StatSpot

Changes made to Stage 2 based on the feedback from Hongtai -
We have updated the ER diagram and removed the incorrect key specified in the "pay" attribute of the subscribe relationship.

ER Diagram

StatSpot will use 2 datasets -
1. 2021 Olympics in Tokyo - https://www.kaggle.com/datasets/arjunprasadsarkhel/2021-olympics-in-tokyo
2. Football Data from Transfermarkt - https://www.kaggle.com/datasets/davidcariboo/player-scores?select=games.csv
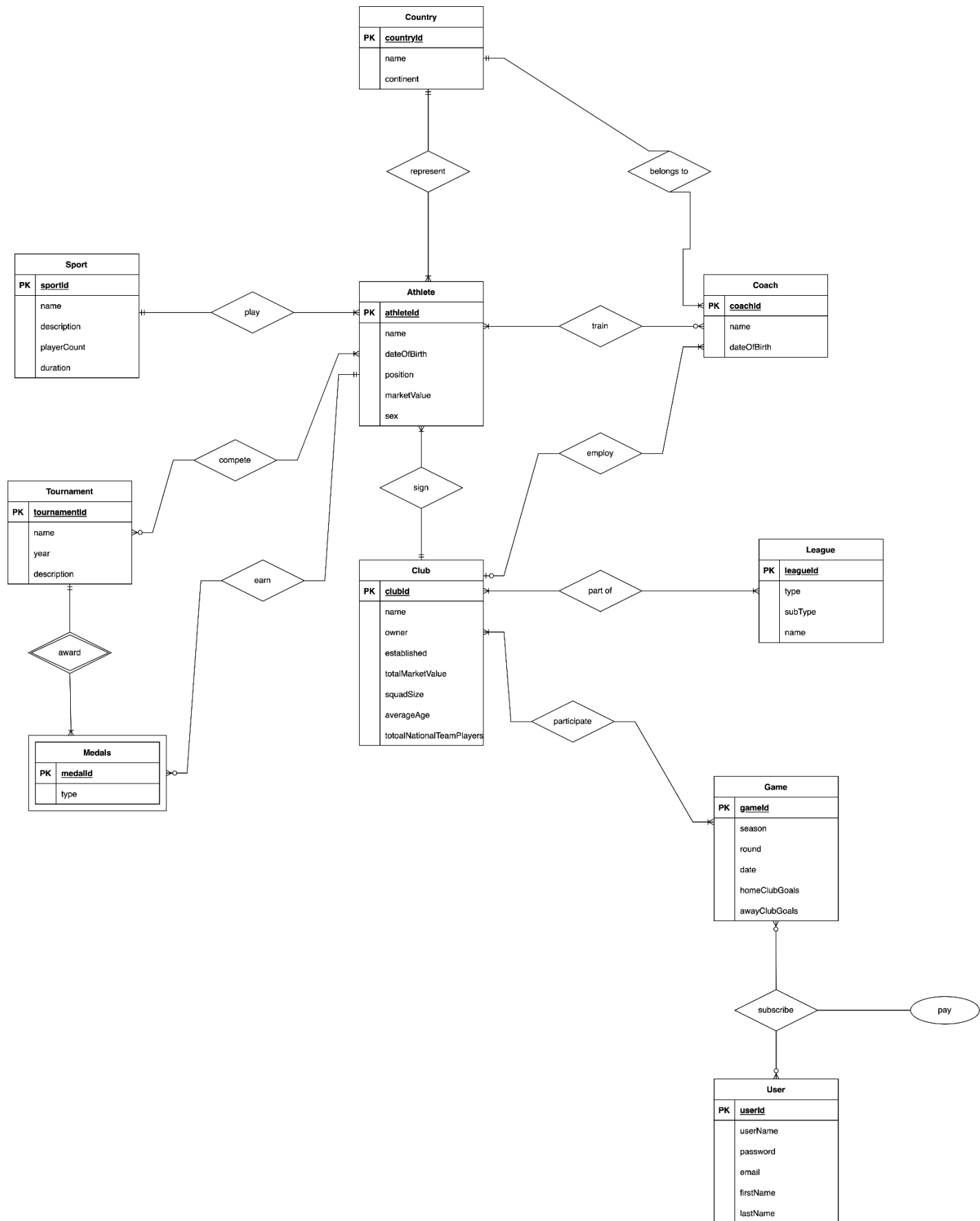
List of entities in our system -
1. Athlete
   a. Description: Stores personal information about athletes
   b. Assumptions: An athlete is assumed to play only one sport. Athletes can be trained by 0 or more coaches. An athlete represents their country. An athlete can compete in 0 or more tournaments. An athlete can win 0 or more medals in the tournaments. An athlete can sign for only one club.
2. Coach
   a. Description: Stores the Coaches' personal information
   b. Assumptions: A coach will train a minimum of 1 athlete. A coach is employed by at most one club (i.e. they can work independently).
3. Sport
   a. Description: Stores information about a particular sport and how the sport is structured
   b. Assumptions: A sport can be played by multiple athletes
4. Country
   a. Description: Stores country name in order for each athlete to be associated with the country they represent.
   b. Assumptions: A country can be represented by multiple athletes
5. Tournament
   a. Description: Stores information about each tournament that athletes have played in.
   b. Assumptions: A tournament should consist of 1 or more athletes. A tournament can award many medals. A tournament is each competition in a bigger competition like the olympics. The name attribute can be used to find the competition-tournament details.
6. Medals

a. Description: Contains a type of medal that will be awarded to the athlete that wins it in the tournament
b. Assumptions: A medal can be won by only one athlete. A medal will be dependent on the tournament i.e. a medal cannot exist without a tournament which makes it a weak entity, A medal can be awarded by only 1 tournament

7. Club
   a. Description: Stores information about each club and allows users to see different club stats like total market value.
   b. Assumptions: One club can sign 1 or more athletes. A club employs 1 or more coaching staff. A club can be a part of many leagues at once (Example: Manchester United can play in the Premier League and the Champions League in the same season). A club participates in 1 or more games

8. League
   a. Description: Stores information about different Leagues. Users can see which leagues their favorite clubs are a part of.
   b. Assumptions: A league can have multiple clubs playing at once

9. Game
   a. Description: Stores information about each game so that the user can see who played in each game as well as other game stats.
   b. Assumptions: A game can be played by 2 or more clubs. A game can be subscribed by 0 or more users for updates.

10. User
   a. Description: Contains information about the user of StatSpot including login information.
   b. Assumptions: A user can subscribe to 0 or more games for updates in our subscription service.The subscription will cost a fee

Note - If the ER diagram below is not clear please follow the draw.io link -
https://drive.google.com/file/d/1URwDDGjuRTt4m366qcmi4SCme9J6FT-A/view?usp=sharing

Country
PK	countryId
	name
	continent

Sport
PK	sportId
	name
	description
	playerCount
	duration

Athlete
PK	athleteId
	name
	dateOfBirth
	position
	marketValue
	sex

Coach
PK	coachId
	name
	dateOfBirth

Tournament
PK	tournamentId
	name
	year
	description

Club
PK	clubId
	name
	owner
	established
	totalMarketValue
	squadSize
	averageAge
	totoalNationalTeamPlayers

League
PK	leagueId
	type
	subType
	name

Medals
PK	medalId
	type

Game
PK	gameId
	season
	round
	date
	homeClubGoals
	awayClubGoals

User
PK	userId
	userName
	password
	email
	firstName
	lastName

Relationships: represent, belongs to, play, train, compete, employ, sign, part of, earn, award, participate, subscribe, pay

Convert your conceptual database design (ER/UML) to the logical design (relational schema) -

Sport (
sportId : INT [PK],
name : VARCHAR(128),
description : VARCHAR(256),
playerCount : INT,
duration : REAL
)

Coach (
coachId : INT [PK],
name : VARCHAR(128),
countryId : INT [FK to Country.countryId],
dateOfBirth : DATE,
clubId : INT [FK to Club.clubId]
)

Athlete (
athleteId : INT [PK],
name : VARCHAR(128),
dateOfBirth : DATE,
position : VARCHAR(128),
marketValue : REAL,
sex : VARCHAR(12),
sportId : INT [FK to Sport.sportId]**,**
countryId : INT [FK to Country.countryId],
clubId : INT [FK to Club.clubId]
)

League (
leagueId : INT [PK],
type : VARCHAR(128),
subType : VARCHAR(128),
name : VARCHAR(128)
)

Club (
clubId : INT [PK],
name : VARCHAR(128),
owner : VARCHAR(128),
established : INT,
totalMarketValue : REAL,
squadSize : INT,
averageAge : REAL,
totalNationalTeamPlayers : INT
)

Game (
gameId : INT [PK],
season : VARCHAR(128),
round : INT,
gameDate : DATE,
homeClubId : INT [FK to Club.clubId],
awayClubId : INT [FK to Club.clubId],
homeClubGoals : INT,
awayClubGoals : INT,
)

User (
userId : INT [PK],
userName : VARCHAR(64),
password : VARCHAR(32),
email : VARCHAR(32),
firstName : VARCHAR(32),
lastName : VARCHAR(32)
)

Country (
countryId : INT [PK],
name : VARCHAR(32),
continent : VARCHAR(32)
)

Tournament (
tournamentId : INT [PK],
name : VARCHAR(32),
year : INT,
description : VARCHAR(256)
)

Many-to-Many relationships

Train (
athleteId : INT [PK] [FK to Athlete.athleteId],
coachId : INT [PK] [FK to Coach.coachId]
)

Compete (
tournamentId : INT [PK] [FK to Tournament.tournamentId],
athleteId : INT [PK] [FK to Athlete.athleteId]
)

PartOf (
clubId : INT [PK] [FK to Club.clubId],
leagueId : INT [PK] [FK to League.leagueId]
)

Subscribe (
gameId : INT [PK] [FK to Game.gameId],
userId : INT [PK] [FK to User.userId],
Pay : REAL
)

Weak Entity

Medals (
medalId : INT [PK],
tournamentId: INT [PK] [FK to Tournament.tournamentId] ON DELETE CASCADE,
type : VARCHAR(12),
athleteId : INT [FK to Athlete.athleteId]
)