Appendix

Initial Client Consultation Notes:

* Client recently installed tesla powerwall system
* Total capacity: 40 KWh
* Has a number of windows desktops, servers, and other devices that burn a lot of power
* Typical consumption: 4-5 KW/H
* Neighborhood has frequent power outages
* Recently traveled to Seattle when a power outage occurred
* Had to call father-in-law to drive to house and shut down devices to save power
* Wants a program that can automatically shut down and bring up non-critical devices in case of power outage
* Has a mix of Kasa (smart plugs) and Tuya (outdoor plugs + smart bulbs) smart devices. Client is willing to install additional devices if the program meets expectations.
* Program can run on the client’s low power server that performs critical functions including acting as router and must stay on. Linux based. Can provide me with an account to access remotely and use for development
* Disconnecting the powerwall system from the grid must be coordinated with the client.

Second Client Meeting (To Discuss Proposed Solution) Notes:

* Discussed choice of development language (python), use of python modules, textual user interface
* Client in on board with proposed solution

Evaluation Meeting with Client:

* I presented the finished product
* Client is satisfied with product
* Explained how to run + setup the program
* Client feels confident using the program, adding additional information
* I proposed plan to bring computers up using Kasa device - client accepted proposal
* Discussed possible concerns/future improvements:
  + concerned that passwords for windows desktops are stored in clear.
  + automating shutdown of disk shelves used by storage server
  + Excluding individual tuya and kasa devices
  + Place to log program actions

Client meeting to propose how to institute improvements:

* A future version can explore ways to encrypt and decrypt passwords.
* Automate disk shelve control in future version
* A future version of the program can support excluding individual smart devices using a text file.
* Future version can have file to log program actions
* Client is satisfied with suggestions

References:

*“OpenBSD Manual Page Server.” Ssh(1) - OpenBSD Manual Pages, https://man.openbsd.org/ssh.*

*“Shutdown Windows Machine from Linux Terminal.” Stack Overflow, 15 Nov. 2014, https://stackoverflow.com/questions/9936986/shutdown-windows-machine-from-linux-terminal.*

*Shutdown(8) - Linux Manual Page, https://man7.org/linux/man-pages/man8/shutdown.8.html.*

*SSH-Copy-ID(1) - Linux Man Page, https://linux.die.net/man/1/ssh-copy-id.*

*Jasonacox. “Jasonacox/Tinytuya: Python Module to Interface with Tuya WIFI Smart Devices Using a Direct Local Area Network (LAN) Connection or the Cloud (Tuyacloud API).” GitHub, https://github.com/jasonacox/tinytuya.*

*Python-Kasa. “Python-Kasa/Python-Kasa: 🏠🤖 Python API for TP-Link Kasa Smarthome Products.” GitHub, https://github.com/python-kasa/python-kasa.*

*Jrester. “Jrester/tesla\_powerwall: Python API for Tesla Powerwall.” GitHub, https://github.com/jrester/tesla\_powerwall.*