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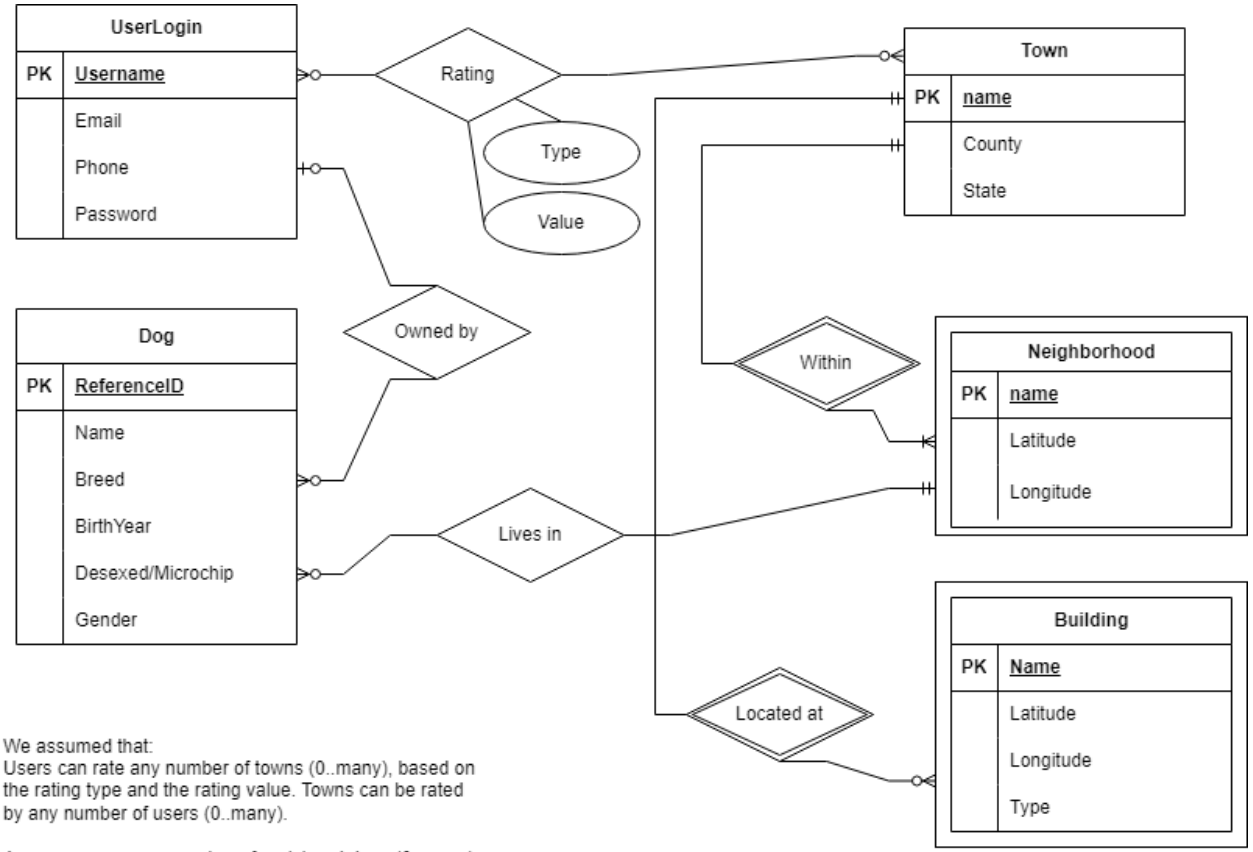
team014 - AussieDogs
07/07/2023

ER Diagram:



We assumed that:
Users can rate any number of towns (0..many), based on the rating type and the rating value. Towns can be rated by any number of users (0..many).

A user can own any number of registered dogs (0..many). A dog can have at most one owner at a time (0/1).

A dog can only live in one neighborhood (1). A neighborhood can house any number of dogs (0..many).

We assumed that:
Every neighborhood must be located in a town (1), and each town has at least one neighborhood (1..many).

Each building must be located within a town (1), and a town can have any number of buildings (0..many).

If a town is deleted, then everything within the town cannot exist anymore either, so buildings and neighborhoods are weak entities.

Cardinalities of Relations:

- Rating: UserLogin - Town (Many-Many)
- Owned by: Dog - UserLogin (Many-One)
- Lives in: Dog - Neighborhood (Many-One)
- Located at: Building - Town (Many-One)
- Within: Neighborhood - Town (Many-One)

Relational Schema:
Town(Name: VARCHAR(255) [PK], County: VARCHAR(255), State: VARCHAR(255))

Rating(Town: VARCHAR(255) [PK][FK to Town.Name], User: VARCHAR(255) [PK][FK to UserLogin.Username], Type: VARCHAR(255), Value: INT)
PK for Rating is both Town and User combined

UserLogin(Username: VARCHAR(255) [PK], Email: VARCHAR(255), Phone: INT(15), Password: VARCHAR(128))

Dog(ReferenceID: INT [PK], Owner: VARCHAR(255) [FK to UserLogin.Username], Neighborhood: VARCHAR(255) [FK to Neighborhood.Name], Town: VARCHAR(255) [FK to Town.Name], Name: VARCHAR(255), Breed: VARCHAR(255), BirthYear: INT, Desexed/Microchip: BOOLEAN, Gender: VARCHAR(6))

Neighborhood(Name: VARCHAR(255) [PK], Town: VARCHAR(255) [FK to Town.Name], Latitude: REAL, Longitude: REAL)

Building(Name: VARCHAR(255) [PK], Town: VARCHAR(255) [FK to Town.Name], Latitude: REAL, Longitude: REAL, Type: VARCHAR(255))