Re: Status Report of CENG 355 Solar Panel Project

Johnson L

Mon 2018-03-19, 10:22 AM

To:Austin Tian <Austin.Tian@humber.ca>;

Cc:adrianc_34@hotmail.com <adrianc_34@hotmail.com>;Raphael Carlo Najera <rcnajera@outlook.com>;

Hi Austin,

The following email will discuss the status of the Solar Capstone project since status A. In status B, the team has made significant progress in terms of retrieving and displaying data into our applications. Additionally, the team has been frequently updating the OACETT documentation based on the feedback received from our advisor.

There weren't any major changes to the database as it was already retrieving real-time data from the solar panels. However, one feature Adrian added to the python script was a field called "epoch" into the tables. The purpose of this additional field was so the database can flush out the tables every 30 days. Firebase has a limited storage to 1GB per account and if the python script runs every 30 minutes for 30 days, the database will have an estimation of 5760 entries across four PVs. As a result, if the data is old the team believes it should be removed to limit the amount of entries. Johnson and Raphael wrote the python sections to retrieve PV2 meanwhile Adrian retrieved PV3. However, the filtered data from PV3 is still unclear to the team.

The mobile application transitioned from a basic template to being able to retrieve the latest entry from the Firebase. As a result, Raphael was able to display the latest power, daily yield, total yield from the PV's. Raphael is currently working on a feature which displays the history of the accumulated data. The layout for each PV's is divided into two layouts, one being the latest data and the other being a history of data. The history of data will use a ListView to display previous entries from the Firebase. Both layouts will be accessed by using Tab layout. https://github.com/RaphaelNajera/Solar-Capstone-App

The web application was originally planned to be made with NetBeans however, the team decided to use HTML instead. Johnson was able to retrieve and display the latest date, power, daily yield, and total yield from all solar panels. The HTML contains four different frames and each frame corresponds to its solar panel. As of right now, the HTML is able to retrieve a history of 16 entries for the power section with the help of Johnson and Raphael working together. The array is still a working progress and we are attempting to retrieve the history of all dates, power, and daily yield. Additionally, this HTML file will be hosted on GitHub so that it can be publicly viewed. https://github.com/j-liang/solarcapstone_web

The team is still having issues with PV3 although the python script is capable of filtering out the data. The team is unsure at what data should be pushed into the database. We also switched the web from java app to HTML because there's no SDK support for Firebase.

There are no financial updates to this project from status A. As of current, the project only requires a Raspberry Pi to run the python script. The device must be present on Humber's network otherwise the solar panel's IP addresses are not retrievable. As a result, the project's financial status remains the same. Solar Capstone Project Github: https://github.com/RaphaelNajera/Sunlight_Sensor

Thanks,

Johnson Liang - Solar Capstone