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Soccer ERD and EERD

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ISM4212: Database Administration/ Design

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**Narrative Summary:**

The soccer league administrator wants to create a database to track teams, players, coaches, matches, fields, vendors, referees, and sponsors.

Reports include: match scores and results, player stats, referee assignments, team rosters, field and team sponsors, vendor types and field assignments, and coach assignments.

The soccer league consists of teams. Teams have one or more sponsors whose names appear on the team uniforms. Sponsors can support more than one team, and a team may have more than one sponsor at a time. Sponsorships are tracked by season.

Each team consists of players. No player belongs to more than one team during a single season. Each player is assigned a unique Player ID when they join the league. The league records each player’s name and address, parent contact name, player phone number and parent phone number, and parent email. In order to verify players ages, the league also records each player’s date of birth. Each team has a designated captain from among the players. Players are registered for the league followed by a draft to receive their team assignments. Players can play for one team one season and then play for a different team the next season.

Teams play in matches. Each match is given a unique Match ID number and is scheduled for a specific date. The league records the goals scored by each team and the win or loss result.

Player performance in each match is recorded for minutes played, goals scored, and penalties assessed. It is possible for a player to not participate in a match.

The league assigns three referees to each match, based on position (one head (H) and two linesmen (L)). Referees are assigned a unique Referee ID number when they first register with the league. The league records each referee’s name (first name and last name), address and phone number, and contact email. Each new referee is assigned to one experienced referee as a mentor. Not all of the experienced referees serve as mentors, but those that do can mentor more than one new referee.

Matches take place at soccer fields. Sponsors can support fields by placing banners. Sponsors can support more than one field, and fields can have more than one banner. The league records the name and address (street, city, state, and zip) of all the fields where it stages matches. Each match, occurs at a single field at a time. The fields host multiple matches throughout the season. Some fields are closed when undergoing renovations with no matches scheduled during that period.

Vendors sell items at specific fields. Each field has several vendors. The league tracks the vendor assignments by season. In addition to the vendor’s name, the league records the vendor phone number and the vendor type. Some vendors offer multiple types of services, for example: food, beverage, clothing, soccer suppliers, and other items.

The league also tracks coaches. A coach can be assigned to more than one team, but only as one role per assignment. Coaching roles are head (HC), assistant (AC), volunteer (VC). Each team can have multiple coaches, but only one role at a time may be assigned to a single coach. Coach assignments are based upon season.

**Requirements (Actors/ Roles):**

Team: A team has sponsors, coaches, three referees, and consists of players, who play in matches.

Player: A player is an individual playing soccer in a team.

Coach: A coach supervise training for players in a team.

Match: A match is a game played by player of teams in a field.

Field: A field is where teams play matches.

Vendor: A vendor sells items to spectators at field.

Item: Items are food, beverages, clothing, etc. sold by vendors in a field.

Referee: Referee is an official in a team, who ensures that the players are following the rules.

Sponsor: Sponsor provide funds for teams in matches.

**Entities:**

* Team
* Player
* Coach
* Match
* Field
* Vendor
* Item
* Referee
* Sponsor

**Entities (w/ Nested Attributes):**

* Team
* Team Name
* Player
* Player ID
* Name
* DOB
* Address
* Phone number
* Parent contact name
* Parent phone number
* Parent email
* Coach
* Coach Name
* Coach Role
* Match
* Match ID number
* Date of Match
* Win/ Loss result
* Field
* Field Name
* Field Address
* Vendor
* Vendor Name
* Vendor Address
* Vendor Type
* Item
* Item Name
* Referee
* Referee ID
* Referee Name
* Referee position
* Referee Address
* Referee Phone Number
* Referee Contact Email
* Sponsor
* Sponsor Name

**Business Rules:**

Team: A team may have more than one sponsor, coach, referee, players.

Player: A player belongs to only one team and may play in more than one match.

Coach: A coach may be assigned to more than one team.

Match: A match takes place in only one field.

Field: A field may have more than one match.

Vendor: A vendor may sell more than one item.

Item: An item is sold by only one vendor.

Referee: A referee can supervise more than one match.

Sponsor: A sponsor may provide funds to more than one team.

**ERD:**



**EERD:**

