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SNHU

CS 350

For this project, we had to create a thermostat that we had to run through peripherals built into the board. We used much of what we learned in different modules to help make the outcome of this project, like the Morse code, so we knew how to turn an LED on and off using an interrupt when a button was pressed. For this project, the board became a working thermostat, where the board would detect temperature changes like a thermostat would. That change would initiate an LED light to turn on while a value changes, like a thermostat would turn on a furnace for heat or shut it off when the temperature is met.

For this project, I used CONFIG\_GPIO\_LED\_0, CONFIG\_GPIO\_BUTTON\_0, CONFIG\_GPIO\_LED\_1, and CONFIG\_GPIO\_BUTTON\_1, which interacted with each other to ensure the suitable switches were turned on and off as the board sensed a temperature change. We also had to add a UART2 driver and initialize that, along with a timer we added to the system.

The TI board uses the resources and tools on the Texas Instruments website that give starter codes and options for your TI microcontroller board. This allows the board to connect to servers and drivers with WIFI provisioning options. This means the TI board is ideal for various projects regarding appliances, security systems, devices, and anything that uses timers, interrupts, and simple coding measures with switches. The TI board allows the thermostat to connect to the cloud via WIFI because it is an embedded device, which means the device provides wifi connectivity to the cloud to grab the code that is present there to be programmed. It calls on the code to know when to do timer checks intermittently, how to act when the check is a yes or no, and what selections to go from there. Connecting via Wi-Fi also means transmitting data, as the device can check the coding and see where it is in its schedule.

Freescale architecture is about maximizing performance with multicore processors. Freescale is more about being efficient while not sacrificing performance. TI architecture is about monitoring, hosting, and the connectivity of a device.