System Requirements Specifications

**System Requirements**

The system shall create a thread for the reading, it shall be named **Thread\_Reading.**

The system shall create a thread for the display, it shall be named **Thread\_Display**.

The system shall create a thread for the algorithm, it shall be named **Thread\_Algorithm**.

**Reading Requirements**

Thread\_Readingshall get the setpoint by using the potenciometer.

Thread\_Reading shall set the setpoint into a range of 800 – 3000 RPM.

Thread\_Reading shall send the setpoint and speed to Thread\_Algorithm.

Thread Reading shall send the setpoint, pwm output, and speed to Thread\_Display.

**Algorithm Requirements**

Thread\_Algorithm shall send the pwm output to Thread\_Reading.

Thread Algorithm shall compute a PID Algorithm.

PID Algorithm shall get the error, which is the setpoint – speed.

PID Algorithm shall get ther acumulated error, which is the adding of error.

PID Algorithm shall get the rate error which is the error – last error.

**Display Requirements**

Thread\_Display shall display the value of setpoint.

Thread\_Display shall display the value of speed.

Thread Display shall display the value of pwm output.