**Tools and Techniques**

**Software requirements**

The raspberry pi socapel servo motor drive programmer will be programmed using the python3.7 programming language, this will need to be downloaded and installed on both the local computer used for programming and also on the raspberry pi IOT device to enable the python file to be able to run, the python module tkinter will be used for the development of the graphics user interface which is a python built in module so it will only need to be imported at the start of the file. The pyserial 3.4 extension module is not a built-in file and will need to be installed in the python software by use of an executable program or can be installed through pythons build in module pip, this can be done through a terminal window. i.e. pip install pyserial. The pyserial software is released under the free software license. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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**Hardware requirements**

Hardware requirements for the project are a Raspberry pi 3 Model B single board computer, the project will require an addon rs232 serial adaptor, a Raspberry Pi 7-inch touchscreen which has a resolution of 800 x 400 pixels, a design spark 7-inch touchscreen case radio parts part number (117-6719) and a Raspberry Pi Universal Power Supply and rechargeable battery supply once made portable. The device will also be supplied with a standard one meter long serial cable. and will require a SanDisk 32 gigabyte SD card.