

PROJECT-GREEN CAMPUS USING SENSORS

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THE PURPOSE

The aim is to create an energy efficient lighting system for a green academic campus including classrooms, corridors and gardens or specific blocks inside/outside campus too. By this, we offer a scalable and cost effective smart campus automation system. This system needs no manual operation for switching ON/OFF when a person enters or exits a room or any kind of bounded area (such as bounded gardens, halls etc.). The PIR (Passive IR) Sensor and receiver are placed at the entrance of the room doors in such a way that the sensor senses a single person entering/exiting the room at a time.

THE TECHNOLOGY

The circuit helps in controlling the lights in a room. When a person enters into the room or any kind of bounded area then the counter is incremented by one and the lights in the room will be switched ON and when a person leaves the room then the counter is decremented by one. The lights will only be switched OFF until all the persons in the room go out and the room is unoccupied.

Materials Required

- Arduino UNO board
- 2 Infrared sensors
- 2 Light Dependent Resistor(LDR).
- Relay Module(5V)
- Bulb

- 2 LED
- Connecting Wires
- Transformer (290/9v)
- 4 Diodes
- Capacitor (1000 uF and 0.1uF)
- IC 7805
- Resistor (470E)
- Bread Board

PLANS FOR LATER STAGES

In the Sense of Green Academic Campus Project, we will construct a platform to observe energy consumption in average classrooms, corridors, roads and bounded gardens inside the campus through wireless sensors and visualize the data to users to promote energy awareness. Hence this application can also be built for handling the street lights and corridor lights more economically by placing the sensors on the street lights/corridor lights and can be operated without any difficulty. For large corridors (>50 feet), it can be broken into segments for optimal control of energy consumption