Database Architecture Description

Our database architecture is divided into seven tables, many of which connect to each other via one-to-many relationships. The [OKC_Teams] table has two one-to-many relationships from its “TeamID” column with the [OKC_Games] table via its “HomeTeamID” and “AwayTeamID” columns. As each game has a home and away team, each [OKC_Games] table will have an id for each team.

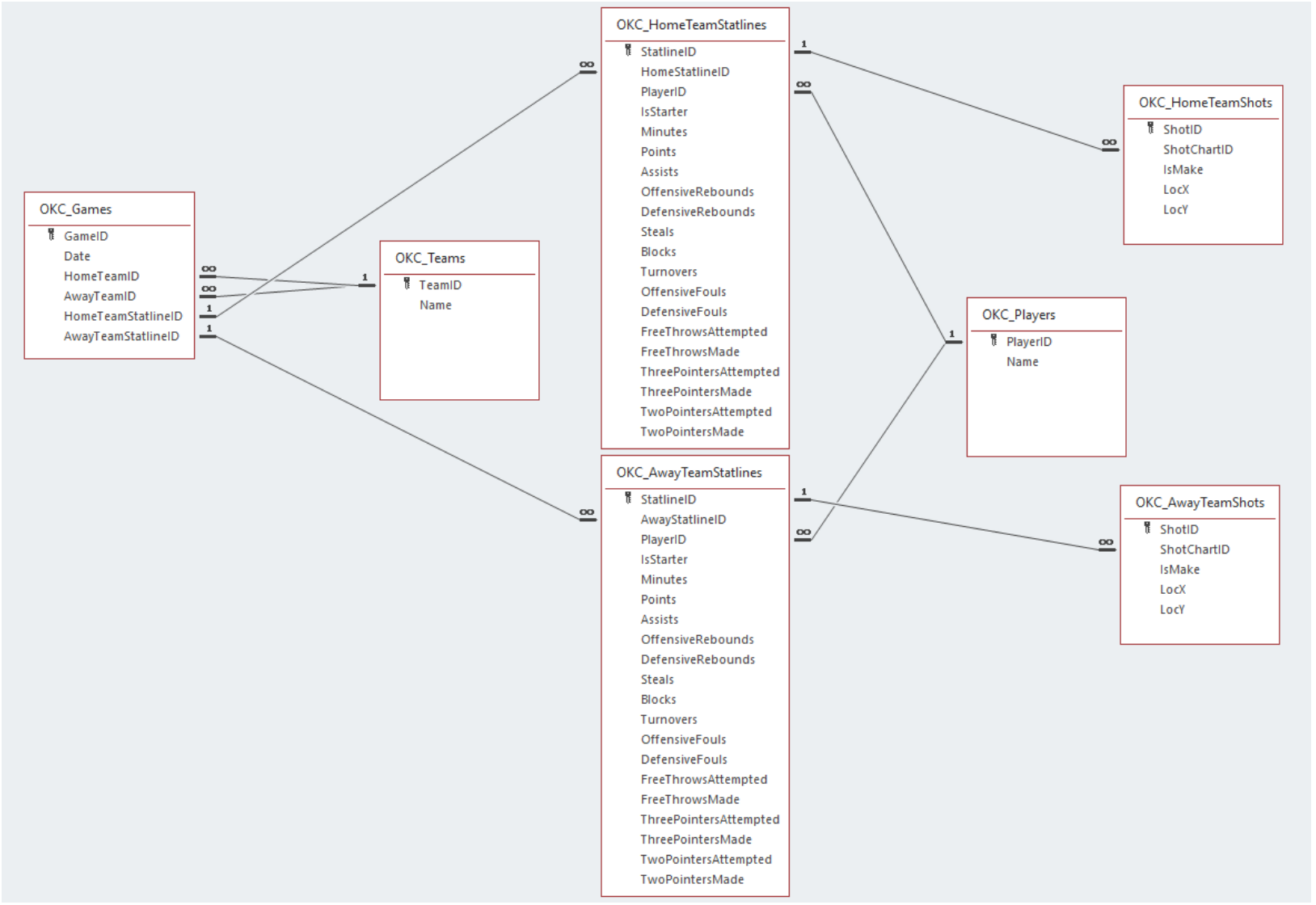
The statlines recorded for each team are stored in the tables [OKC_HomeTeamStatlines] and [OKC_AwayTeamStatlines]. Both of these have many-to-one relationships with [OKC_Games] since there are many statlines recorded for each team in a game. They are split since a statline must be recorded for either a home time or an away team. “HomeTeamStatlineID" and “AwayTeamStatlineID” from [OKC_Games] connect to “HomeStatlineID” from [OKC_HomeTeamStatlines] and “AwayStatlineID” from [OKC_AwayTeamStatlines] respectively.

[OKC_Players], via its “PlayerID” column, has a one-to-many relationship with both [OKC_HomeTeamStatlines] and [OKC_AwayTeamStatlines] via their respective “PlayerID” columns. This is because most players play multiple games as the home team and/or the away team and thus, generate multiple statlines.

Finally, both statline tables are connected to their respective shots tables: [OKC_HomeTeamShots] and [OKC_AwayTeamShots]. This connection is a one-to-many because the vast majority of the time, a statline contains multiple taken shots. This is done from each Statlines table’s Primary Key “StatlineID” to each Shots table’s “ShotChartID”.

The order of data insertion would be starting with [OKC_Teams] and [OKC_Players], then followed by [OKC_Games]. Next, insert data into [OKC_HomeTeamStatlines] and [OKC_AwayTeamStatlines]. Finally, insert data into [OKC_HomeTeamShots], and [OKC_AwayTeamShots].

Visual Aid


OKC_HomeTeamStatlines
StatlineID
HomeStatlineID
PlayerID
IsStarter
Minutes
Points
Assists
OffensiveRebounds
DefensiveRebounds
Steals
Blocks
Turnovers
OffensiveFouls
DefensiveFouls
FreeThrowsAttempted
FreeThrowsMade
ThreePointersAttempted
ThreePointersMade
TwoPointersAttempted
TwoPointersMade
OKC_HomeTeamShots
ShotID
ShotChartID
IsMake
LocX
LocY
OKC_Games
GameID
Date
HomeTeamID
AwayTeamID
HomeTeamStatlineID
AwayTeamStatlineID
OKC_Teams
TeamID
Name
OKC_Players
PlayerID
Name
OKC_AwayTeamStatlines
StatlineID
AwayStatlineID
PlayerID
IsStarter
Minutes
Points
Assists
OffensiveRebounds
DefensiveRebounds
Steals
Blocks
Turnovers
OffensiveFouls
DefensiveFouls
FreeThrowsAttempted
FreeThrowsMade
ThreePointersAttempted
ThreePointersMade
TwoPointersAttempted
TwoPointersMade
OKC_AwayTeamShots
ShotID
ShotChartID
IsMake
LocX
LocY