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Module 6

Installing the temperature and humidity sensor went smoothly once I followed the Module Six Lab Guide step by step. I started by installing the required Python package using pip3, then powered down the Raspberry Pi before making any connections. Since the QWIIC cable was already set up from an earlier lab, connecting the sensor was simple. After powering the Pi back on, I ran the provided test script and confirmed that the sensor was reading both temperature and humidity correctly.

The next step was integrating the sensor data with the 16x2 display. I changed the template code so one line showed the temperature in either Fahrenheit or Celsius along with the humidity percentage, and the other line displayed the current date and time. I also programmed a button to switch between temperature scales.

One challenge I ran into was making the text fit neatly within the 16 characters per line. I fixed this by shortening the labels and rounding the values to fewer decimal places. I also had to make sure the display updated in real time without flickering, which I solved by adjusting the refresh rate. Overall, the process went well and helped me feel more confident about combining multiple components.