CS345 Final Project
Functional Requirements

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Leagues:

Although this database does not store a ton of information about leagues, some league info is still crucial. The following information about leagues will be stored:

- League name
- Active flag

Rules:
- Leagues have many teams (leagues need to have an appropriate number of teams to operate)

Teams:

Since our database will be tracking statistics at both the team and individual level, information on teams is critical. The following information about teams will be stored:

- An team ID - random, unique 7 digit numeric/character sequence
- A team name
- The city that hosts the team
    - Team names within a city must be unique
- A league name
    - Teams can play in only one league in a given season
- An owner ID
    - Teams can have more than one owner
- Active/inactive Indicator
    - Determines whether a team is active or retired
- Rules:
    - Teams can only have one home arena or venue
    - Teams can have 0 to many sponsors throughout seasons (depending on league type e.g youth might not have sponsors)
    - Teams can have multiple players (need multiple players to make up a team)
    - Teams can have 0 to many affiliations (depending on league type e.g youth team probably won't have lower level affiliates)
    - Teams can have 0 to many awards (depending on how good they are)
    - Teams need at least 1 coach, but can have multiple types (e.g assistant, volunteer)

- ➢ Teams can only be in 1 league during a season
- ➢ Teams can have multiple records throughout the years
- ➢ Multiple teams can play in a game (2 teams to be exact)
- ➢ Teams can have 0 to many types of apparel (youth teams may not have team apparel)
- ➢ Teams can play in multiple games on a given day at different times that don't clash (e.g youth tournaments)
- ➢ Teams can have zero to many owners (depending on type of league e.g youth league probably won't have owner)

Affiliations:

Professional teams may have affiliate teams or programs in lower leagues. The following information about team affiliations will be stored:

- Club name
- City
- Team ID
- Affiliate owner
- Active flag

Rules:
- Affiliate clubs can also have many players on their team

Sponsors:

It is possible for sponsors to choose to sponsor local or professional teams. This information is necessary for teams to know the contract years and amounts that sponsors are giving them. The following information about team sponsors will be stored:

- Sponsor name
- Team ID
- Amount
- Year

Rules:
- Sponsors can only sponsor one team in a season

Apparel:

Most teams are likely to have some sort of team apparel for players and fans. The following information about team apparel will be stored:

- Team ID
- Name (item name e.g Nike short sleeve shirt)
- Color

Awards:

The best teams in a league tend to rack up league, regional, and national awards throughout a season. The following information about team awards will be stored:

- Award name
- Team ID
- Year
- Description

Records:

Teams will have a record for each year that they play. This information is important for everyone who follows a particular team who want to stay up to date with the current standing (or past standings) of their team or teams in a league. The following information about team records will be stored:

- Team ID
- League name
- Year
- Wins
- Losses
- Ties
- Points
- Place

Players:

Teams are made up of many players. Information about players and their performance is crucial for coaches and owners as well as any die-hard fans. Listed below is information stored on players and player performance.

- ❖ Players will have the following data stored:
  - ➢ An assigned player ID number (first letter of first and last name plus 5 digit random number sequence)
  - ➢ A first name
  - ➢ A last name
  - ➢ A team ID

- ■ Players can play for one team at a given time but may be traded during a season
- ➢ A jersey number
    - ■ Jersey numbers must be unique for each player/team/league combo
- ➢ The player's handedness
- ➢ Active/retired flag
- ➢ Gender
- ➢ Age
- ➢ Height
- ➢ Level
- ➢ Nationality
- ➢ Position

Rules:
- A player can have up to one salary, but can also not have a salary (in the case of youth players not being paid)
- A player can have many pieces of equipment
- A player can have many statistics over the years
- Players can play for multiple teams over their career or season(trades), but can only play for one team at a time

Statistics:

Parents will want to keep track of how their kids are doing on a team in a particular season. Recruiters and fans will also find player statistics valuable for their own purposes as well. The following information about player statistics will be stored:

- ➢ Player ID
    - ■ Players can have more than one row per year if they are traded to a new team within the year
- ➢ Goals
- ➢ Assists
- ➢ Year
    - ■ Year is determined by the year that the season begins
- ➢ Team
- ➢ Points
    - ■ This will be goals + assists calculation
- ➢ Shots
- ➢ Shot %
    - ■ Goals/shots calculation
- ➢ PIM
- ➢ Saves
    - ■ This attribute is reserved for goalies

- ➢ Goals Against Average(GAA)
  - ■ This attribute is reserved for goalies
- ➢ Games played
  - ■ Number of games played in a season

Player Salaries:

Player salary is necessary information for teams, owners, and players to know how much they're getting paid and how long left they have on contract with a team. The following information will be stored about salaries:

- Player ID
- Salary amount
- Years remaining (on contract)

Player Equipment:

Player equipment is necessary information for teams and players to know possible equipment color/type options. The following information will be stored about equipment:

- Player ID
- Team ID
- Type e.g gloves, pads, sticks..

Games:

Once again, most everyone who follows a sport will want to stay up to date with team schedules and past scores. The following information about games will be stored:

- ➢ Date
- ➢ Time
- ➢ Home and Away Teams
- ➢ The score for both teams
- ➢ Venue the game was played
- ➢ Game type e.g friendly, tournament, playoff..

Venue:

Information about a venue also important. Home team stadium information is fun information for fans. The following information will be stored about venues:
- ■ Name
- ■ City
- ■ Active_Flag

■ Team (this is the home team for the stadium)

Rules:

- Teams can only have one home venue
- Venues can host multiple teams on a given date and time

Coaches:

Coaches are an important entity in any hockey organization but not as front and center as players so we plan to store less data on coaches than players. The following information about coaches will be stored:

➢ First Name
➢ Last Name
➢ Team ID
 ■ Coaches can be employed by only one team at a given time
➢ Type of Coach
 ■ E.g Head, Assistant, Volunteer..
➢ Active/retired status

Rules:
- Coaches can only coach one team in a season

Owners:

Owner information is still necessary information about a team, but not as high level as that of player or team information, so only critical details about owners will be stored in the database. The following information about owners will be stored:

- An assigned owner ID number (first letter of first and last name plus 5 digit random number sequence)
- A last name
- A first name
- A team ID

Rules:
- Owners can own only one team