Description of the Indian Premier League Database

Domain Description

The IPL tournament consists of individual T20 matches. A match in the tournament is uniquely determined by an ID.

A T20 cricket match is a 20-over per side game played between two teams. A coin toss is performed at the beginning of the game and the team winning the toss chooses whether to bat or to field. A game ends with one of the teams winning by either a certain number of runs or a certain number of wickets. Apart from the above details, we would like to maintain the match date and the match time.

A team is uniquely identified by its team ID. Each team in the IPL represents a city in India (For example, Chennai Super Kings represents Chennai, Delhi Capitals represent Delhi, etc). A team consists of players and other support staff who play the role of coach, analyst, etc. The team is owned by multiple entities each of whom have a particular stake.

A team consists of multiple players. Within a team the player may occupy the post of a captain or a vice-captain. For the team to be balanced the team requires a good mix of varied skills of batting, bowling, wicket-keeping, all-rounder. IPL has limitations that a team can only consist of 4 non-Indian players, hence the nationality of the player also plays an important role in the team formation. The player can be uniquely identified by his player_id, however for convenience we would also like to maintain his name and age.

Each match requires 4 match officials : 3 umpires and a referee. Each of the umpires has a unique rank (First, Second and Third). The first and second umpires are on-field whereas the third umpire comes into play only in case of a review from either team regarding a decision made by the on-field umpires.

Each match official is uniquely identified by official ID. We also want to maintain the official's name, age and number of years of work experience. The match official is provided with accommodation.

A match is held at one of the many cricket stadiums in India or in the UAE. Each stadium is uniquely identified by its ID. Apart from this, we would like to maintain the name of the stadium, the location and its capacity. The location of the stadium consists of country, state and city. Each stadium is usually the home ground for one of the teams participating in the tournament.

A T20 match consists of two innings. Each innings consists of 20-overs. Each over has 6 balls. Therefore, each ball of a match is uniquely identified by innings number, over number and ball

number in the over. In each ball, one of the two batsmen (striker / non-striker) faces the bowler assigned to bowl that over. Each ball can result in the following outcomes,

1) A wicket which can be of many types (bowled, caught, run-out) involving a number of other team members of the fielding side apart from the bowler.
2) Runs scored by the striker (example : 0, 4, 6)
3) Extra runs (example : wide, no-ball)

Apart from these we also maintain the batting team, bowling team, who was the bowler, who were the batsmen.

The various teams playing in the IPL are funded financially or through products by various companies called sponsors. The sponsors in return get advertisement by having logos on the jerseys of the players. A team can have multiple sponsors whereas one sponsor is usually associated with a single team. The sponsors have a unique identification number.

Every IPL team is owned by certain people who pay for the salaries of the players and the staff. They earn money through the selling of tickets. Each owner has a stake in the team which indicates his financial involvement in the team. We also store the owner id and the name.

The support staff forms the backbone of the team and provides required support to enhance the team's potential. The support staff have a unique identification and a name. There are several diverse areas of support required for IPL teams. These roles include physio, analyst, nutritionist, coach etc.

The players also require good accommodation after a tiring match. For the same they are usually provided accommodation close to the stadium in a hotel. The hotel also has a unique hotel id. The capacity is usually a good indicator of the likelihood of the hotel being vacant at a particular time and hence we also want to maintain that along with the hotel address.
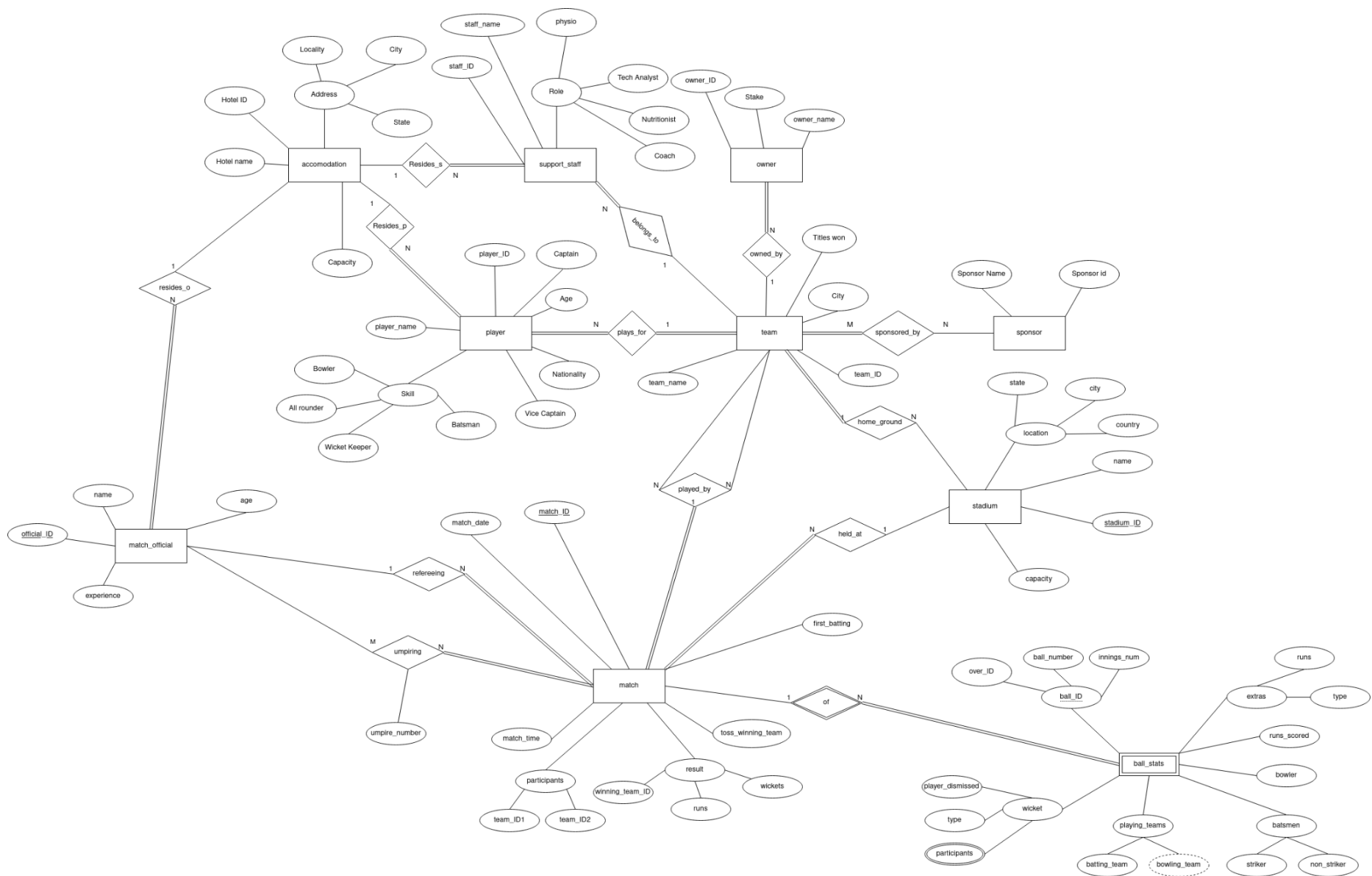
Entities and Relationships

Entities

1. Match_official :
   a. official_ID
   b. name
   c. age
   d. experience
2. Match:
   a. match_ID
   b. first_batting
   c. match_date
   d. match_time
   e. toss_winning_team
   f. result(winning_team_ID, runs, wickets)

3. Ball_stats :
    a. ball_ID(over_ID, ball_number, innings_num)
    b. playing_teams(batting_team, bowling_team)
    c. batsmen(striker, non-striker)
    d. bowler
    e. runs_scored
    f. extras(type, runs)
    g. wicket(player_dismissed, type, participants)
4. Stadium:
    a. stadium_ID
    b. name
    c. country
    d. location(state, city, capacity)
5. Team:
    a. team_ID
    b. team_name
    c. titles won
    d. city
6. Player
    a. player_id
    b. captain
    c. age
    d. nationality
    e. vice-captain
    f. player_name
    g. skill (batsman, wicket-keeper, all-rounder, bowler)
7. Sponsor
    a. sponsor ID
    b. sponsor Name
8. Owner
    a. owner ID
    b. stake
    c. owner Name
9. Accomodation
    a. hotel ID
    b. hotel name
    c. address(Locality, CIty, State)
    d. capacity
10. Support Staff
    a. staff id
    b. staff name
    c. role(physio, tech analyst, nutritionist, coach)

Relationships

1. Refereeing:
    a. match_official
    b. match
2. Umpiring:
    a. match_official
    b. match
    c. umpire_number
3. Held_at:
    a. match
    b. venue
4. Of:
    a. match
    b. ball_stats
5. Plays_for:
    a. team
    b. player
6. Resides_p:
    a. accommodation
    b. player
7. Sponsored_by:
    a. team
    b. sponsor
8. Owned_by:
    a. team
    b. owner
9. Belongs_to:
    a. support_staff
    b. team
10. Resides_s:
    a. accommodation
    b. support_staff
11. Resides_o
    a. accommodation
    b. match_official
12. Home_ground
    a. team
    b. stadium
13. Played_by
    a. match
    b. team
    c. Team

ER Diagram