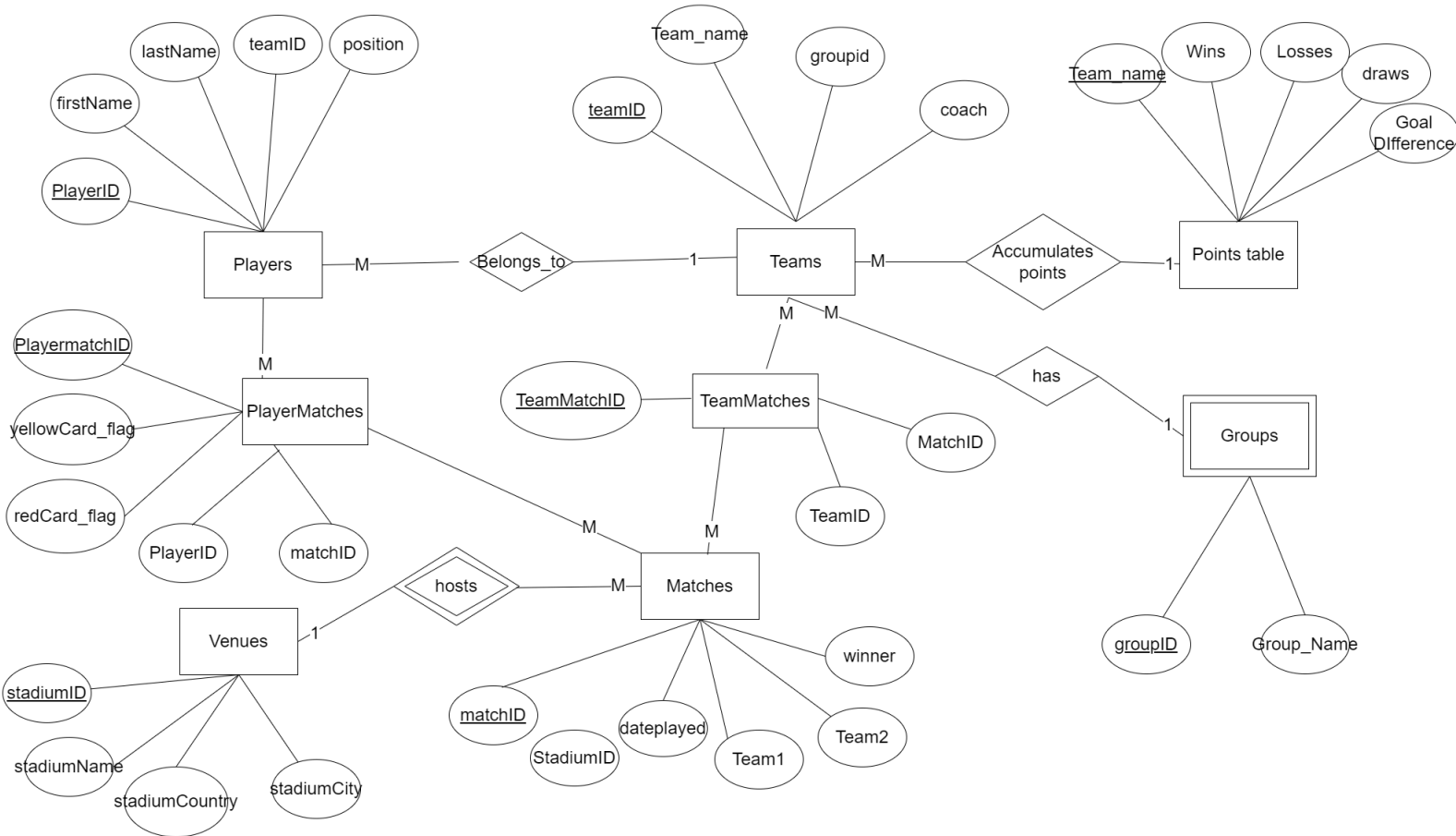


GROUP 20:

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ER Diagram:



Link to ERD -

https://app.diagrams.net/?src=about#G1BzSrx94Bh8q0qV4JwPeVKBYjVcBaueID#%7B%22pageId%22%3A%221prCYBET_3whVUmwXPGM%22%7D

Relation schema

Players: PlayerID, firstName, lastName, teamID, position

Teams: teamID, team_name, coach, groupid

Matches: matchID, stadiumID, datePlayed, team1, team2, winner

PlayerMatches: PlayerMatchID, yellowCard_flag, redCard_flag

TeamMatches: TeamMatchID, matchID, teamID

Venues: stadiumID, stadiumName, stadiumCountry, stadiumCity

Points Table: team_name, points, Wins, Losses, Draws, Goal Difference

Groups: GroupID, Team_name, TeamID

Players

- PlayerID (Primary Key)
- firstName
- lastName
- teamID (Foreign Key references Teams)
- position

Teams

- teamID (Primary Key)
- Team_name (Foreign Key references PointsTable)
- Groupid (Foreign Key references Groups)
- coach

Matches

- matchID (Primary Key)
- stadiumID (Foreign Key references Venues)
- Winner
- Team1
- Team2
- datePlayed

PlayerMatches

- PlayermatchID (Primary Key)
- PlayerID (Foreign Key references Players)
- MatchID (Foreign Key references Matches)
- yellowCard_flag (if a Player received yellow card)
- redCard_flag (if a Player received redCard)

TeamMatches

- TeamMatchID (Primary Key)
- TeamID (Foreign Key references Teams)
- MatchID (Foreign Key references Matches)

Venues

- stadiumID (Primary Key)
- stadiumName
- stadiumCountry
- stadiumCity

PointsTable

- team_name(Primary Key)
- points
- wins
- losses

- draw
- goal_difference

Groups

- groupid(Primary key)
- group_name

BUSINESS RULES

Players:

- Each player belongs to exactly one team, ensuring that players cannot play for multiple teams simultaneously. This relationship is enforced through the teamID foreign key in the Players table, which references the Teams table.
- Players must be eligible to participate in the tournament based on pre-defined criteria (e.g., nationality, ranking, age).
- Players can be assigned roles within the team as per their playing position(e.g., Forward, Mid Field, Defend, Golie).

Teams:

- Teams accumulate points through wins, losses, and possibly ties, with the initial point value being zero or more. This is reflected in the points, wins, and losses fields in the Teams table.
- A team can belong to one group at a time.

Matches:

- A match is played between two teams.
- A match is played at one venue.
- Every match is associated with one venue, indicating the location where the match is played. The stadiumID foreign key in the Matches table references the Venues table to establish this relationship.
- The winner must either be Team1, Team2 or a draw.
- Team1 and Team2 must be participating teams whose names are in the Teams table.

PlayerMatches:

- Each player's participation in a specific match is assigned a unique playermatchID.
- A player cannot have both a yellow and red card in a match.
- Card flags depicts whether a player has received any penalty for illegal action.
- A player can receive at most 2 yellow cards or 1 red card in a single match.

TeamMatches:

- Each team's participation in a specific match is assigned a unique TeamMatches.
- Each team must participate in at least one match.

Venues:

- A venue can host multiple matches, reflecting the real-world scenario where stadiums are used for various events. This is managed through the stadiumID primary key in the Venues table, which is a foreign key in the Matches table.
- Venues can be categorized by type (e.g., stadium, arena).

Points:

- The point system for different competitions needs to be defined and implemented.
- Points can be awarded for wins and draws.
- Each team would be awarded 3 points for a win and 1 point for a draw.

Groups:

- A group can have many teams.
- Groups can have a specific round associated with them (e.g., group stage, knockout stage).
- There are 4 teams in each group.