For Software Engineering/Design, I used the project from CS350: Emerging Systems Architectures and Technologies from last school term. The original project was using a Raspberry Pi 3 with GrovePi+ sensors to create a prototype of weather reporting system called WetSpec. The prototype has a temperature and humidity sensor and three different colored LEDs that light up in certain temperature humidity parameters. As an enhancement, I integrated PubNub as a real-time dashboard for collected sensor data for my existing code. PubNub can often be used for home automation through web browser or mobile interfaces. The most challenging part of this artifact was trying to successfully import PubNub to the Raspberry Pi. There was a new update to PubNub so I had to research about different versions of pubnub, python, pip were compatible. I had to go through each possible solution and ensure that I was being thorough and mindful about each modification. Once I was able to determine the right solution, I could successfully load the sensor data to the debug dashboard. In terms of meeting course outcomes, this project demonstrated skill of expanding a project’s complexity by improving the code to communicate with a real-time web dashboard. Making the data available online in real-time allows for multiple users to access the data and to create a more collaborative opportunity for future projects. The project also demonstrated an understanding software logic in how the LEDs are programmed to turn on when certain parameters are met. In terms of a security, I used a specific publish and subscribe key and a designated channel name. Pubnub has more enhanced security such as using authentication and assigning security tokens from the Access Manager which can be implemented with the paid subscription of PubNub.