Criterion B: Record of Tasks

| Task Number | Planned Action | Planned Outcome | Time Estimated | Target Completion Date | Criterion |
| --- | --- | --- | --- | --- | --- |
| 1 | Initial project idea generation + workshops | A discussion with my computer science teacher to discuss my possible project ideas | 1 day | 2/2/2022 | A |
| 2 | Contact client | Basic discussion of client issue | 1 day | 2/3/2022 | A |
| 3 | Detailed Interview with client | Discuss the details of the project with the client.  Research the components needed to solve the problem | 1 day | 2/4/2022 | A |
| 4 | Second discussion with client | After some research and planning, meet with the client to talk about the proposed solution. Make any changes to the plan if necessary | 4 days | 2/8/2022 | A |
| 5 | Investigation of Python modules for clients specific devices | Do in depth research on the specific modules that will be used of the clients devices and how to tie everything together | 1 week | 2/15/2022 | A |
| 6 | Plan out schedule | Take time to plan out the timeline of the project | 1 day | 2/16/2022 | A |
| 7 | Define the success criteria and verify with the client and computer science teacher. | Define the final success criteria and verify that it is what the client wants and also doable. | 2 days | 2/18/2022 | A |
| 8 | Acquire login credentials for client’s Linux computer | Able to login and execute python scripts | 1 day | 2/19/2022 | B |
| 9 | Acquire login credentials for powerwall, install tesla\_powerwall python module using pip and test key functions | Basic communication with powerwall works, able to invoke basic APIs such as grid status, charge percentage, etc | 1 day | 2/20/2022 | B/C |
| 10 | Meet with client to configure test windows desktop and test remote shutdown from Linux | Able to shutdown windows desktop | ⅓ day | 2/21/2022 | B/C |
| 11 | Meet with client to configure Linux and Solaris servers with ssh authentication credentials and test shutdown functionality | Ssh can be invoked from monitoring computer and invoke ssh commands, remote shutdown works | ⅓ day | 2/21/2022 | B/C |
| 12 | Test WakeOnLan functionality | WakeOnLan brings computers up.  Note: Unfortunately, the test failed when the computers are connected through wifi. It was therefore not included in the final design. | ⅓ day | 2/21/2022 | B/C |
| 13 | Install kasa python library and test basic functionality (device on/off) | Devices turn on and off | ½ day | 2/22/2022 | B/C |
| 14 | Create Tuya cloud account and cloud project | Account and project created | ½ day | 2/22/2022 | B/C |
| 15 | Meet with client to connect client’s Tuya app account to Tuya cloud project to permit access to clients devices | Client’s Tuya app account connected to Tuya cloud project | ½ day | 2/23/2022 | B/C |
| 16 | Install tuya python library and test basic functionality (device on/off) | Tuya devices turn on and off | ½ day | 2/23/2022 | B/C |
| 17 | Design monitoring loop and create flowchart | Monitor loop designed and flowchart created | 2 days | 2/25/2022 | B |
| 18 | Design file formats for windows desktops and linux/solaris servers | File format designed | ½ day | 2/26/2022 | B |
| 19 | Install curses python module and test window creation and output functions | Basic functionality tested, windows created, basic concepts learned. | ½ day | 2/26/2022 | B/C |
| 20 | Design rough textual user interface (window placement, key information, user commands) | Textual user interface designed | ½ day | 2/27/2022 | B |
| 21 | Design interaction with user function and create flowchart | User interaction function designed and flowchart created | ½ day | 2/27/2022 | B |
| 22 | Develop monitoring thread using dummy shutdown and bringup functions | Monitor thread created | 2 days | 3/1/2022 | C |
| 23 | Arrange with client a time to test grid status change detection functionality (requires taking powerwall off the grid manually) | Client met with. Program successfully detects grid status change and evokes dummy functions. | 1 day | 3/2/2022 | C |
| 24 | Develop textual user interface (menu and user input) | Textual user interface created | 1 day | 3/3/2022 | C |
| 25 | Move the monitoring function to separate thread and assign the main thread to run user interaction function | Create the finished interface with multithreading. | 1 day | 3/4/2022 | C |
| 26 | Test user interaction calling dummy shutdown/bringup functions and program exit | Successfully test user interaction. | 1 day | 3/5/2022 | C |
| 27 | Develop shutdown function for windows desktops | Read file and successfully issue shutdown commands. | ½ day | 3/6/2022 | C |
| 28 | Develop shutdown function for servers | Read file and successfully issue shutdown commands. | ½ day | 3/6/2022 | C |
| 29 | Develop shutdown and bringup functions for kasa devices | Discover devices and successfully issue shutdown and bring up commands. | ½ day | 3/7/2022 | C |
| 30 | Develop shutdown and bringup functions for Tuya devices | Get list of devices from cloud and successfully issue shutdown and bring up commands. | ½ day | 3/7/2022 | C |
| 31 | Test shutdown and bringup functions using the user interface (no need to disconnect powerwall from the grid) | Successfully shut down and bring up all devices through user interface | 1 day | 3/8/2022 | C |
| 32 | Evaluate program success |  | 1 day | 3/9/2022 | E |
| 33 | Prepare program documentation | Create documentation to give to the client the instructions on how to instal and run the program | I day | 3/10/2022 | E |
| 34 | Meet with client to present product, explain user interface, explain how to run product and get feedback. (get product set up for client use) | Meet with the client and set the client up to independently use the program. Receive client feedback for future improvements. | 1 day | 3/11/2022 | E |
| 35 | Review client feedback and respond to client | Meet with clients and explain how future improvement will be conducted. | 1 day | 3/12/2022 | E |
| 36 | Product demonstration video planned and produced | Create the completed video demonstration. | 1 day | 3/13/2022 | D |