**CS-350 Module Seven Project**

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The three different architypes that were suggested for this project are the Raspberry Pi 4, Microchip, and Freescale, I will first discuss the specifics of the Raspberry Pi 4. As this is what the prototype thermostat was developed on, it fits all of the peripherals that are needed to make the thermostat on a large scale level. As demonstrated in the video and the Python code, utilizing the Raspberry Pi fits all of the requirements needed for a functioning thermostat. The Raspberry Pi also has the ability to connect to the cloud via Wi-Fi, through the use of an IP address, which demonstrates its ability for the second business requirement. Lastly, the Raspberry Pi relies on the use of its SSD card for its memory, so as long as it has enough RAM on it to support the code, then the architecture of the Raspberry Pi is sufficient for that business requirement as well.

Secondly, the use of a Microchip, a Microchip defines a set of instructions that the Microchip can read and understand, allowing it to execute the tasks that it has been given. So, programming the Microchip, and giving it the set of instructions to act as thermostat, will fulfill our first business requirement. Microchips unlike the Raspberry Pi (which utilizes its SD card), have built in RAM and Flash memory, so again as long as there is enough storage on the Microchip then the memory will not be any issue, fulfilling the second business requirement. Thirdly, a Microchip is made up of 100s, or sometimes 1000s, of transistors that allow it to utilize the Internet of Things (IoT), which will allow it to connect to the cloud via Wi-Fi, fulfilling the third and final business requirement.

As for Freescale, from my research I was surprised to find out that they have merged with NXP, which is a micro processing company that creates and distributes Microchips. So, this will not fulfill our business requirements and therefore would not be a viable option for this activity.