A Method for Analyzing Basketball Teams

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A Method for Analyzing Basketball Teams started as an attempt to use statistics to analyze our team's offense. Eventually it grew into a data collection and analysis software. There are three main components to this project: weekly reports for the players and coaches, statistical analysis of the data, and a program. The first thing we did is split the court into twenty-six zones and designate three different pressure levels: no pressure (in practice), scrimmage pressure (in practice), and game pressure (in games). All of the data we collected is identifiable by a zone and a pressure level. The weekly reports contain shooting charts, passing charts, pie graphs illustrating the decisions and their outcomes, the raw data, and a compiled list of shooting accuracies for the whole team. Each shooting/passing chart is for a different pressure level, and includes the player’s accuracy for actions originating in each zone. One of the pie graphs illustrates how often the player shot, passed, and turned the ball over. The other graph shows the different outcomes: shot made, shot missed, pass made, pass missed, advantage pass, turnover. The team accuracies page lists each player’s accuracies for each pressure level. Next we used correlations, t-tests, and chi-square tests to test a few hypotheses we were curious about. Then we performed a multiple linear regression to compare the relative influence of turnovers, free throws, and shots, on the scoring ratio of the team. Lastly, we created a program which teams can use to collect and analyze data during the games. The program has five different pages: data input, team summary, individual summary, play simulation, and halftime suggestions.

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