This project was very difficult for me from the beginning because of the factors that were to be included in the final project. The design process, code, and gui factors made this project more challenging and interesting from the beginning because much background knowledge was necessary to complete it. For me, the hardest part was the code, but the design process itself took a while decide because I struggled with an idea to follow.

Choosing what I wanted to create was a long and thought-out process that ultimately ended with me deciding to follow the default plan. I think that watching background videos on YouTube as well as the lectures helped me get started when I was stuck. I also think the code for the example project and Lab 10 were two of the most important resources I had. I chose to work through the code step by step to understand each line or at least try to. In the end, the design process I chose was based off lab 10 and the gui MATLAB help page online. Understanding the gui controls and everything they did helped me understand what was necessary to have the right information in my code. After I chose the process, the next step was the coding itself which was where I had the most troubles.

Coding for something like this took me many trials because of how touchy MATLAB is with errors. My first step was to set my global variables that would allow my functions to work and carry out throughout the code. I started with setting my values equal to zero so when I pulled up the plot it was an empty screen. From here I had to go into the different gui’s and figure out the lines necessary for a functioning program. One of the most difficult topics in my mind was setting the placement of everything on the guide itself. This step took most of the time because I had to position everything so it could be seen and not overlap. I based most of my code off Lab 10 because the lines were similar, and I only had to change the text that was present in each area. I had some help from a couple of friends who had more knowledge and they guided me on the right path. They helped me create a few lines that I didn’t understand completely and showed me a few videos that acted as a tutorial for me and the process. Another struggle I had was inputting enough arguments for my code to run. This step took me a while because I couldn’t figure out what to put in especially on line 81 of my code. Understanding the different variables like event and source were challenging and made this project a lot more stressful than I thought it was going to be. I also quickly realized that this code was going to be way longer than I expected to fit all the necessary information in it. Even though my code runs smoothly, for most of the process I was getting error messages that wouldn’t even allow me to see my guide. One of the easiest sections in my mind was coding for the axis titles and creating edit boxes for different parts. I think that Lab 10 really helped me understand that. The other struggle I had was submitting the code through a git repo because I have never used my terminal on my Mac in the past, but I am happy with what I have learned in this class and will be able to use it throughout my life in my workspace.

As an engineer, I think that the guide we have been taught will be very important down the line because I can now create graphs of almost any sort to organize and manipulate data. GUI’s can be so useful that I will almost certainly try to impress boss’ down the line with the knowledge of programming my data. With this knowledge I will be able to test data fast, use regression tests, and use the reliability of coding to answer questions and problems I never thought possible.

In the end, the coding, design process, and future use of GUI’s has helped me get to a place I never thought was possible. Coding has never been one of my favorite things to do because I have always lacked the knowledge, but at least after this class I feel like I have way more knowledge than the average person. There will always be room for improvement on this topic, but I am glad I was forced to take this class for my major.