Cricket League Management System

We run an international cricket league with teams playing matches and fans following along. We need to collect player info, ticket prices and schedules to increase the popularity of the tournament by generating revenues. Our problem is handling all this data effectively. Our current way of managing cricket data is causing problems. There's too much data to handle, and mistakes are creeping in. Hence, we are designing a simple database to capture all the information including Player's info, capacity of the stadiums, team's history of winning and losing among others.

Undoubtedly designing a database for a cricket league can become complex, so we have added some limitations:

- We are assuming that only 5 teams from the same continent are playing in the league.
- We are assuming that each team plays 4 matches followed by the semi-final and final of the league (so total 6 matches).
- The match is being played for 20 overs only.
- We are only collecting the data of runs and wickets for batsmen and bowlers respectively.
- Irrespective of the stadium, the price of tickets is fixed.
- Only one match per day is scheduled.
- We are only considering age groups as adults and children.
- Only 5 stadiums are considered in the tournament.
- There are a maximum 15 players in one team(playing 11 and 4 substitutes).
- Every match is played between 2 teams.

Data Requirements:

Players:

- Every player will have their own name, id and date of birth.
- Each of them will have specific roles (Batsman, Bowler, All-rounder).
- Each of them will have their own performance statistics (for batsmen - runs and bowlers - wickets and all-rounders – both runs and wickets).
- Each player belongs to one team.

Teams:

- Every team will have a group of players that will compete with other teams.
- All teams will have their own name and id.
- Each team will have a Captain of their own.

Stadiums:

- Seat capacity of the stadium.
- Name of the Stadium.
- Number of tickets sold for a particular match is calculated based on the category of fans.
- Total ticket prices of each stadium are calculated based on the tickets sold.

Fans:

- Fans are categorized as adults (above 18 years) or children (below 18 years).
- Age of the fans are taken.
- Ticket prices of the fans are calculated.
- Home city of the fans is noted.

Match:

- Each match has a fixed date and a unique match number.
- Time of each match is taken.
- Day of the match is also considered.
- Teams taking part in each match are noted.

Business Goals:

1. At which stadium does the seating reach full capacity during games involving which teams?

2. We can figure out which time of the day is more preferred for scheduling the match.

3. We can figure out which day of the week is more preferred for scheduling the match.

4. Which stadium has generated the maximum revenue in the league?

5. Which batsman has scored the highest number of runs in the entire league?

6. Which bowler has taken the highest number of wickets in the entire league?

7. Which age group of supporters is showing greater attendance at matches?