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CS – 350

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Project Report

To implement the task scheduler within my code, I created a structure for the tasks that the system was going to handle. In this case there are three tasks. Task1 is to check what button is being pressed, and depending on which button it will change the temperature accordingly. Task2 of the program will read the temperature. If the temperature is less than set point it will continue to shine the LED light and remain the current heating value. If the temperature is greater than the set point, it will turn off the LED light and reset the value of heat to zero. Task3 will check the displays in order to see what the temperature, setpoint, heat, and time is of the display. This task will also increase the seconds in the timer aspect.

The thermostat supports the TI architecture because it utilizes a bus to communicate data within the components of the embedded system. The thermostat supports the microchip architecture because it allows for an input/output within the system by way of button presses. For example, the GPIO is designed to decrease or increase the temperature depending on what button is being pressed. This style of architecture utilizes real memory within the embedded system. The system supports the Freescale architecture be enabling scalable processing to enable long term processing for embedded systems. They are an unmatched part of embedded systems that communicate with processors. This type of architecture utilizes 4MB of embedded memory.

The system utilizes all three architectures to connect and relay the data within the cloud. Without the added architectures, there would not be a possibility of relaying all information to the system accurately. There needs to be a accurate connection between the system and the thermostat for the user to be satisfied. The three architectures offer a reduced complexity and vital communication when implementing the IoT.

**Resources**

Code-compatible, Scalable Portfolio - NXP. (n.d.).

https://www.nxp.com/docs/en/brochure/PWRARBYNDBITSCSP.pdf

Svec, C. (2016, May 17). ESE101: Microcontroller peripherals, gpios, and blinking lights: Part 1.

Embedded. https://embedded.fm/blog/2016/5/16/ese101-peripherals-part-1