## Feb 8, 2024 10:00 AM | [Senior Design Team 50 Biweekly Meeting](https://www.google.com/calendar/event?eid=MnBuOTRzNTVvNDJwOW4xN240NmhmZG1pYWpfMjAyMzEyMDVUMTQwMDAwWiByYWJhaWxlM0BuY3N1LmVkdQ)

Attendees:

| Present [Huangjie Gong](mailto:huangjie.gong@us.abb.com)  Present [Andrew Bailey](mailto:rabaile3@ncsu.edu)  Present [Manny Harris](mailto:erharris@ncsu.edu) | Present [Ralph Cullom](mailto:rmcullom@ncsu.edu)  Absent [Labib Kasim](mailto:lkasim@ncsu.edu) |
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[Team Charter - 50\_ResidentialPowerDisaggregation\_Fall\_2023](https://docs.google.com/spreadsheets/d/19QlSl8Cbm5M9cFBJFcICrvQb3tRDH6ZTBHSlsWt19BE/edit#gid=770004057)

Agenda:

* **Walk in item solicitation**
* **Previous Action Items**
* **Planning review**
  + From program review
    - Finding and documenting more risks
    - Having more detailed tasks
    - Making sure tasks align with other subsystems
* **Walk in items**

Walk in items:

* Weather API sites [Link 1](https://www.weatherbit.io/api/historical-weather-api) [Link 2](https://openweathermap.org/history) (If no measurements from raleigh use other city in NC like Charlotte)
* Grafana presets [Link 1](https://grafana.com/grafana/dashboards/13721-circuitsetup-6-channel-energy-meter/)
* Docker on RPi [Link 1](https://www.tim-kleyersburg.de/articles/home-assistant-with-docker-2023/)
* Meeting short
* Can run ML and preprocessing on raspberry pi
  + Can make predictions every 15 minutes

Previously discussed items:

* Updating block diagram
* Frequency to update grafana

## Feb 8, 2024 7:00 PM

Highlighted = moved onto timeline and task list

Project Tasks

**Program Review 2 - 2/20**

* Display cost for total and each appliance (Website/UI)
* [Add temperature column to training data](https://colab.research.google.com/drive/1XFdcutpCjaeUDQAipVeohmYLwqAD2Azy?authuser=1)
  + Get the weather api to display temperature information from when the measurements are taken.
  + Add as a column to the training data recording temperature based on the timestamps column
* Install home assistant on raspberry pi
  + Install grafana and influx add ons to home assistant
  + Read and write data from influx local

**Alpha Demo - 3/5**

* Have measured graph presets & costs displayed (Website/UI)
  + Have a temperature graph for chosen time shown in Grafana (maybe?) (Website/UI)
* Run machine learning model real time
  + Train final machine learning model (Using customer 1 data with weather added)
* Measure data with ESPHome into influx
* Real time weather data/ future weather predictions

**Program Review 3 - 3/19**

* Unbounded Grafana (maybe?) (Website/UI)
* Export machine learning model
* Run ML model and weather API on some device

**Beta Demo - 3/29**

* Record live measurements
* Store them to influxDB
* Send to weather API and ML model
* Make predictions using ML model
* Send back to influx
* Display on grafana