

Automated Room System

About Project: Project deals with creation of automated system prototype which will automatically adjust things in room so as to make a comfortable environment inside.

This consist of following things:

(1) Automated light system: It consist of two things

(a)automation of artificial light: In this light appliances will adjust their brightness according to required light condition inside room by sensing light intensity in room.If natural light is enough it will shut down appliance so as to save electricity.

(b) automation of natural light :In this we will be creating light intensity detector and developing system which will tilt window panes to maintain adequate amount of light in room. It will be extremely helpful in summer season.

This two systems will work together to make maximum use of natural light and save maximum energy.

(2)Automated ceiling fan regulator system: In this we will develop system which will regulate fan speed according to the temperature inside room.

(3)Automated door system:In this we will develop system which will activate system when someone enters and shuts down itself when he leaves so as to save energy which is extremely helpful in hotels,etc..

Implementation:

Firstly we will start with creation of light intensity detectors using phenomena of photodiodes,photoresistors to create automated light system.Then we will start to work upon ceiling fan regulator using thermosensor,little bit of coding.once individual systems are ready,we will combine them to make it single automation system.

Week1:Will try to create circuit diagrams and all such things that needs to be done on paper.

Week2&3: things done on paper will be assembeled with actual components.

Week4 first half: individual systems will be ready.

Week 4 2nd half :synchronization of all systems so as to make it work as single system.

Week5:Testing and corresponding alterations.

Components required: For automation of light various photoresistors,photodiodes will be required which will combine to form light intensity detector and will be used further in window panes adjustment too.

For ceiling fan regulator temperature detector sensors such as MLX90614,atmega32 development board will be used.

Apart from this various LEDs,wires,circuit boards,ICs,etc.. will be required.

(we don't know anything about price but it will be around 4-5k approximately)

Learning Objectives:

Try to learn basics of electronics, automation techniques, energy conservation methods, and will try to have some fun..