information on real time to enhance the results that may be produced.

Business Problem Addressed

The coaches require timely and accurate information concerning the players, the organization, achievements, and conducts.Yet without a system for the effective tracking and evaluation of such data, decision making becomes less efficient and players' welfare compromised. It readily identifies the lack of an efficient and orderly system for tracking, compiling, modifying, and analyzing player and team performance information for better decision making among the key objectives of this project.

Entities Description

a. PLAYER
   Primary key: PlayerID
   Attributes: PlayerID, First name, Last name, Date of birth, Height, Weight, Position, Jersey number, Draft year, NBA Rank, Nationality, Experience years

b. TEAM
   Primary key: TeamID
   Attributes: TeamID, Team name, City, Conference, Divison, Wins, Losses

c. PLAYER STATS
   Primary key: StatsID
   Attributes: StatsID, Points scored, Assists, Rebounds, Fouls, Minutes played, 3-pointers made, Free throws made

d. SPONSORSHIP
   Primary key: SponsorshipID
   Attributes: SponsorshipID, Sponsorship name, Amount, Sponsorship type

e. NBA GAME
   Primary key: GameID
   Atrributes: GameID, Date, Season, IsPlayoff? (Boolean)

f. REFEREE
   Primary key: RefereeID
   Attributes: RefereeID, First name, Last name, Experience years, Certification level

g. ARENA
   Primary key: ArenaID
   Attributes: ArenaID, Arena name, Location, Seating capacity

h. CONTRACT
   Primary key: ContractID
   Attributes: ContractID, Start date, End date, Salary, Bonus

i.   COACH
Primary key: CoachID
Attributes: CoachID, First name, Last name, Experience years

j.   SEASON
Primary key: SeasonID
Attributes: SeasonID, Year, Start date, End date

k.   PLAYOFF
Primary key: PlayoffID
Attributes: PlayoffID, Round number

Entity Relationships

a.   PLAYER to TEAM: Many-to-One: A player belongs to one team, but a team has 5 or more players

b.   PLAYER to CONTRACT: One-to-Many: Each player may have multiple contracts.

c.   PLAYER to PLAYER STATS: One-to-Many: A player can have multiple player stats (likely one per game)

d.   TEAM to COACH: One-to-One: Each team has one coach

e.   TEAM to NBA GAME: One-to-Many: A team plays in many games, and each game involves 2 teams

f.   TEAM to ARENA: One-to-One: Each team is associated with one arena

g.   NBA GAME to PLAYER STATS: One-to-Many: One game has multiple player stats

h.   NBA GAME to REFEREE: Many-to-One: A game is officiated by one referee, and a referee officiates multiple games

i.   NBA GAME to ARENA: Many-to-One: Many games are hosted in one arena

j.   NBA GAME to SEASON: Many-to-One: Many games belong to one season

k.   SEASON to PLAYOFF: One-to-One: Each season has one playoff

l.   SPONSORSHIP to PLAYER : One-to-Many: A sponsor may sponsor multiple players.

m.   SPONSORSHIP to TEAM: Many-to-Many: A sponsor may sponsor multiple teams. A team may have multiple sponsors.

PLAYER STATS

- StatsID
- PointsScored
- Assists
- Rebounds
- Fouls
- MinutesPlayed
- 3PointersMade
- FreeThrowsMade

corrospond

SPONSORSHIP

- SponsorshipID
- SponsorName
- Amount
- SponsorType

awarded

record

PLAYER

- PlayerID
- FirstName
- LastName
- DateOfBirth
- Height
- Weight
- Position
- JerseyNumber
- DraftYear
- NBARank
- Nationality
- ExperienceYears

belongsTo 5

TEAM

- TeamID
- TeamName
- City
- Conference
- Division
- Wins
- Losses

2   plays

NBA GAME

- GameID
- Date
- Seasosn
- IsPlayoff

officiates

REFEREE

- RefereeID
- FirstName
- LastName
- ExperienceYears
- CertificationLevel

hosts

associated

CONTRACT

- ContractID
- StartDate
- EndDate
- Salary
- Bonus

has

ARENA

- ArenaID
- ArenaName
- Location
- SeatingCapacity

COACH

- CoachID
- FirstName
- LastName
- ExperienceYears

competes

SEASON

- SeasonID
- Year
- StartDate
- EndDate

belong to

PLAYOFF

- PlayoffID
- RoundNumber