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Assignment: Soccer ERD & EERD

Submittal Date: 05/29/2020

ISM 4212: Database Design / Administration

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# **Purpose**

The purpose of this Database Design Documentation (DBDD) is to keep track of everything that happen from the league recruiting players to teams, recruiting referees and coaches, and having matches on fields with sponsors and vendors. As each field had different vendors it is important to keep track of the matches between teams on each field by keeping score of win/loss and how long each player plays.

# **Narrative Summary**

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, along with the player’s name and address, parent contact name, player phone number and parent phone number, date of birth and parent email. Each team has a designated captain from among the players. 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)), they are assigned a unique Referee ID. 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.

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.

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 and Roles)**

Teams: Teams have one or more sponsors whose names appear on the team uniforms. Each team consists of players.

Players: Each team has a designated captain from among the players. Players can play for one team one season and then play for a different team the next season.

Coaches: 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.

Matches: Teams play in matches. Matches take place at soccer fields.

Fields: The fields host multiple matches throughout the season. Each field has several vendors.

Vendors: Vendors sell items at specific fields. Some vendors offer multiple types of services.

Referees: 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.

Sponsors: Sponsors can support fields by placing banners. Sponsors can support more than one field, and fields can have more than one banner.

# **Entities**

* Teams
* Players
* Coaches
* Matches
* Fields
* Vendors
* Referees
* Sponsors

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

* Teams
* TeamID
* Players
* PlayerID
* Name
* Address
* Parent Contact Name
* Parent Phone
* Player Phone
* Parent Email
* DOB
* Coaches
* CoachID
* Roles (Head, Assisstant, Volunteer)
* Matches
* MatchID
* Date of match
* Goals scored
* Result (win/loss)
* Fields
* FieldID
* Name
* Address
* Vendors
* VendorID
* Name
* Phone
* Type
* Items
* Referees
* RefereeID
* Name
* Address
* Phone
* Contact email
* Position (Head, (2) Linesmen)
* Sponsors
* SponsorID
* Banner

# **Business Rules**

Teams: Teams have one or more sponsors whose names appear on the team uniforms. Each team consists of players.

Players: Each team has a designated captain from among the players. Players can play for one team one season and then play for a different team the next season.

Coaches: 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.

Matches: Matches take place at soccer fields.

Fields: The fields host multiple matches throughout the season. Each field has several vendors.

Vendors: Vendors sell items at specific fields. Some vendors offer multiple types of services.

Referees: 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.

Sponsors: Sponsors can support fields by placing banners. Sponsors can support more than one field, and fields can have more than one banner.

# **ERD**



# **EERD**

