Final Project Report

For my final project, my original idea was to make a calculator. It was just going to be very simple in design. The goal was to have a place to input numbers, as well as some buttons on the side. For the buttons on the side, I was going to have an add and subtract button. I also wanted it to have a multiplication, and division button. My idea was approved by professor Lanik.

My initial idea fell through as I was unable to complete the code. The toughest part of building it was getting the buttons on the gui. Resizing them and trying to move them around was to hard. In general, the whole layout design process was difficult to make look good. I didn’t find the constraints to be hard based on the simplistic idea of a calculator. The only thing I had to do there was make sure the buttons did what they said. It was at this point I realized that my project wasn’t going to be very good, and I also didn’t feel like I had the time to make improvements.

I pivoted to just doing the default project of a gui with boxes to plot x and y. Also added some addition boxes the minimum and maximum for each axis. My gui also has a place to input a title. These buttons are placed on the edge of my plane, and the run and reset buttons are to the left of it. The boxes for plotting x and y are in the top left conner.

I started the coding process by adding my global variable named gui. The next step was to make the x and y inputs by using graph.gui. This creates the plane and Allows you to place the box where you would like. Also had to include a expression line before it that labels the boxes. The next thing I added was a run and reset button that does the corresponding task with your x and y inputs. I repeated this process in order to make more boxes for the x and y axis. Then I added a button group. The key was to make the space the space for the buttons big enough that I could move them around, and make them look nice. After this I added yet another basic box for a title. One important step I forgot to include at first was to plot the original empty parent graph.

After the buttons and the layout were all done It was about making the plotting function. I used an if function in order to be able to put in the error messages. If certain conditions are met the code will return the error message. At the binging of the function I had to change the string into numbers, because you can’t plot strings. A regexpression was used to check and make sure all numbers were integers. To finish the function, I had to put in many parameters on how to use the code or else it will return error. An example would be return error if your minimum is larger than your maximum. My last function makes it possible to set the strings equal to ‘’ in order to clear all the edit boxes.

In the future I plan to use gui’s when they can make a task easier. With my major being ag engineering, I can see situations were using a gui could make the solving process, or even the design process of a project easier. They create a clear and precise process that can be used by multiple people to make progress. A good gui can be redesigned in order to help with each more specific problem. Therefore, making it accessible and convenient for a large amount of people. Because of this accessible the gui’s will deliver consistency. If everyone is working with a similar design results should correlate. Gui’s for me are very engaging and keep me focused. A good gui is very visually pleasing and easy to work with. I will continue to use gui’s in the future to help solve problems.