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Normalization 3
Database Management

Functional Dependencies

People table:

Pid -> fname, lname, address, phoneNumber

Players table:

Pid -> age, ageGroupID

Coaches table:

Pid -> yearsCoaching

teamMembers table:

(pid, tid) ->

ageGroups table:

ageGroupID -> ageRange

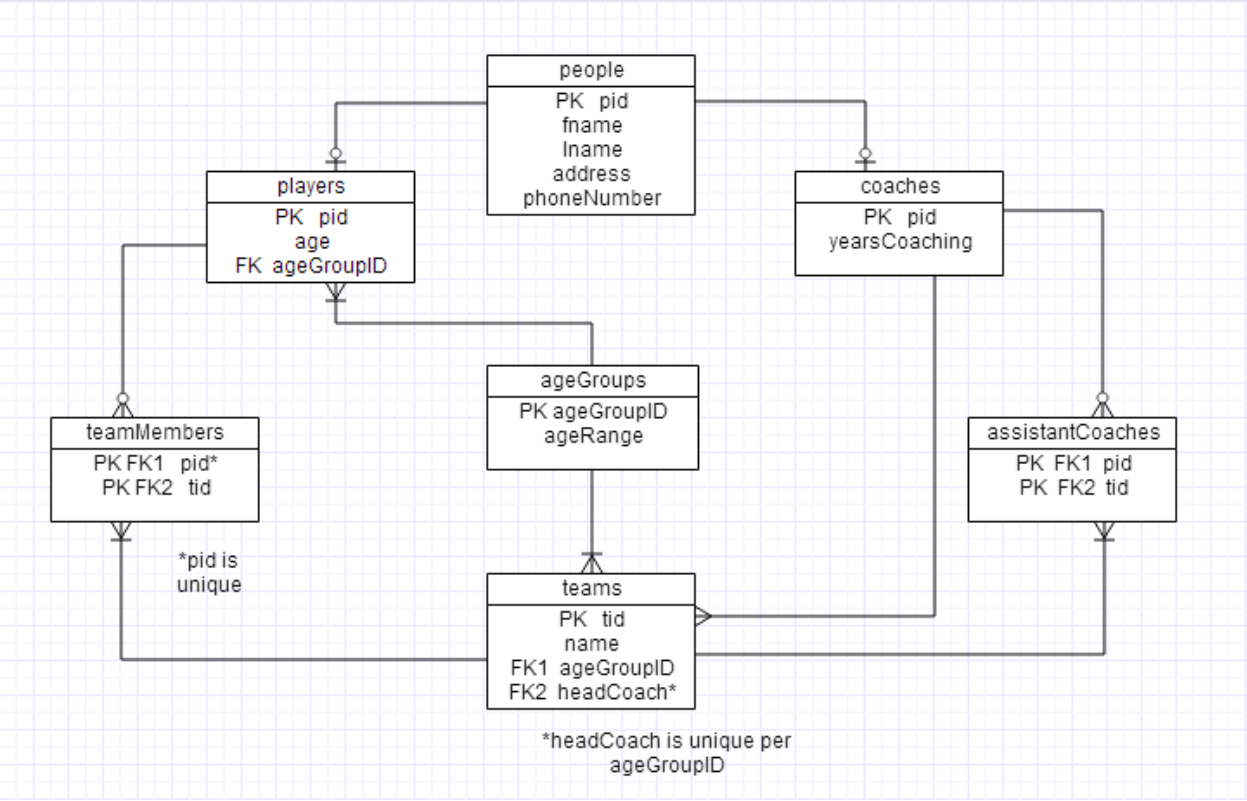
assisantCoaches:

(pid, tid) ->

Teams table:

Tid -> name, ageGroupID, headCoach

ER Diagram



Third Normal Form

This database is in third normal form because in each table, every attribute depends on the key, the whole key, and nothing but the key. In the people table, pid determines fname, lname, address and phoneNumber. In the players table (a subtype of people table) pid determines age and ageGroupID. In the coaches table (another subtype of the people table) pid determines yearsCoaching. In the teamMembers table, the primary key is a composite of pid and tid and together they determine no other attribute. In the ageGroups table, ageGroupID determines ageRange. In the assistantCoaches table, a composite primary key of pi and tid determines no other attribute. And finally in the teams table, tid determines name, ageGroupID and headCoach. Since every table is in third normal form, the whole database is in third normal form.

View to display teams in age group 10-14

```
CREATE VIEW AgesTenToFourteen
AS
SELECT *
FROM teams
WHERE ageGroupID IN
                (SELECT ageGroupID
                 FROM ageGroups
                 WHERE ageRange = ’10-14’)
```