

A Generalized Open Source Platform for Building Energy Management

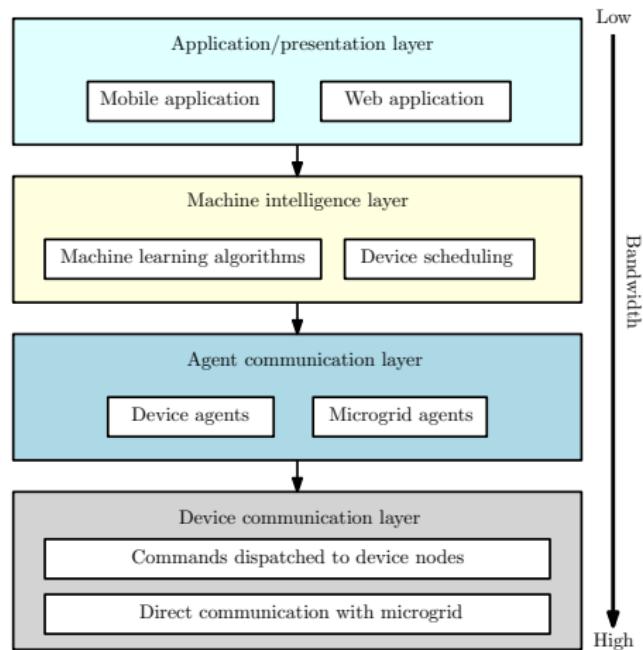
Brian Lauer
Advisor: Dr. Suruz Miah

Department of Electrical and Computer Engineering
Bradley University
1501 W. Bradley Avenue
Peoria, IL, 61625, USA

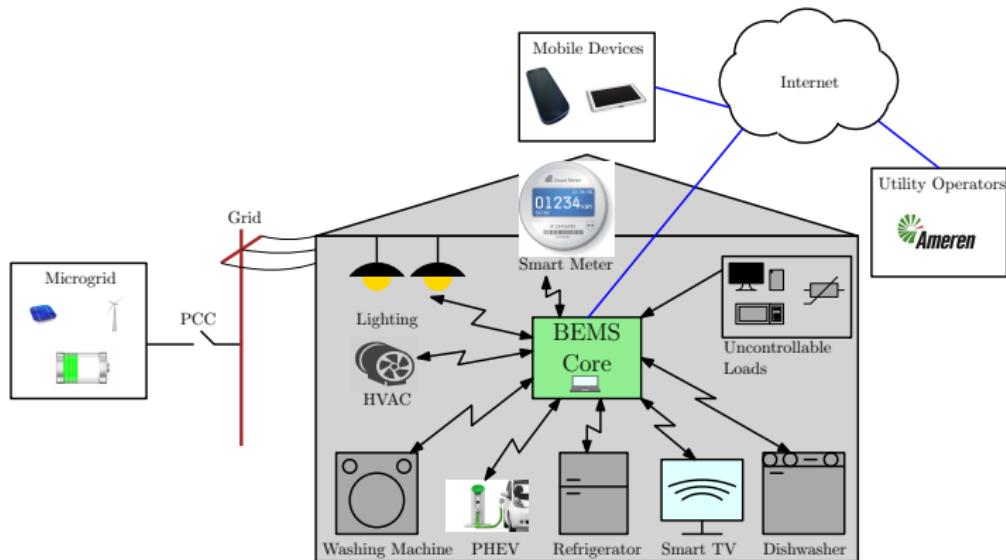
Thursday, August 20, 2020

Outline

Introduction



Introduction



Progress

- Continued working on two functions added to `utils.py`,
`insertIntoTSTable` and `createDeviceTSTable`
- For now, SQLite database will be used for storing time series database

TS Table Creation

Steps followed in the algorithm:

- ① Select the contents of the queryable column in the ActiveDevices table corresponding to the device id passed as a parameter
- ② Split up the contents into individual strings, for example, 'power', and 'onOffStatus' for WeMoAPI
- ③ Create a table titled Device[id number]TSData and add different columns corresponding to queryable values returned from ActiveDevices table, each column will be text data, the software should understand the names of these queryable values

Note: deviceId is autoincremented when the devices is added to the ActiveDevices table

TS Table Insertion

Steps followed in the algorithm

- ① Retrieve the current time (month, day, year, hour, minute, second)
- ② Create a time stamp string based on time data gathered from the above step
- ③ Check if a TS table for the device exists (for robustness and reliability purposes)
- ④ Check whether the last entry in the table was added greater than 40 minutes prior, if so remove the last entry in the table
- ⑤ Add the input data to the TS table (power, on/off data)

Plans

- Finish working on working on the `insertIntoTSTable` function
 - Determine how to check whether table exists in SQLite
 - Write parser for timestamp from previous entry
 - Find away to determine which table element was last added
 - Compare timestamps
- Create an event loop in the `ControlAgent` to constantly poll data from the device
- Add UI element for displaying power consumption and on/off status

Any Questions?