

Entities and their attributes in the ER Model:

- Competitions/seasons
 - competition_id
 - season_id
 - country_name
 - competition_name
 - competition_gender
 - competition_youth
 - competition_international
 - season_name
 - match_updated
 - match_updated_360
 - match_available_360
 - match_available
- Matches
 - match_id
 - match_date
 - kick_off
 - home_score
 - away_score
 - last_updated
 - last_updated_360
 - match_status_360
 - match_status
 - data_version
 - shot_fidelity_version
 - xy_fidelity_version
 - match_week
 - competition_stage
 - competition_id
 - season_id
 - home_team_id
 - away_team_id
 - home_team_manager_id
 - away_team_manager_id
 - stadium_id
 - referee_id
- Events
 - event_id
 - index
 - period
 - timestamp
 - minute
 - second
 - type_name
 - possession

- possession_team_id
- play_pattern
- team_id
- player_id
- position_name
- duration
- under_pressure
- counterpress
- events_details
- Related_events(weak entity)
 - event_id
 - related_event_id
- Stadiums
 - country_name
 - stadium_name
 - stadium_id
- Referees
 - referee_id
 - referee_name
 - country_name
- Managers
 - manager_id
 - manager_nickname
 - country_name
 - manager_name
 - dob
- Players
 - player_nickname
 - jersey_number
 - country_name
 - player_id
 - player_name
- Lineups(weak entity)
 - player_id
 - match_id
 - team_id
- Teams
 - team_id
 - team_name
 - team_gender
 - team_group
 - country_name
- Cards(weak entity)
 - card_type
 - period
 - time
 - reason

- player_id
- match_id
- Positions(weak entity)
 - start_reason
 - to_period
 - to_time
 - from_period
 - position
 - end_reason
 - player_id
 - match_id
 - from_time

Conceptual Design Overview:

Competitions/Seasons:

Captures the overarching competition details and their respective seasons. Each competition can have one season. It includes all the competition information and points to the Matches Entity.

Matches :

Stores each match's details. A match is associated with a specific competition and season, implying a many-to-one relationship with the Competitions/Seasons entity.

Events :

Represents specific incidents or actions during a match, such as goals, fouls, and substitutions. Each event is linked to a specific match, indicating a many-to-one relationship with Matches.

Related_Events :

Some events are related to others. This entity captures such relationships, suggesting a many-to-many relationship within Events itself.

Stadiums :

Contains information about the venues where matches are played. Matches are linked to stadiums, indicating a many-to-one relationship with Stadiums.

Referees :

Details about the officials overseeing the matches. Each match is officiated by a referee(some don't have a referee), establishing a many-to-one relationship with Matches.

Managers :

Information about team managers. Managers are related to Teams, which indirectly relates them to Matches through team participation. This suggests a many-to-many relationship between Managers and Matches, mediated through Teams.

Players :

Stores player specifics. Players participate in matches, leading to a many-to-many relationship between Players and Matches, likely mediated through an entity capturing player appearances in matches.

Lineups:

Acts as a linking entity between Players and Matches/Teams. It has a many-to-many relationship with Teams(/matches).

Teams:

Teams have a many-to-many relationship with Players through Lineups, this setup supports players moving between teams and participating in various matches.

Cards :

Captures disciplinary actions (red/yellow cards) issued to players during matches. It has a many-to-one relationship with Players and Matches.

Positions :

Details about player positions at various times during a match. This suggests a many-to-one relationship with Players and Matches.

Assumptions:

1. Competitions/Seasons and Matches: Each match belongs to one season of a competition, but each competition season can have multiple matches (1:N).
2. Matches and Events: Each event belongs to one match, but a match can include multiple events (1:N).
3. Events and Related_Events: Events can be related to multiple other events, forming a many-to-many (N:M) relationship within Events.
4. Matches and Stadiums: Each match is played in one stadium, while a stadium can host multiple matches (1:N).
5. Matches and Referees: Each match is officiated by one referee, but referees can officiate multiple matches (1:N).
6. Managers and Matches: Managers manage teams, not direct matches. Therefore, the relationship between Managers and Matches is indirect, mediated through Teams, which is a many-to-many (N:M) relationship because managers can manage different teams over different matches.
7. Players, Matches, and Events: Players are involved in events within matches, establishing a complex many-to-many (N:M) relationship, as players participate in multiple matches and contribute to multiple events.
8. Teams and Players: Players and teams are central to match events. Player details include potentially changeable attributes like 'jersey_number', which are related to specific matches and even part of Linups.

9. Teams and Managers: Manager data includes a 'dob' attribute, indicating individual records are stored for each manager.

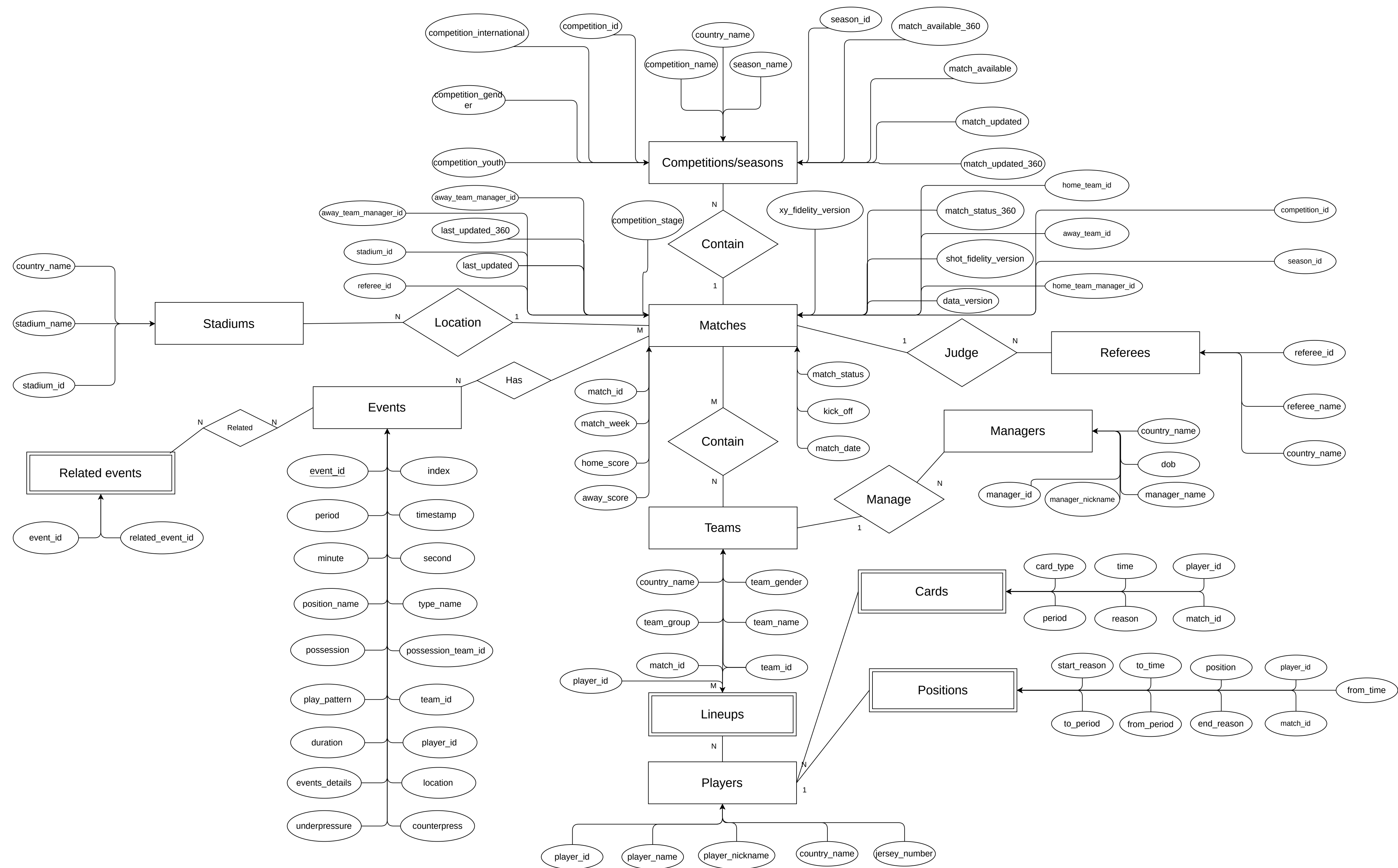
10. Cards, Positions, and Players/Matches: Both Cards and Positions are directly related to specific matches and players, indicating many-to-one (N:1) relationships with both Players and Matches, as multiple cards and position records can be associated with single matches or players.¹

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ER Model



Relational Schema

