TEAM ORCA(19311) JAMIA MILLIA ISLAMIA NEW DELHI

CENTRALISED WIRELESS HOME APPLIANCE CONTROL

#GDL 18 - GOVT OF DELHI

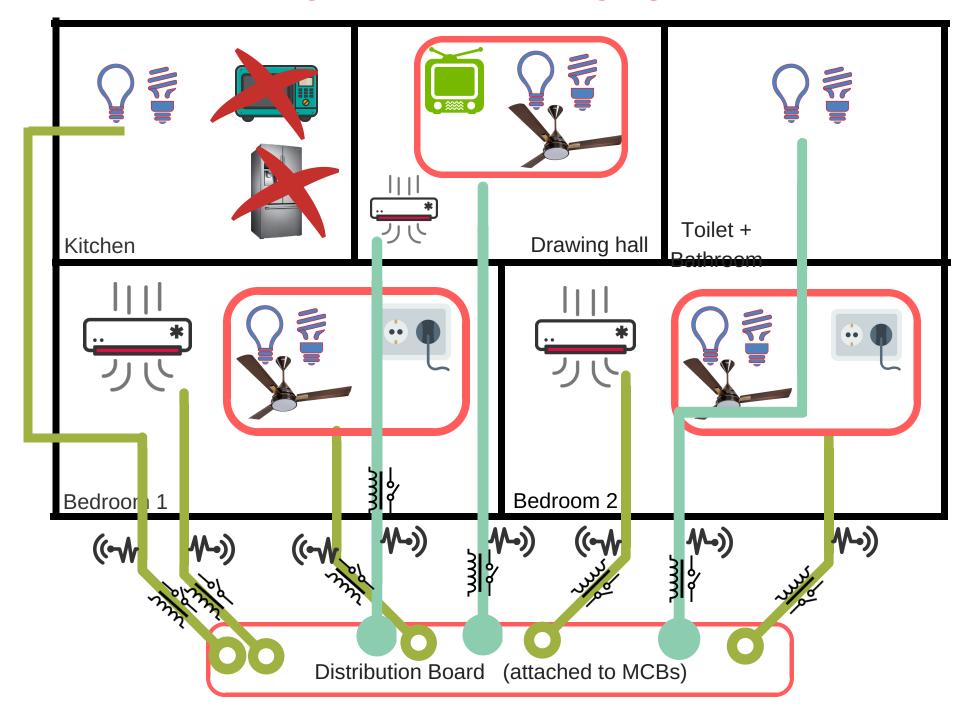
PROBLEM STATEMENT:

Centralized home appliance control using IOT with analysis & visualization of power consumed by user devices

CURRENT PROBLEMS

- Less ease of access to appliances at home
- Distribution of electricity by Electricity Board
- No proper fault detection mechanism at home because of no real time monitoring system
- No centralized system

CENTRALIZED SYSTEM



ESTIMATED COSTOF OUR SYSTEM

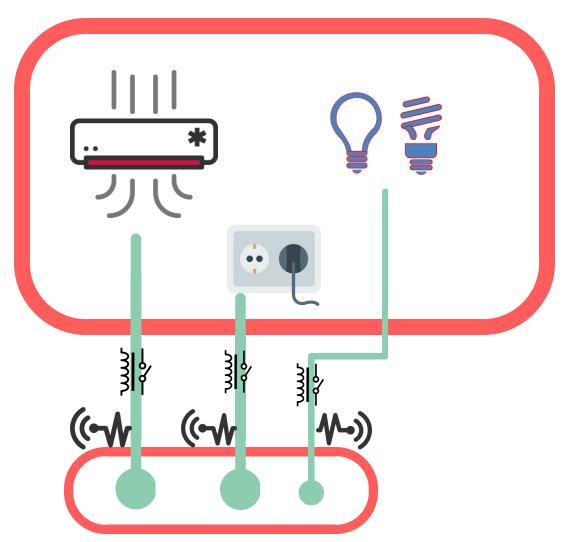
Sensor cost = $Rs100 \times 8 = Rs800$

Relay cost = $Rs60 \times 8 = Rs480$

Arduino board = Rs200

Raspberry pi = Rs1500

~ Rs 3000



System can be more customized according to user needs

Additional sensors and relay switches will have to be added



certain devices which only require monitoring and not control





LET'S TALK ABOUT AC'S!

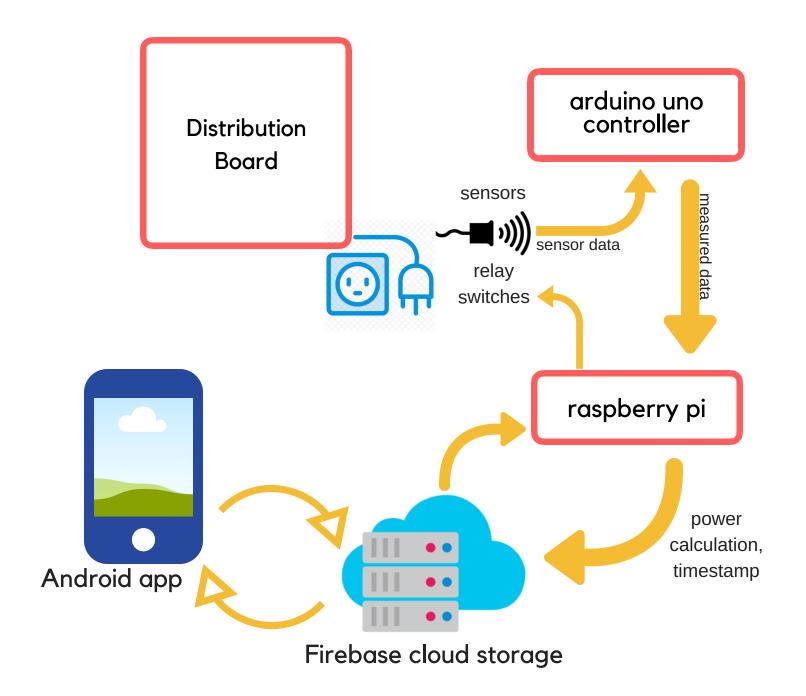
1.5 ton split AC consumes ~6.8 units of power during its 14 hr cycle assuming its compressor works for only 4 hrs in that cycle

Cost = Rs 40.8/day

If the user forgets to switch it off for some 6 hr duration..

Cost incurred = Rs 58.28/day

For that day, considering only an AC, we save ~42.8% energy!! Promising!

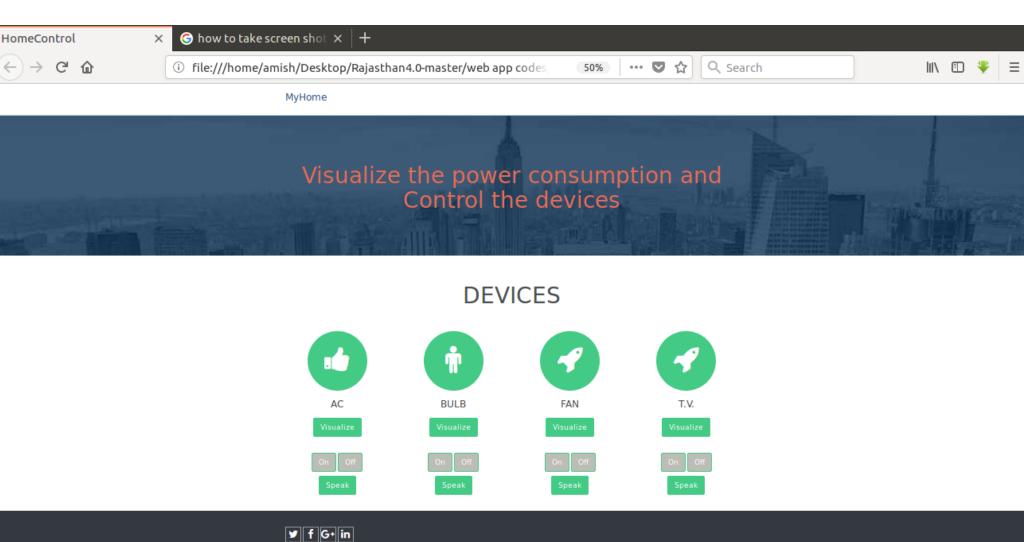


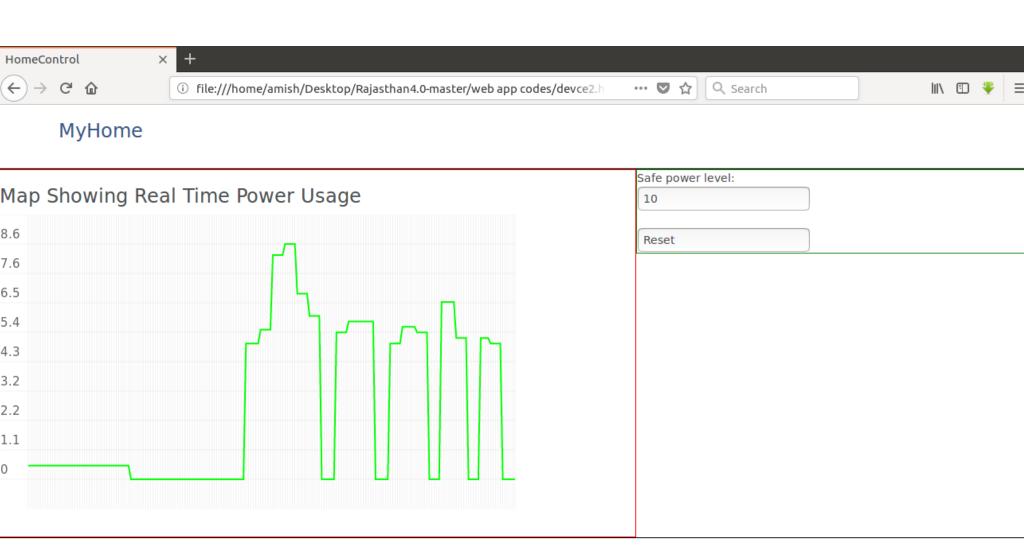
OUR INNOVATION

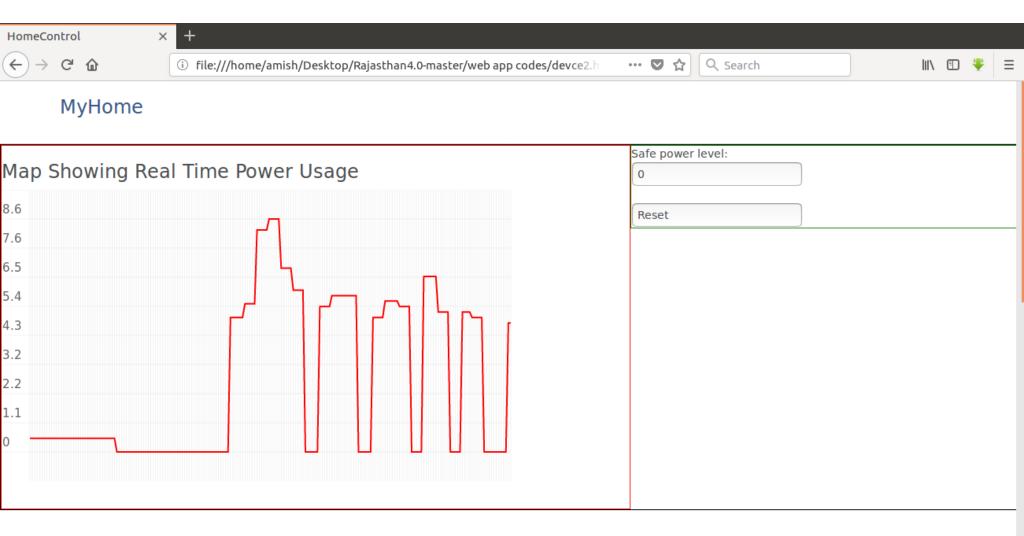
- Both Web and Android interface
- Voice control for switching devices on/off on web interface
- Dynamic and static graphs for visualization of power consumption over a duration of time
- Realtime monitoring to alarm user if the usage becomes unsafe, over system notifications
- Provision to switch devices on/off on scheduled times of a day
- Electric bill generation
- An intelligent energy distribution system with a fixed power use of every home set from Electricity Board(EB) office
- Secured system over Raspberry pi

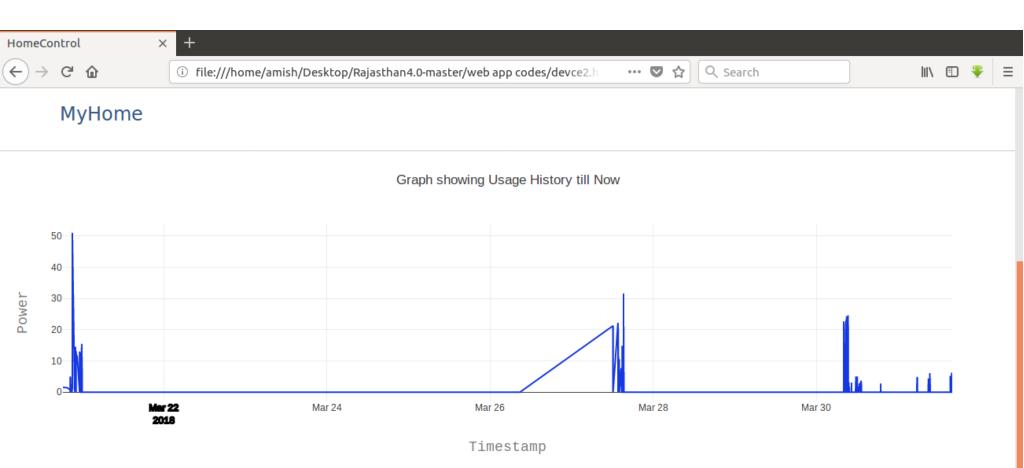
PROJECT DEMO

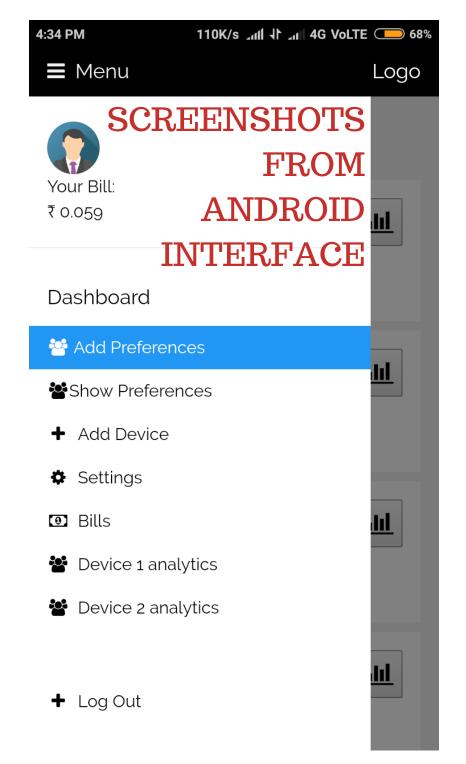
SCREENSHOTS FROM WEB INTERFACE

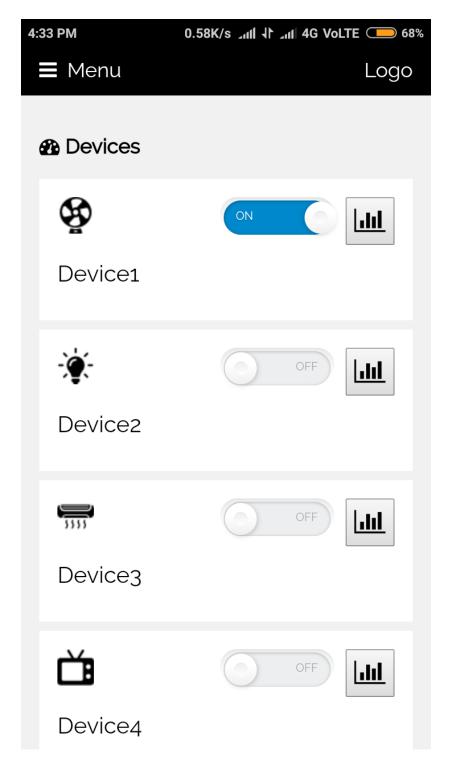




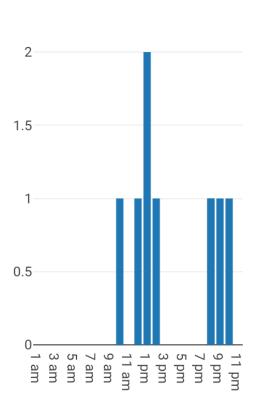


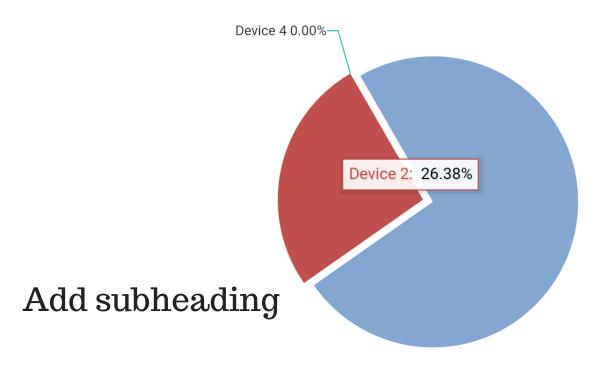






Your Bill usage





CanvasJS.com

Automate Device

Select Device:

Choose... ▼

Select Time Condition:

Hours ▼ Minutes ▼

Select Action

Choose... ▼

SUBMIT

Your Preferences

Preference 1

Device 1

Action: ON

Time: - 5: 14 PM

Preference 2

Device 1

Action: OFF

Time :- 3 : 46 PM