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05/03/2021

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Computer Science Final Project

GUIs are a critical part in almost all computer programs used day to day by the world. GUIs create the connection between the code savvy and the rest of the populous. To tackle this final project, I chose to stay with the default project and create an easy-to-use Custom Graph Display. Pursuing a major in Mechanical Engineering graphs are used in my day-to-day schoolwork and even for my hobby in game design. My goal going in was to make a fully custom graph program that could take in series and plot them with the chosen characteristics.

Beginning the process, I knew that I wanted to get to the simplest working model before a began adding features. This meant first getting a figure and plot created when the code was running. In order to create room for both the graph and the future buttons I created a subplot filling the top of the figure with the plot and the bottom with the buttons. Next was making use of the plot by implementing two edit boxes one for X series and the other for the Y series. Using these boxes and a plot button to retrieve the data from those I was able to create a graph. Also, at this point rerunning the program to test the plotting was getting old and it was time to add reset buttons. At first a had chosen to have two reset buttons one for the series boxes and the other for the plot itself, but later this became more confusing than it was worth, so it was removed leaving a simple one button full reset. Finally, it was time to add some of the flare that makes the project what it truly is. I began by adding text and cleaning up the GUI look for the series inputs and then took to adding buttons for every style possible on the graph. This was easily the most time-consuming part of the project as I needed to do lots of research on the syntax with the radio buttons used for the styles. I simplified this by creating three button groups each representing a part of the graph. To end the project, I added the ability to name the axis and title the graph as well as stitched up some bugs regarding user input errors.

In the future I can defiantly see myself using GUIs as they are a great way to have someone with no coding background interact and use your code. A great example is my girlfriend who has plenty of need for programs but does not have the knowledge or the need to learn programming. A great way to allow her to use more complex programs is clever GUI. In mechanical engineering we are constantly using complex algorithms and often needing to use the same ones repeatedly for projects. A more efficient way to go about these algorithms is coding a computer to do it rather than doing it every time. A GUI would be great way to display this info and simply make it easier to use without having to look back into the function every time it is used.

As this course wraps up, I can say with certainty that I will be using skills learned in the course in my everyday life and particularly moving forward in my education. If not the computer and its intricacies the ability to solve problems and find solutions on one’s own is invaluable. Programming is more than just numbers and letters it requires a different better adapted mindset that I think everyone can benefit from.

*Thank you everyone in the computer science department and especially those in charge of this course.*