

PROJECT NAME: Smart room

TEAM NAME: Energizers

Team Members:

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DESCRIPTION

It is a device that helps the user control the lighting, fans and all the electrical devices in his room with an app. And there will be manual switches in the room as well. There will also be sensors, to have automatic lighting when the person enters the room, or if it is too hot the fans will go on. The person's controls will override the sensors. However there will be a message that comes on the app for example that the person is using the light when there is sufficient lighting in the room. We also intend to use a Wifi shield for the arduino and try and have control over the electrical equipment from outside the room as well. We intend to monitor the person's usage and then suggest any measures he can take to reduce his electricity bill. For example if the person's use is mainly lights, based on his consumption, we will suggest something like LED lights, and provide a payback period for it and show him how much he will save. We will also try to do the project using an ATMEGA controller using AVR after we are successful using an Arduino and if we are able to complete the original project early enough.

Week-1 + Week-2 + Week-3: Learn android studio, arduino programming and designing the casing for the different sensors and their placements for a particular room, and start buying the required parts.

Week-4- Learn how to use the Wifi shield, and start making the app.

Week-5 -Try and complete the prototype.

Week-6- Test and debug the entire project.

Week-7 - Finishing touches.

Week-8- Also in case of delays.

MAIN COMPONENTS REQUIRED:

- 1) Arduino
- 2) Arduino wifi shield
- 3) Bluetooth receiver(Maybe)
- 4) LCD display

- 5) Relays
- 6) PIR sensor
- 7) LM35D Temp sensor
- 8) LDR sensor.
- 9) Casing boxes for the arduino, and for the sensors.

KNOWLEDGE GAINED

- 1) Android app development
- 2) Arduino coding and wifi shield usage
- 3) Understanding of usage of various sensors.

COST ESTIMATION

(Rs 2500)

- 1) PIR sensors, LCD display, other sensors all together about Rs 1000
- 2) Arduino wifi shield Rs 550
- 3) Casing for sensors, and other electronic equipment that is unforeseen Rs 1000