



PROJECT PROPOSAL -II

COMP-520 Sec 001 - Advanced Database Systems
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SOCCER Database

- **DB Domain** :Soccer (Sports).
- **Business problem or business need for a relational DB**
 - Which club is producing more world cup players?
 - For the above problem, we plan to process all the raw data of previous world cups and player information and we finally want to construct a database which helps to find the clubs providing world class players
 - Club performance at different fixtures.
 - From all the previous leagues information and the result of match considering the fixtures, we want to produce a database which shows which club is performing good in what kind of fixture (at what time in a day).
 - Other than above 2 primary business problems, we are also focusing on
 - Processing the data to help investors in strategizing the investment
 - Sponsors to decide based on the fan base with the crowd attendance data.
 - Help to decide stadium rates based on teams and fan base.
 - Help to decide on purchasing TV channel rights in-order to get profits based on which team is playing and the fan base of those teams.
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- **Primary entities (>8)**
 - Country (ex: England, Spain)
 - League (ex: Championship, League 1, EPL)
 - League Fixtures
 - Club (ex: Arsenal, Manchester United)
 - Stadium
 - WorldCup Teams
 - WorldCup Fixtures
 - Player – Club/Country
 - TV_Broadcasters
- **Attributes (>2) for each entity**
 - **Country (ex: England, Spain)**
 - Country_name
 - Country_id (PK)
 - Country_regulatory_board
 - **League (ex: Championship, League 1, EPL)**
 - League_name
 - League_id (PK)
 - League_no_clubs
 - Promoted_to_League_id
 - Relegated_to_League_id
 - No_of_Teams_to_Promote_Relegate
 - **League_Fixtures**
 - Fixture_Id (PK)
 - League_Id (FK)

- Club_Id (FK)
- Fixture_date
- Score
- Week_no
- **Club (ex: Arsenal, Manchester United)**
 - Club_Name
 - Club_Id } (PK)
 - Year } (PK)
 - Played
 - Wins
 - Draws
 - Lost
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- **Stadium**
 - Stadium_Id (PK)
 - Stadium_Country
 - Stadium_Name
 - Stadium_Club
 - Club_Country
 - Stadium_City
 - Stadium_Inauguration_date
 - Stadium_Capacity
- WorldCup Teams
 - WC_id (PK)
 - WC_Teams
 - WC_Year
 - WC_Winning_Team
- **WorldCup Fixtures**
 - WC_Id (FK)
 - Fixture_Id (PK)
 - Country_Id (FK)
 - Fixture_date
 - Winning_Score
 - Lost_Score
- **Player – Club/Country**
 - Player_Id (PK)
 - Player_Full_Name
 - WC_Id (FK)
 - Player_Jersey_No
 - Player_Club_Country
 - Player_Country (FK)
 - Player_Club (FK)
 - Player_DOB
 - Is_Captain

• **Business rules (>8) that define data and/or relationships**

- No_of_Players on pitch cannot be greater than 11 for each team.
- World cup playing teams must be 32.
- 1 Country can have 0 or many leagues.

- 1 League can have many clubs playing.
- No of fixtures for each team in a league/World cup must be equal to $(\text{No of teams} - 1) * 2$.
- Club can have 0 or 1 stadium.
- Fan attendance cannot be more than Stadium_Capacity.
- Club_palyed_games should be equal to (wins +lost+draws)
- No_of_Teams_to_Promote_Relegate should be equal to 3 incase of England
- No two jersery numbers can be same in a same team/club.

- **Sample reporting (>8) users would run against your database**

- **Fans**
 - Query for their favorite club and they can get
 - Information about how many leagues/matches they won.
 - No of world cup players from the club.
- **Managers/coach**
 - Query for a player and get
 - Information about player like his worldcup caps.
 - Query for club
 - Information about club winning to decide which club/team to coach in future.
- **Club management**
 - Query about players
 - Information about players playing ability
 - Players market value for advertisement.
- **Countries**
 - Query for the player and league
 - Get Information about competence and decide the worldcup team.
- **Investors**
 - Query for club information and stadiums to
 - Strategize to invest in what part of club (ex: buy players, increase stadium capacity).
- **Sponsorship/adds**
 - Query for fan base of clubs
 - Decide which club to sponsor.
- **Stadium**
 - Query for fixtures and evaluate
 - Crowd and decide stadium ticket rates and advertisements.
- **TV channel rights**
 - Query for fan base of teams
 - Decide to buy rights for broadcasting to get profits.