Process

Message Received by Nano which enters a separate function

Nano checks full message received and forwards onto the appropriate device based upon the device ID

Device confirms that it is the intended recipient.

If so it executes the command, if not it sends a general routing error message to the nano which sends it through to the cellphone.

If it is an instruction it tries to execute it and then sends the string back to the nano, extending the string by one byte and inserting a accepted / not accepted byte

If it is a request it passes the string back to the nano with the requesting information within

Nano then forwards it back to the cellphone

Each device has a command inserted at the start of each loop that checks whether there is serial data available from the serial port and if so enters a separate function.

Arduino Mega will need to detach the interrupts upon entering this loop but will have to have a while statement to ensure that if the mega sits in that function longer than a fixed amount of time that it will time out and return to the main loop.

Throttle controller will also need a time out added but won’t need anything done with the interrupts