

Room Automation System using Cisco Packet Tracer

Aim

To design and simulate a Room Automation System using Cisco Packet Tracer IoT devices, which automates lighting, temperature regulation, and fan control with remote access through a Tablet PC.

Problem Statement

Traditional room environments require manual control of devices like lights, fans, and heating elements, leading to energy wastage and inefficiency. There is a need for an automated system that can intelligently monitor room occupancy and environmental conditions to control devices effectively, ensuring both energy efficiency and user convenience.

Scope of the Solution

1. Automation of lighting based on motion detection.
2. Automatic regulation of room temperature using a Temperature Monitor, Fan, and Heating Element.
3. Remote monitoring and manual control through a Tablet PC connected to a Home Gateway.
4. Provides a scalable model for smart home automation using IoT concepts.
5. Demonstrates IoT integration in a simulated environment using Cisco Packet Tracer.

Required Components

Software / IDE :

Cisco Packet Tracer 8.2 or higher

Hardware (Simulated IoT Devices) :

1. Home Gateway (IoT Hub)

2. Tablet PC (User Control Device)
3. Motion Detector (Occupancy Sensor)
4. Light (Smart Bulb)
5. Fan (Smart Fan)
6. Temperature Monitor (Thermostat Sensor)
7. Heating Element (Heater)

SIMULATED CIRCUIT

