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HTML GUI Development Project

Assumptions/Notes:

* Using Python3.8 on an Ubuntu machine.
* Database is sqlite3 and interactions are through a python script using sqlalchemy.
* Generated graphs of temperature and humidity that update on a set time interval and show upper and lower bounds for alarms.
* Alarms are pop-ups.
* Humidity and temperature metrics are displayed in a table format in the UI.
* Made a change to show the total number of humidity/temperature samples and use the entire dataset for max, min, and average values.
* Encountered issues with handling static files with tornado, so decided to not include graphs.

Required Libraries:

* sqlalchemy
* tornado
* numpy

Code:

The project code is made up of 3 parts: the pseudo sensor code “pseudoSensor.py”, the database interaction code “db.py”, and the main code “main.py”

pseudoSensor.py:

db.py:

main.py:

Screenshots:

1. The HTML UI at start up
2. Error conditions
3. The UI after its first single data point reading
4. The UI after it has calculated a 10 point average
5. The UI after it has seen either a temperature or humidity alarm