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Submission Date: November 8th, 2016

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| Project | Interactive Solar Panel Display |
| Project Website | https://steve-spiteri.github.io/ |
| Reporting Period | October 11th, 2016 – November 8th, 2016 |

Dear Kristian Medri,

I am writing to bring you up to date on the progress I have made on my hardware project, the interactive solar panel display. Recent project activities include a placard to be used in the open house demonstration on Saturday, November 12th 2016 and a thirty second build video showcasing the major components used, assembly, power up, and the functionality I plan to demonstrate at the open house. Completing the placard and thirty second are defined in the project schedule Week 8 lines 26 through 27 – Week 9 lines 28 through 30.

I have successfully assembled a circuit connected to the Raspberry Pi 3 that is able to accurately read temperature, humidity, pressure, altitude, and sea-level pressure. The circuit reads output voltage produced by the solar cell and light level but it requires some calibration as the reading does not accurately represent the correct value.

As I was constructing the circuit that was outlined in the fritzing diagram provided last updated I noticed an opportunity of improvement. I was able to modify the circuit to include the sensor hat. This creates a tidier looking circuit. The project has been modified to include the sensor hat.  
Here is an image of the circuit including the sensor hat.

<img>

Here is the updated fritzing diagram. (Created by Richard Burak and is used with his permission)

<img>

Completing the circuit has brought me closer to meeting the objectives of the project as defined in the approved approval. Notable upcoming tasks include the possibly printing a secondary circuit board to complement the sensor hat to allow a more complete package, calibrating the reading for solar cell output voltage and light level, pushing the data into a database, and cutting an acrylic case for the project.

There are no financial updates. No money has been spent since the last update. I expect to buy some components for the finished project such as stand-offs, shrink tubing, etc.

Here are some hyperlinks that helped me produce the code responsible for the readings.

<links>