Project Step 4 Draft Version: DML & DDL Queries

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Project Outline

The Bell Orange Intramural Soccer League organizes soccer games for approximately 200 adult players, divided into 20 teams, for an average team size of 10 players. Each team has at least 1 coach, who serves as the primary point of contact for game scheduling and for notification of game cancelation. Each game must have at least 1 referee. A regular season consists of 12 games, with the top 4 teams (based on league standings) participating in a 3-game, single-elimination tournament to determine the season champions.

A database-driven website will record the personal information of *Players*, *Coaches*, and *Referees*, record rosters of *Teams*, and record details of *Games*. These entities will also have information on the types of relationships between other entities. This website will allow league administrators to perform tasks such as allocating referees to games, identifying league standings based on game results, and determining which teams to assign new players to, based on the number of players on team rosters.

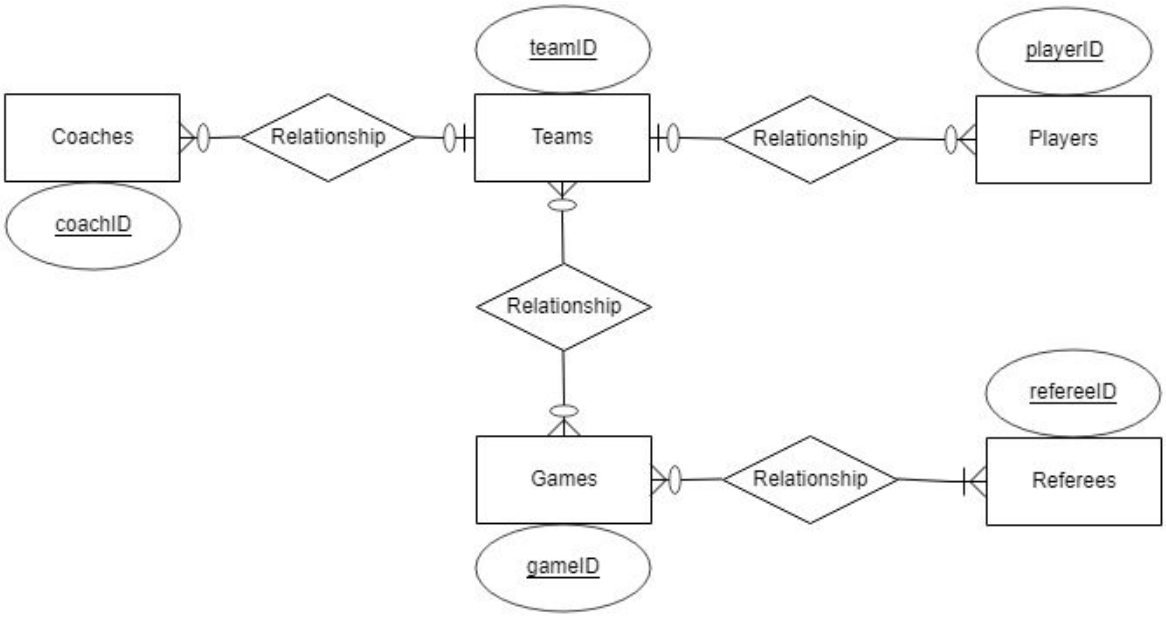
Database Outline

- Coaches: records the details of our team Coaches
    - coachID: int(50), auto_increment, unique, not NULL, PK
    - firstName: varchar(35), not NULL
    - lastName: varchar(35), not NULL
    - phone: varchar(14), unique, not NULL
    - email: varchar(320), unique, not NULL
    - Relationship: A M:1 relationship between Coaches and Teams is implemented with teamID as an FK inside of Coaches
        - Ex: A coach can only be in at most one team but a team can have many coaches.
- Teams: records the details of our Teams
    - teamID: int(50), auto_increment, unique, not NULL, PK
    - teamName: varchar(70), not NULL
    - Relationship: A 1:M relationship between Teams and Coaches is implemented with teamID as an FK inside of Coaches
        - Ex: A team can have many coaches but a coach can only be in at most one team.
    - Relationship: A 1:M relationship between Teams and Players is implemented with teamID as an FK inside of Players
        - Ex: A team can have many players but a player can only be in at most one team.

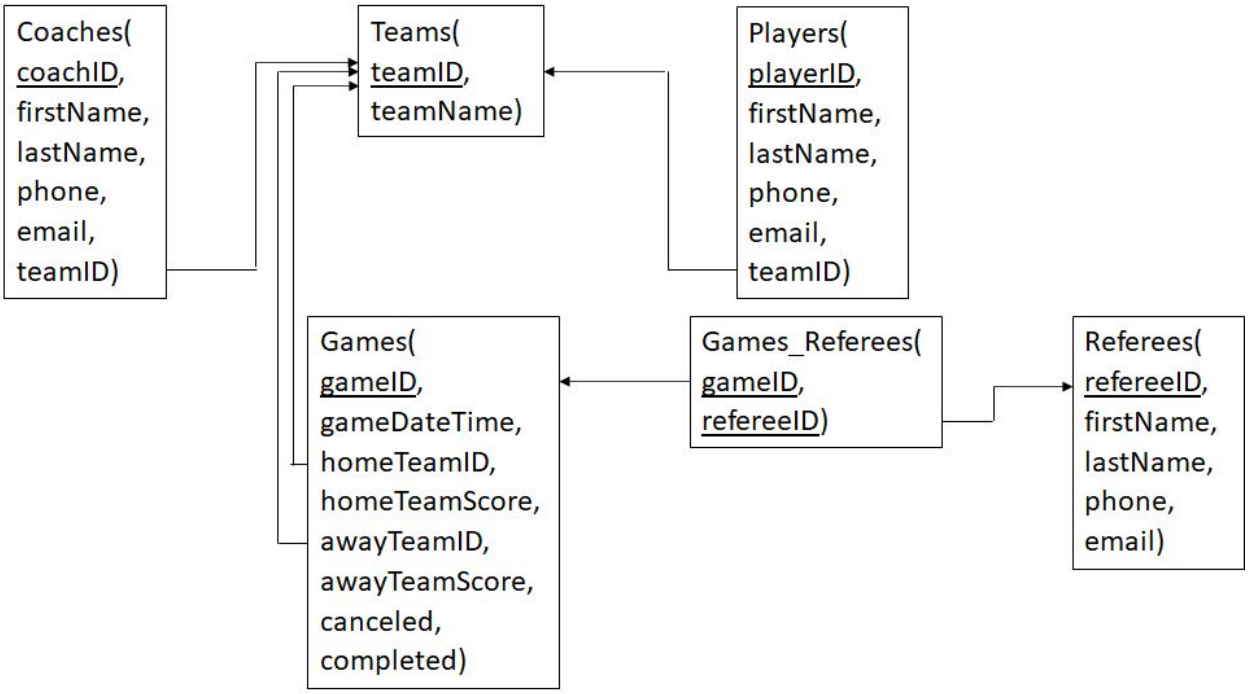
    - Relationship: A M:M relationship between Teams and Games is implemented with teamID as an FK inside of Games
        - Ex: One or more teams can have multiple games with each either being the home or away team.
- Players: records the details of our Players
    - playerID: int(50), auto_increment, unique, not NULL, PK
    - firstName: varchar(35), not NULL
    - lastName: varchar(35), not NULL
    - phone: varchar(14), unique, not NULL
    - email: varchar(320), unique, not NULL
    - Relationship: A M:1 relationship between Players and Teams is implemented with teamID as an FK inside of Players
        - Ex: A player can only be in at most one team but a team can have many players.
- Referees: records the details of our Referees
    - refereeID: int(50), auto_increment, unique, not NULL, PK
    - firstName: varchar(35), not NULL
    - lastName: varchar(35), not NULL
    - phone: varchar(14), unique, not NULL
    - email: varchar(320), unique, not NULL
    - Relationship: A M:M relationship between Referees and Games is implemented with refereeID and gameID as FKs in an intersection table.
        - Ex: There can be more than one referee for every game.
- Games: records the details of our Games
    - gameID: int(50), auto_increment, unique, not NULL, PK
    - gameDateTime: datetime
    - homeTeamID: int(50)
    - homeTeamScore: int(5)
    - awayTeamID: int(50)
    - awayTeamScore: int(5)
    - canceled: bool
    - completed: bool
    - Relationship: A M:M relationship between Games and Teams is implemented with teamID as an FK inside of Games
        - Ex: One or more teams can have multiple games with each either being the home or away team.
    - Relationship: A M:M relationship between Games and Referees is implemented with refereeID and gameID as FKs in an intersection table.
        - Ex: For every game, there can be more than one referee.

The allocation of work will be as follows:
Samuel Kim will be responsible for the Coaches, Players, and Referees entities.
Thomas Jensen will be responsible for the Teams and Games entities.

c) Entity-Relationship Diagram:


teamID
playerID
Coaches
Relationship
Teams
Relationship
Players
coachID
Relationship
refereeID
Games
Relationship
Referees
gameID

d) Schema:


Coaches(
coachID,
firstName,
lastName,
phone,
email,
teamID)
Teams(
teamID,
teamName)
Players(
playerID,
firstName,
lastName,
phone,
email,
teamID)
Games(
gameID,
gameDateTime,
homeTeamID,
homeTeamScore,
awayTeamID,
awayTeamScore,
canceled,
completed)
Games_Referees(
gameID,
refereeID)
Referees(
refereeID,
firstName,
lastName,
phone,
email)

b) Feedback by the peer reviewers:

Feedback from Step 3 Draft: No problems from peer reviewers

Reed Hardin 6 days ago

Does the overview describe what problem is to be solved by a website with DB back end?

It does not explicitly describe what problem is to be described, however, it does describe what the website/database will do. My recommendation would be to define a clear purpose for the website. Basically, why exactly does this soccer league need a database-driven website?

Does the overview list specific facts?

The overview lists one fact stating how many players the league has. I think there are some other interesting details pertaining to the size and growth of the league that could be included such as:

How many total games are played annually? Is the league allowing new players to join? (if so, how much is the league expected to grow annually?) How many teams are there?

Are at least four entities described and does each one represent a single idea to be stored as a list?

Yes, there are 5 entities described and each one represents a single idea to be stored as a list.

Does the outline of entity details describe the purpose of each, list attribute datatypes and constraints and describe relationships between entities? Does the outline clearly indicate which entities (tables) will be implemented and which team member is primarily assigned to the associated page(s)?

Yes, all of the required entity details are described in the outline. The outline also clearly states which team members are responsible for implementing which entity.

Are 1:M relationships correctly formulated? Is there at least one M:M relationship?

Yes, 1:M relationships are correct. There are several M:M relationships, such as Games/Teams.

Is there consistency in a) naming between overview and entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?

Yes, all entities are plural, have the first letter capitalized, and are consistent between the Project Outline and the Database Outline.

Corey Brennan 4 days ago

Does the overview describe what problem is to be solved by a website with DB back end?

While the problem is not stated, the project outline implicitly suggests that it will allow for easy data capture, organization, and utilization for a ~200 person intramural soccer league.

Does the overview list specific facts?

Within the overview they do state the estimated number of players (200). It could potentially be fleshed out further with expected number of teams, games, and refs per game.

Are at least four entities described and does each one represent a single idea to be stored a s a list?

Yes, the outline contains 5 entities that represent a single idea to be stored as a list.

Does the outline of entity details describe the purpose of each, list attribute datatypes and constraints and describe relationships between entities? Does the outline clearly indicate which entities (tables) will be implemented and which team member is primarily assigned to the associated page(s)?

The outline describes the purpose, datatype, constraints, and relationships appropriately for each entity, clearly indicating which team member is responsible for each entity.

Are 1:M relationships correctly formulated? Is there at least one M:M relationship?

The 1:M relationships are correct, and there two M:M relationships described.

Is there consistency in a) naming between overview and entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?

There is consistency between the overview and the entity/attribute descriptions, with each entity capitalized, entities plural, and attributes singular.

Henry Helstad 3 days ago

Does the overview describe what problem is to be solved by a website with DB back end?

The project outline makes it clear that their database backend will record the information of the players, teams, ect. but it is not clear what the point of saving that data is. I would add a sentence saying that the intramural soccer league desires to keep records of players, teams, … so we plan to accomplish this with the database backend of the website we are building.

Does the overview list specific facts?

The only specific fact I could really find was that there would be 200 adult players. Maybe you could add how many people you would expect to visit a website, how many games a year ect. Remember that the instructors said this is your world, you can estimate what every statistics you want. You should add whatever statistics you would expect from someone pitching an idea for a website would include.

Are at least four entities described and does each one represent a single idea to be stored as a list?

There are 5 entities that each represent a single idea. Well done!

Does the outline of entity details describe the purpose of each, list attribute datatypes and constraints and describe relationships between entities? Does the outline clearly indicate which

entities (tables) will be implemented and which team member is primarily assigned to the associated page(s)?

The descriptions, attributes, constraints and relationships between entities seem fleshed out and well done. Additionally, it is clear which team members are responsible for implementing entity tables and their associated pages.

Are 1:M relationships correctly formulated? Is there at least one M:M relationship?

The 1:M relationships are well formulated but for example, it says that coaches will store a Team FK in order to implement the Coaches and Teams relationship but the coaches entity doesn't include teamID (FK) as an attribute (this is also true for the player entities). There are 2 M:M relationships (Referees and Games) and (Games and Teams).

Is there consistency in a) naming between overview and entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?

There is consistency in naming; they used capitalization for entities and camel case for attributes. Singular and plural were used correctly as well when referring to Entities and Attributes.

Good job, there is some small stuff I would fix like adding specificity to the project outline and adding FK to the attributes of their respective entities. Otherwise, your project RD looks good.

Jee Soo Ryoo 3 days ago

1. Does the overview describe what problem is to be solved by a website with DB back end?

The overview describes that the project will provide information about the soccer league, but it is missing describing the problem that the project is intended to solve. I assume the project will provide easy access to valuable information and statistics to players and related management stakeholders. I suggest adding the problem.

2. Does the overview list specific facts?

The specific number of players is listed, however, I suggest adding specific facts of other entities can improve the quality of the overview.

3. Are at least four entities described and does each one represent a single idea to be stored a s a list?

Yes, 5 entities - Coaches, Teams, Players, Referees, and Games are listed and each of them has single idea to be stored.

4. Does the outline of entity details describe the purpose of each, list attribute datatypes and constraints and describe relationships between entities?

Yes, all entities described its purpose, and all attributes have detailed information on its data type, constraints, and relationships.

5. Does the outline clearly indicate which entities (tables) will be implemented and which team member is primarily assigned to the associated page(s)?

The team decided to implement all entities listed, and all are assigned and equally distributed to team members.

6. Are 1:M relationships correctly formulated? Is there at least one M:M relationship?

Yes, the project has two 1:M and two M:M relationships. I suggest the team enhance its diagram to differentiate 1:M and M:M relationships between entities. I value the diagram clearly indicates FK for each relationship.

7. Is there consistency in a) naming between overview and entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?

The outline consistently listed all entities in plural capitalization and all Attributes in singular camel case.

c) Actions based on the feedback:

1. Added use cases to the project outline to show what problems the website will solve.
2. Added quantifiers to the project outline to identify the scope of the website.
3. No action taken on feedback regarding foreign keys. FKs are already identified in the database outline and the schema.