

Year 9 IoT Project

Raspberry Pi Pico Temperature Multi Alert System (RPPTMAS)

Semester 2, Term 4 2024

Student Names: Alex Austin and Lukas Karlsson

The following headings can be answered with text, imagery, charts, photos, videos etc.

Try to use as many of the above options in your answers as possible.

Step 1: Inquiring and Analysing

Analyse existing products

We took inspiration from thermometers that send info to smart phones and decided to upgrade the design by making it have an alarm system and lights while keeping the entire design on one device to prevent issues with security breaches and internet. This makes our device a discrete and simple device to alert users when the temperature could be unpleasant too extreme to be in.

Develop a Design Brief

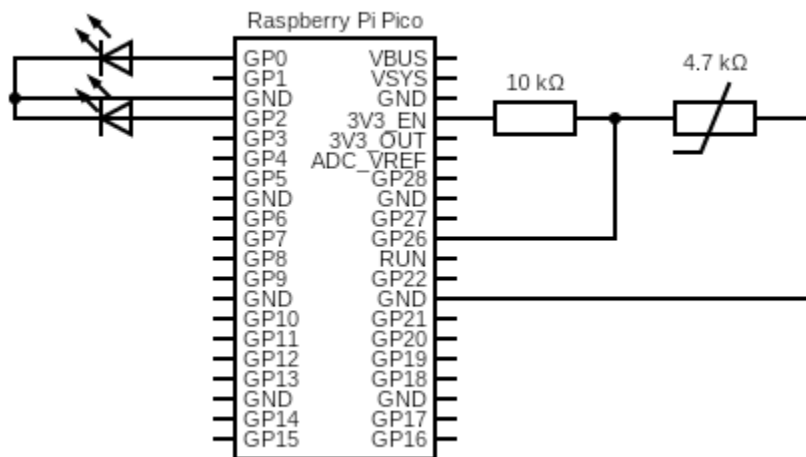
A buzzer plays a higher pitch and buzzes faster according to the temperature. It goes faster if the temperature higher, and it buzzes slower/louder when the temperature is lower. There is a red light if it is hotter and a blue light if it is colder.

Step 2: Developing Ideas

Develop a Design Specification

The RPPTMAS aims to help people know what the temperature is by using micro python code on a Pi Pico so it can use two types of alerts, lights and sound. The hardware used is a Pi Pico, 3 wires, a buzzer, one red led, one blue led, thermistor, resistor, and a breadboard.

Develop planning drawings or diagrams



Step 3: Creating the Solution

Construct a logical plan

Follow the plan to make the solution

Justify changes made to the plan

Step 4: Evaluation

Evaluate the success of the solution

Explain how the solution could be improved

Step 5: Reference List

Halvorsen, H. (n.d.). Raspberry Pi Pico and Thermistor Temperature Sensor.

https://halvorsen.blog/documents/technology/iot/pico/pico_thermistor.php