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Final Project Report : Plant Conditions

For my final project I decide to write code that tells you if it is the right time to plant a tree. You input information like the month in which you plan to plant the tree and the hardiness rating of the tree. The GUI will then show a message box which will then tell you if it is a good time to plant. If it is not a good time, then it will let you know why, then ask you to enter a different month or zone. As far as the code goes, I used three different UI elements and two callbacks. For the elements I used four text boxes, a slider and a button group/radio buttons. I used the text boxes to label the other elements and to give the user some instructions on what to do. The slider is used to select the month in which the tree is to be planted. The ideal planting time is early spring to mid summer, so the code will only say that it is a good time to plant when April through June is selected. The radio buttons are used to select the hardiness zone of the tree which range from one to 13. Nebraska is zone five and six, so picking any other zone will not work and the UI will ask you to pick a different zone. My callbacks are for the slider and the button group named scrollbar and radioSelect respectively. For both functions I used an if else statement to decide if the right conditions are met.

Creating the GUI wasn’t super difficult, it was just very tedious. It took me a while to get the elements to an appropriate size that I liked and centered on the display. I also had to add 13 radio buttons which took a while to size and fit into the button group box so that it looked nice and not sloppy. Where I did struggle a little bit was writing the callback functions. The way that the professor used the slider and the radio buttons was slightly different to how I used them so at first I didn’t know I would get mine to work. The radioSelect callback took me a long time and some head scratching to figure it out. After using breakpoints, I realized that the callback was setting my i equal to a string and not a number that could be used with the if-else statement. After turning the string in a number, it worked. The scrollbar callback was not as difficult, I just had to pull the number assigned to the variable i from the scrollbar. Where I did struggle the most was trying to push my matlab files onto my repository. I tried following the instructions from Lab11 but I still could not get it to work. My git bash was not giving me the correct outputs as in the instructions. I ended up having to commit my code, because I could not figure out what I was doing wrong.

With the path in construction that I am taking, I don’t think that I’ll have to use GUI’s post graduation. Although, In some other parts of construction I have seen them used I have seen some pictures of people using GUI to create models of objects. They used it to graph out the topography of land. It showed the high and low spots of a plot of land. I’ve also seen GUI’s being used to show the amount of traffic at an intersection for a proposed project.