Lab 5 - Team-42

Ford St. John, Eduardo Rocha, Robert Arenas, Kyle Dean

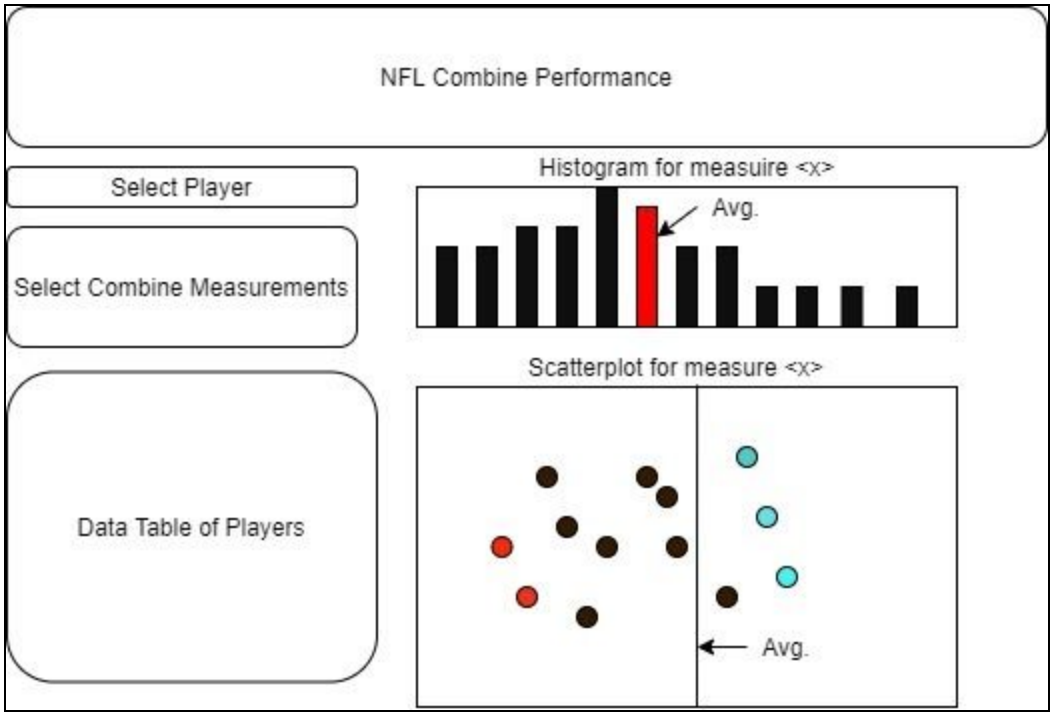
Features (user stories) to Implement in Next Sprint:

1. Combine
    a. Feature 1: As a user, I want to display a histogram for the selected combine measure, with the average highlighted in the histogram
    b. Feature 2: As a user, I want to display a scatterplot for the selected combine measure, with above average and below average participants highlighted different colors

2. Rushing
    a. Feature 3: As a user, I want to be able to display a graph based on the top *n* rusher of all time (avg yards per game or total yards)
    b. Feature 4: As a user, I want to be able to display a graph based on the top *n* rushers of a certain team T of all time.

3. Receiving site
    a. Feature 5: As a user, I want to see a graph displaying the top n receivers based on average receiving yards per play.
    b. Feature 6: As a user, I want to see a scatter plot displaying all players with receiving yards.

4. Passing
    a. Feature 7: as a user, I want to be able to display a graph based on the top *n* passers of all time (avg total passing yards).
    b. Feature 8: as a user, I want to be able to display a scatter plot that shows all players with passing yards



GUI also applies to Rushers, Receiving, and Passers application

Test Cases

1. Feature 1 test cases
    a. Test Case 1: as a user I want to see a histogram for 2017 WR 40-yard dash times
        i. Correct output: display a histogram with the correct distribution based on the criteria stated above
    b. Test Case 2: as a user I want to see a histogram of 2015 OT bench press repetitions
        i. Correct output: display a histogram with the correct distribution based on the criteria stated above
2. Feature 2 test cases
    a. Test Case 1: as a user I want to see a scatterplot for 2017 WR 40-yard dash times, with above average and below average players colored
        i. Correct output: display a scatterplot with the correct data with data points colored for those individuals who are actual above or below average
    b. Test Case 2: as a user I want to see a scatterplot for 2015 OT bench press repetitions, with players above and below average coloered
        i. Correct output: display scatter plot based on the correct data with the correct data points colored to show players above and below average

3. Feature 3 test cases
    a. Test Case 1: as a user I want to see a visual representation of how the top N rushers of all time plot against eachother
        i. Correct output: display a plot graph with the data points of all rushers.

    b. Test Case 2: as a user I want to see a visual representation of how a certain rusher maps to the rest of the the rushers.
        i. Correct output: rushers site displays a column type graph that shows where the players stands against all the rushers in the NFL

4. Feature 4 test cases
    a. Test Case 1: as a user I want to see how all the rushers for a certain team T map against each other.
        i. Correct output: the site displays a clean graph of where the rushers stand against each other with an avg. line displaying who are the top average rushers and the lowest.

5. Feature 5 test cases
    a. Test Case 1: as a user i want to see a graph displaying the average receiving yards per play compared to the number of receiving plays.
        i. Correct Output: a graph displaying the average receiving yards per play compared to the number of receiving plays is shown on the page.

6. Feature 6 test cases
    a. Test Case 2: as a user i want to see a graph displaying all players with receiving yards.
        i. Correct Output: a scatter plot displaying all the players with receiving yards is shown on the page.

7. Feature 7 test cases
    a. Test case 1: as a user on the passers statistics page, I can click on a ‘graph’ button to display average passing analytics visually.
        i. Correct Output: a graph will display on the page showing a visual representation of the top *n* passers of all time (avg total passing yards).

8. Feature 8 test cases
    a. Test case 1: as a user on the passers statistics page, I can click on a ‘scatter plot’ button to display all passing yards per player.
        i. Correct Output: a scatter plot will display on the page showing a visual representation of all players with passing yards.

TODO List

Done list of last sprint (week of 10/30 - 11/05)

1. Rushing statistics page
    a. Created analytics for displaying top N rushers of all time .
    [finished by Eduardo Rocha]
    b. Created analytics for displaying top N rushers who played for certain team T.
    [finished by Eduardo Rocha]
    c. Created analytics for displaying the avg. yards per game for a certain rusher r.
    [finished by Eduardo Rocha]
    d. Created analytics for displaying avg. yards for the top N rushers.
    [finished by Eduardo Rocha]

2. Combine
    a. Implemented top N visual for combine performance
    [Finished by Ford St. John, verified by team]
    b. Implemented visual that display list of players based on selected statistic (above average, below average, outlier, top N or bottom N)
    [Finished by Ford St. John, verified by team]
    c. Created back-end functions for computing the average and standard deviation of a numerical column in a Pandas dataframe (**NOT USING BUILT-IN FUNCTIONS, USING OUR OWN CUSTOM FUNCTION)**
    [Finished by Ford St. John, verified by team]
    d. Created back-end function to filter combine data based on user selections (combine year, performance metric, position group, etc.) and user-selected statistic (above average, below average, outlier, top N, bottom N)
    [Finished by Ford St. John, verified by team]

3. Receiving
    a. Implemented function to calculate the average receiving yards per receiving play for all players.
    [Finished by Robert Arenas, verified by team]
    b. Edited html of the revising site to display the average receiving yards per receiving play for both individual players and top n players
    [Finished by Robert Arenas, verified by team]
    c. Edited receiving functions to no longer rely on pandas library.
    [Finished by Robert Arenas, verified by team]

4. Passing
    a. Added an analytics form to the passers statistics page.
    [Finished by Kyle Dean]
    b. Edited passing page view to recognize if the user submits the analytics form.
    [Finished by Kyle Dean]

c. Edited HTML to display analytics form on the passers page.
[Finished by Kyle Dean]

5. Other
    a. Edited Robert's *readtocsv* function to return either a dictionary or Pandas dataframe based on a function argument.
    [Finished by Kyle Dean, verified by team]
    b. Added to rushers/forms.py so that we have two forms the user can fill out in the Rushers Site. One for searching a certain player and the other for displaying the top N rushers of all time or team.
    [Finished by Eduardo Rocha]

<u>ToDo task list for next sprint:</u>

1. Implement front-end histogram visual displaying user selections for selected combine measurement, with the average value highlighted or called out in some way
2. Implement front-end scatterplot visual displaying user selections for selected combine measurement, with players who are above average and below average colored differently from the other data points
3. Implement back-end functionality that renders the histogram and passes the visual to the front-end to be rendered in HTML [Combine and Passing page]
4. Implement back-end functionality that renders the scatterplot and passes the visual to the front-end to be rendered in HTML [Combine and Passing page]
5. Implement front-end visual of players above average combine measurement performance
6. Implement front-end visuals for top N rushers of all time in a nice graph along with column format. [Rushing page]
7. Implement front-end graph for a rusher r plotting where he stands against the rest of the rushers in the NFL. [Rushing page]
8. Implement back-end functions to display a graph comparing average receiving yards per play to number of plays. [Receiving page]
9. Implement back-end functions to display a scatterplot with all players with receiving yards. [Receiving page]
10. Implement front-end html to display the graph and scatter plot on the page. [Receiving and Passing page]