Summary

This project consists of a relational database of the basketball team that I coach. Right now the stats are all kept on paper in stat books. For each new season we get a new book, each game gets a single stats sheet in the book, we write down the active roster, and keep track of all the stats for the game on that page. Right now when we want to compare stats, and see seasonal growth, we are flipping back and forth between pages, and calculating percentages by hand. Where this method is proven to work, it is rather archaic. With a database, tracking seasonal growth would be made much easier with simple queries, ways to display growth visually, and for just overall record keeping of the program.

Business Rules

There are several different business rules to be aware of, those business rules are listed and described below:

1. Individual and player progression throughout the season needs to be tracked in an organized fashion.
2. Seasons in the past should be able to be recalled to compare to current seasons.
3. There can only be 15 players on an active roster.
4. A player cannot play for more than 44 minutes, this time allows for four whole quarters and three overtimes.
5. A players posistion can only be recorded as G, SG, F, C, PG, PF, 1, 2, 3, 4, or 5.
6. A player cannot have more than 5 fouls.
7. The overal team score and the opponent score cannot be the same.
8. All stats recorded must be postitive integers.
9. If there are no stats to display for a certain player (ie they didn't score, or there was no steals) then the empty field should be displayed as a 0, not NA or NULL.

Final Outcome

The final outcome of this project is a relational database that is able to clearly display statistics of a full season of basketball broken down into player statistics per each game they are active on the roster.

Glossary

The Glossary serves as a reference for all the different acronyms used in the database models in the following sections of this document:

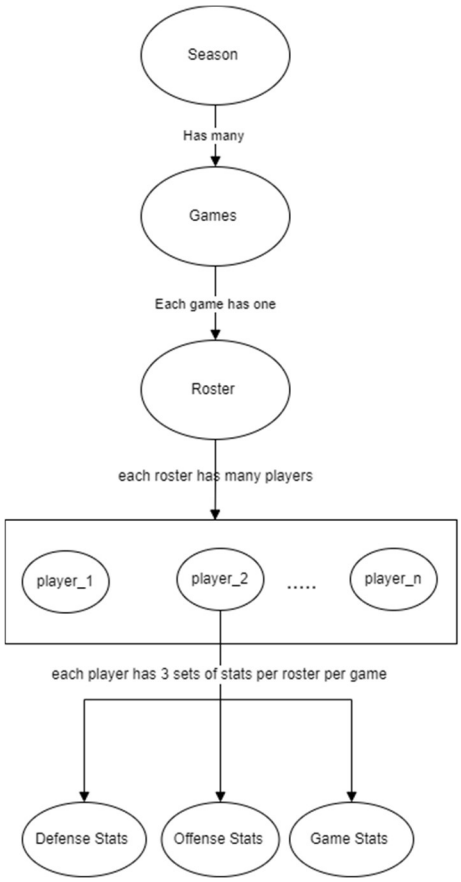
PTS - Points
FGM – Field Goals Made
FGA – Field Goals Attempted
FG% - Field Goal Percentage
3PA – Three Point Attempt
3PM – Three Point Made

FTA – Free Throw Attempted
FTM – Free Throw Made
OR – Offensive Rebound
AST – Assists
DR – Deffensive Rebound
STL – Steal
BLK – Block
PF – Personal Foul
TO – Turn Over
G – Guard

SG – Shooting Guard
F – Forward
C – Center
PG – Point Guard
PF – Power Forward
1 – Point Guard
2 – Guard
3 – Guard
4 – Forward
5 – Center

Conceptual Model

The conceptual model describes the basic layout and flow of data. Each seson has multiple games. Each game has a roster, the roster may change for each game depending on injuries, eligibility and other external factors. The roster is made up of up to fifteen players. For each game that the player plays in there are three different sets of statistics that make up the entire game, offensive, deffensive, and overall game statistics.



Relational Model

The relational database model shows the architecture of the relational database. There are a lot of integer values in each one of the tables because the corresponding variables cannot be represented as non-whole numbers. Each table has an integer primary key for identification purposes that cannot be duplicated. These keys will automatically populate sequentially in their respected table. Any string of text that is entered will be saved as a varchar.