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Normalization #3

11/12/2013

#1. **Functional Dependencies**

People: Pid → FName, LName, StreetAddress, State, ZipCode, PhoneNumber, BirthDay

Coaches: Pid → YearsCoached

TypeofCoach: TOCid → HeadCorAssisC

CoachesTeams: Pid, Tid → TOCid

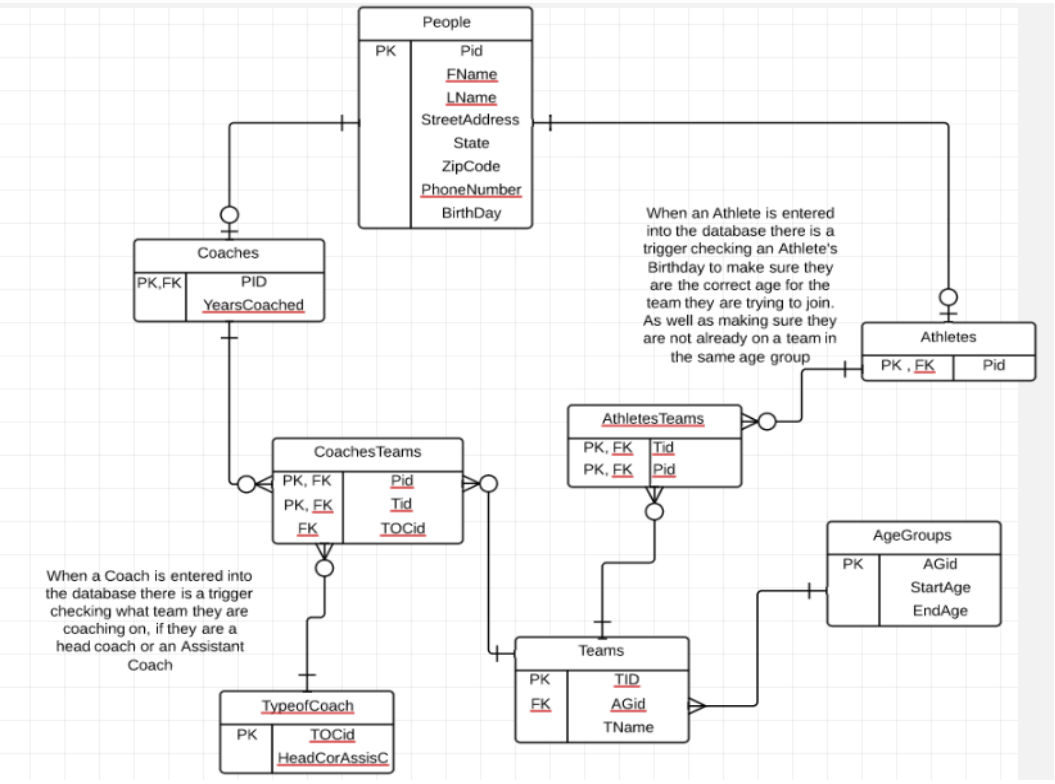
Athletes: Pid →

AthletesTeams: Pid, Tid →

Teams: Tid → AGid, TName

AgeGroups: AGid → StartAge, EndAge

#2 The ER Diagram



#3 Proving my Database is in Third Normal Form.

My database is in third normal form because each non key attribute depends on the whole key and nothing but the key. All of the attributes in people rely on Pid, which is the only primary key for this table. Coaches has the FK referencing People, which is also set as the primary key for the Coaches table, yearsCoached is an attribute relating to the Coaches table. CoachesTeams has the composite keys of Pid and Tid which TOCid depends on. Typeofcoach has the primary key of TOCid which HeadCorAssisC depends on. Teams has the Primary key of Tid which AGid, a foreign key, and TName depend on. AgeGroups has the primary key of AGid which StartAge and EndAge depend on. Athletes has no functional dependencies, because it is only calling the data from People. AthletesTeams also does not have any functional dependencies because it is calling data from Teams and People, where nothing is relying on that data. Because each table is in third normal form, my entire database is in third normal form.

#4 A view to display all the teams in the 10-14 age group.

```
Create view TeamsFromTentoFourteenAgeGroup as

    Select t.tid, t.name

    From   AgeGroups ag, Teams t

    Where ag.agid = t.gid;

    AND    ag.StartAge = 10

    AND    ag.EndAge = 14
```