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CSCE 155N

May 1, 2020

Matlab GUI Project

For our final project, we choose to make a GUI in MATLAB in order to plot different points with different styles. The main GUI components that we had to use where push buttons, edit boxes, text boxes, as well as radio buttons. With the use of these GUI components and the plot functions form MATLAB, we were able to give an edit box x and y components and have the program graph those points with various styles using the button groups. With our working code also came some hurdles that we had to cross.

The first component that we decided to code was the reset button which would reset the graph and allow the user to give the function different components to graph. We chose this because we initially thought that this would have been the easiest button to code first, however, we did have some trouble. The first thing that we noticed about our initial reset button was that the code that we had programmed for it was very buggy. Some of the times when we would test the reset button, the code would end up duplicating figures and have multiple windows open which showed that a little bit of editing was needed. In order to solve this problem, all we had to do was have our reset button call to our reset function where we simply had the window close and then call the master function again, opening a new window.

Another issue that we ended up running into was how we were to take the values that were edited into the edit box and then plot those values on the graph. The main problem we had was that we did not know how to take the updated test box and take the numbers entered as an array of numbers that could be plotted. In order to solve this problem, we used the get command to get the string of the values entered in the edit box. After that, we used a str2num command in order to take the string and convert it into an array. Finally, we just had to make a call to a function that is coded into a push button in order to graph the given x and y components. One of the difficulties we had was rotating the GUI for the y axis title and limit. We could not figure out how to rotate it, so we opted to leave it horizontal.

When doing the GUI for the project, we realized how inconvenient the GUI system we were using was. It was not practical to arbitrarily set the position for the GUI, while not knowing exactly what it would look like in the end product. We ran into some difficulty when we did the y axis title. We had some trouble rotating the edit and text boxes for that GUI.

In the future, we expect we will use GUI to make rough prototypes ideas. This could include a game, graph, or app. As a computer engineering student (Henry Millward), I expect to learn and use GUI a lot in my future. While I (Brandon Bernard), do not see myself using GUI much since I majoring in mechanical engineering.