PROJECT PLAN DOCUMENT

(Due:21th January , 2020)

This is a “living document”, meaning its content will change with the implementation of the project.

Project number **Project 37**

Project Title **Energy Monitoring in KRB**

Document **Project Plan**

Creation date **19/01/20**

Created By **All team members**

Client **Vishal Garg , IIIT Hyderabad**

Brief problem statement

To monitor and control the air conditioning system in the Kohli Research Block via a user friendly website integrated with an alarm system to save energy . This project is expected to monitor the temperature of each laboratory in KRB and generate useful analytics that indicate energy consumption by the air conditioning systems.

Team Members

Pranav Tadimeti
Swastik
Murawat

Sartak Periwal

Jyoti Sunkara
Fanish Jain

and their roles are weekly assigned and mentioned in the repo (Gitlab)

Team Communication

The team members meet at least once a week and discuss the roles of each member and creatively collaborate . We push every detail of the meets to the Gitlab repository , under MoM's.

Development Environment

We will be using the following for the development of the website :

HTML, CSS ,Python ,Javascript and MySQL for frontend and backend
BACnet (language for interacting with the Daikin D-BACS system in KRB)

Gitlab for version control of our project and Testing Frameworks (Not decided yet)

Milestone Schedule

The deliverables' release dates are given in the SRS of this project . Below are the tasks and their due dates (This will get updated every week).

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Milestone	Due Date	Release Deliverable

Create draft requirements (various docs)	21/01/ 20	Yes
Finalize requirements	21/01/ 20	Yes(R1)
Connect to BACnet	27/01/ 20	Yes(R1)
Login registration	27/02/20	Yes(R1)
Controlling AC(s) using BACnet	22/02/20	Yes(R1)
Monitoring AC(s) temperature using BACnet	24/02/20	Yes(R1)
Controlling AC using autocad maps	3/03/20	Yes(R1)
Writing hobolink APIs	11/03/20	No
Setting up wattnode	11/03/20	No
Documentation of the work	15/03/20	No

Future plans

Revised project plans

Sprint-6(23rd March)

1. OUTDOOR parameters data
    - Get the outdoor data for analyzing temperature maintained by ACs.
    - Use HOBOlink APIs(suggested by client) to find values of different parameters.
    - Find the average of parameters throughout the day.
    - Plot graphs for variation with different parameters with each other.
2. User rights
    - Make registration rights for different users.
    - Allow all ACs to be controlled by Admin.
    - Allow space users to control ACs of their labs.
    - Make public domain for the same.

3.Displaying data

- Show all the displaying data from hobolink.
- Get the wattnode setup running(client provides it).
- Showing access rights to registered users.

- Displaying all the maps required for the user.

4.Graph Analytics

- Show all the ACs log data
- Graph for showing the graphs for 2 parameters eg. Solar radiation and temperature.
- Showing all the parameters changing values over last x days and plot them graphically.
- Show data acquired from wattnode device(setup by client) as graphs.

Sprint-7(11th April)

1. Email-Alerting system

- Check energy consumption level.
- Check usage of given lab.
- Send an alert to the lab head with information of over usage.
- Check if the system has responded or not.

2.Saved energy

- Use the data from HOBOlink to find if ACs are at suitable temperature.
- Use occupancy sensors to detect if the lab has AC on without occupancy.
- Check energy usage with respect to the number of students in the lab.
- Give access to the admin to send email alerts to all the space users.

3.Heat Map Analytics

- Categorise data of AC usage from BACnet(set up by client).
- Map each floor with energy usage.
- Display all data aspects as part of a graph.
- Show total energy used

4.History of AC usage

- Keep a log of last AC temperature.
- Keep status of AC (ON/OFF).
- Show total duration of usage.
- Show average temperature of AC.

Sprint-8(Added sprint)

- Test all unit components.
- Test integrated components.
- Complete all the components which cannot be completed from remote development,Eg-AC

control verification (As need to connect to Local network)

- Complete Backlog from the previous sprints(if any).