# Shannon Gambuti and Hope Puzzanghera

NBA Draft Predictor- Updated Project Plan

After we completed our project we needed to update some parts of our design. We found an online spreadsheet of college Basketball Players statistics who were entered into the NBA Draft. We then uploaded this as a .csv file using Pandas and converted it into a data frame which allowed each column of data to be used as keys to simplify the use of data in x and y variables in our regression equation. The key values represented are listed below in the input section of our algorithm. We allow the user to enter their personal statistics or any specific player’s performance statistics into our program, the user input is then plugged into a linear regression equation which is designed to accurately predict what round in the draft the player would be drafted. The user then has the opportunity to enter slightly varying data that is plugged into a new regression model that is designed to predict a players overall draft pick number. U

What we needed:

**Pandas**

**Numpy**

**Sklearn**

**Statsmodels**

**Basketballreference.com**

**Excel**

**Import Warnings**

**Collections**

Inputs:

**Free throw percentage**

**Minutes Per Game**

**Total Minutes Played**

**Average Number of Points per Game**

**Average Number of Rebounds per Game**

**Total Number of Season Rebounds**

**Number of Games Played**

Outputs:

***Draft Round pick***

***Overall Pick Number***

Algorithm

* ***Import pandas***
* ***Import numpy***
* ***Import statsmodels***
* ***From sklearn import linear model***
* ***Import collections***
* ***Import file and read with pandas***
* ***Convert file to DataFrame***
* ***Assign keys to x and y variables***
* ***prompt user to input statistics***
* ***Input the variables into equation produced by sklearn***
* ***Print the Draft Round***
* ***Prompt user to input additional statistics***
* ***Input the variables into equation by sklearn***
* ***If value 1<= y <= 60:***
* ***Print Overall Pick Number***
* ***Else print “Unlikely player will be drafted by the NBA”***

Member Contributions:

We worked together to come up with the original idea for our project. With Shannon’s interest in basketball and Hope’s interest and background in statistics we came up with the “NBA Draft Predictor”. We divided up the work evenly, both focusing on aspects of the project that reflected our personal strengths. We made sure to both take on an equal portion of the project and maintained strong communication throughout the development to make sure we were both satisfied and proud of our results. Shannon conceptualized our project plan and updated it after we completed our final code. Hope used her knowledge of statistical analysis to gather and narrow down the data through backward elimination testing in Minitab so that our final regression model would only include a handful of easy to interpret variables. Hope researched the statistical python packages that would be helpful to our code. While Hope worked on executing the design of a regression model analysis using python, Shannon worked hard on our poster design. From that point we worked together to translate our plan into a working code. When the code was complete Hope wrote up the video script describing the statistical processes, Shannon recorded and edited the final demo video. Overall, we worked very well as a team. We excelled in different areas which worked out perfectly since we were both able to utilize each other’s strengths. Hope brought a background knowledge of the statistics which was the foundation of our model, while Shannon brought creativity and a strong perspective when it came to design and presentation of the project. Shannon was the right side of the brain, while Hope was the left, together we had all the tools we needed to be successful.