Final Project

LA that approved project: Trevor Thomazin 4/29/21 10:00am

Original design idea for me was a rough estimate (Rough, due to the vast number of variables in calculating horsepower output at a given rpm.) horsepower/ kilowatt power calculator. Initial thoughts for overall design were focused more on a set number of text inputs for engine size, number of cylinders, and a set RPM that you desire to know the power output for that engine. I originally wanted the user to have text inputs for engine size, RPMs, and number of cylinders. I then started looking at my other options. Options for the radio buttons would include Horsepower and Killowatts as those are the most commonly used units for measuring engine power output. Ideally I wanted to have 3 radio buttons but realistically the only other option would have been Newton Meters and that’s awfully close to Killowatts and not really used for Horsepower conversions, typically it’s seen in converting lb/ft of torque. Originally, I wanted the output to replicate a graph that would resemble dynamometer graph to roughly display projected power. However, I realized this would add another level of difficulty to the project and I didn’t have the time to get all of that worked out. The reason for that is that it would require the user to have much more information about their specific engine set up that the average Joe/Josephine isn’t going to readily know off the top of their head.

The difficulties I had with the implementation of the project were all mostly rooted in my inexperience with Matlab. I felt that material we covered touched on gui’s in class all too briefly. I just didn’t “get” them that great. We technically didn’t cover GUIs in our “textbook” so it was all new reading to me trying to figure out some of the stuff I was attempting in my project. I was able to set up radio buttons relatively easy and the graph. I added an “activate” button as well. I started to struggle with stringing everything together and get it all to fit together. I will say this, this project was still very beneficial to me because it very quickly started to show my weaknesses (there are many) in my ability to create and use anything in matlab.

I feel strongly that one could use GUIs in many many ways in the future. For one, in my mechanical engineering classes. I can implement graphical user interfaces for certain homework assignments. Another way that I can implement them is in different clubs that I am involved in. I am involved in the Formula SAE club and just starting to learn a lot of the things they do in there. I have seen them heavily utilize Matlab in addition to a lot of other applications and programs I’ve been learning in other classes.

In conclusion, I am by no stretch of the imagination a “coder”. This class was my very first introduction to Computer Science and I’ll say that it was eye opening. I have a lot of respect for people that do this for a living. I wish I was better at it. Hopefully I can continue to draw on my experiences I’ve had in this class.