

ROOM AUTOMATION SYSTEM USING CISCO PACKET TRACER

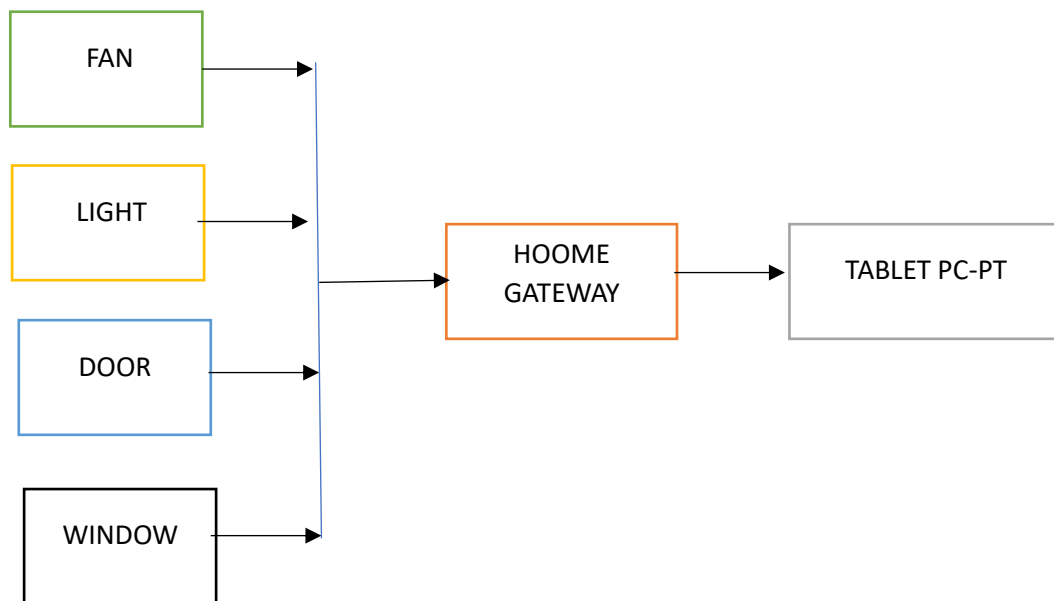
PROBLEM STATEMENT:

1. To design Room Automation System using cisco packet tracer , first we need to define the 'Problem Description '.Accordingly , we will choose the components required .
2. The objective of this assignment is to develop a room automation within the cisco packet tracer simulation environment . The system will incorporate a system that will detect Day time and Night time to automatically ON or OFF the electric devices like Lamp and Fan Also, it will operate the window accordingly.

COMPONENTS REQUIRED:

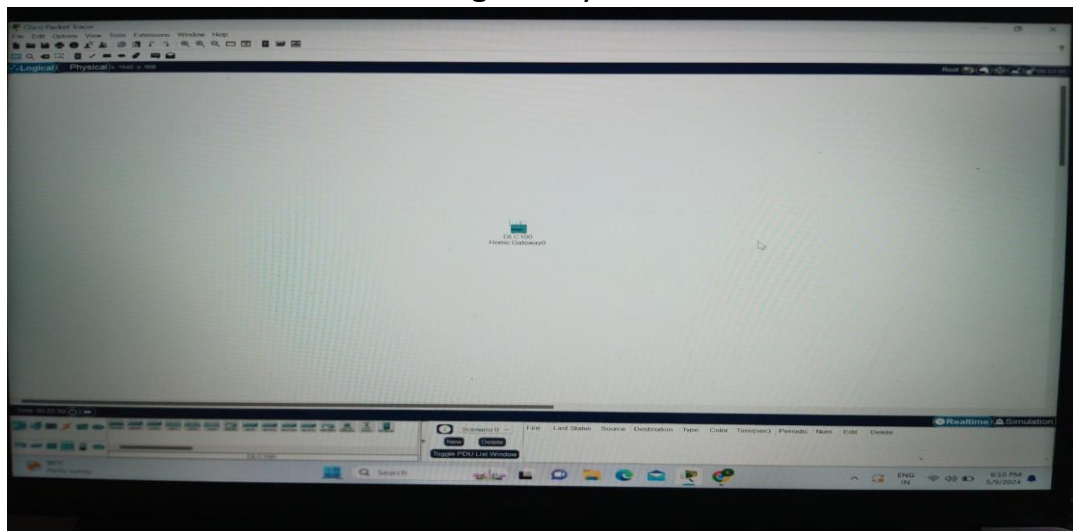
- Home gateway
- Door
- Window
- Fan
- Light
- Tablet to control the devices

BLOCK DIAGRAM:

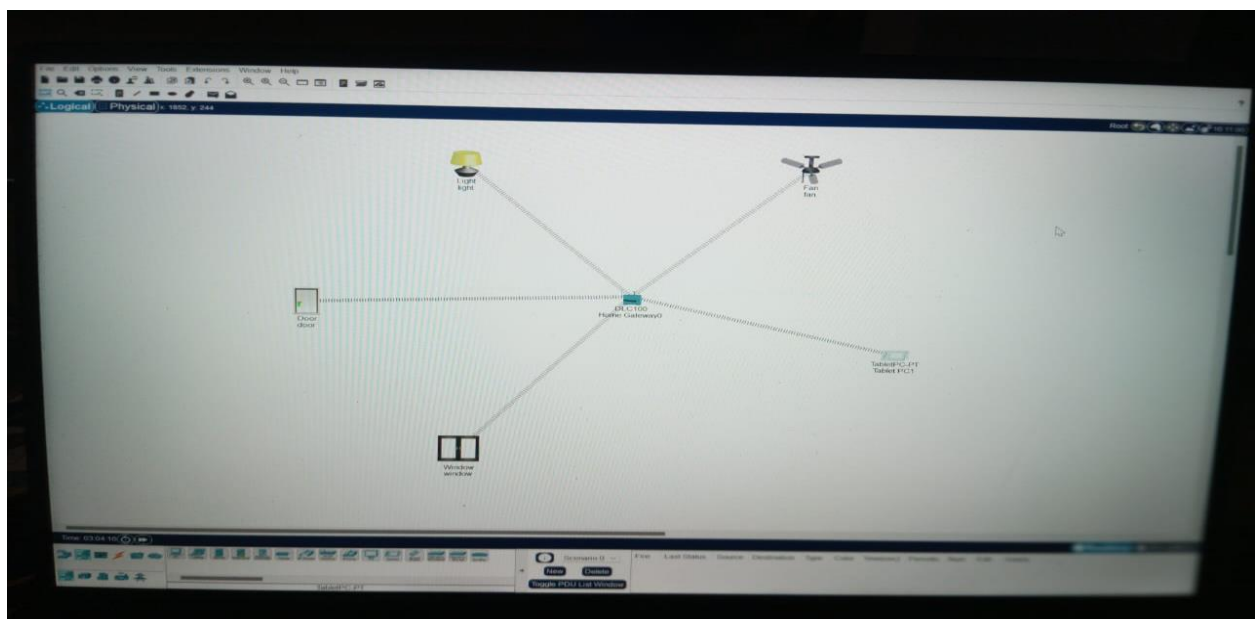


PROCESS:

1. Open Cisco Packet Tracer
2. Select Home gateway



3. Select the various components in room like fan, light, door, window and tablet.



The screenshot displays a Realtime Simulation environment. In the background, a network diagram shows a 'Light' node connected to a 'Wireless network' node. A 'Home Gateway01' device is highlighted, and its configuration window is open in the foreground.

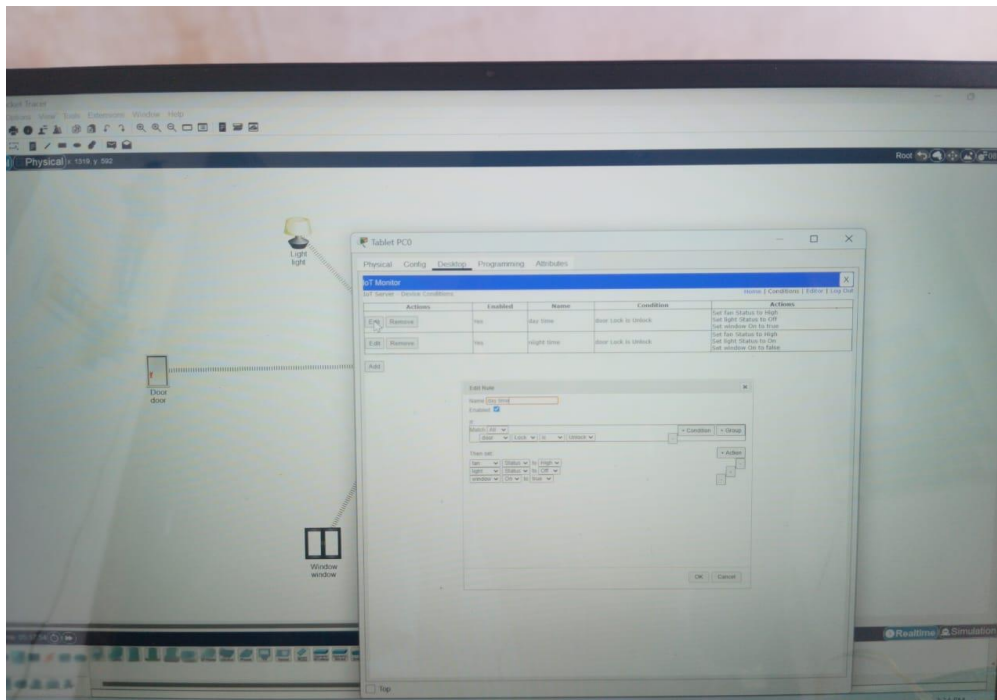
The configuration window for 'Home Gateway01' has the following settings:

- Physical:**
 - General: Settings, Algorithm Settings, Interface, LAN, Wireless
- Wireless Settings:**
 - SSID: HomeGateway01
 - 2.4 GHz Channel: 6 (2.437GHz)
 - Channel Range (width): 250.00
 - Authentication:
 - ☒ Disabled
 - ☐ WEP
 - ☐ WPA PSK
 - ☐ WPA
 - WPA/WPA2 Key: WEP Key, PSK Pass Phrase
 - WPA/WPA2 Settings:
 - ☐ WPA
 - ☐ WPA2
 - WPA/WPA2 Group Settings:
 - IP Address
 - Shared Secret
 - Encryption Type: Disabled

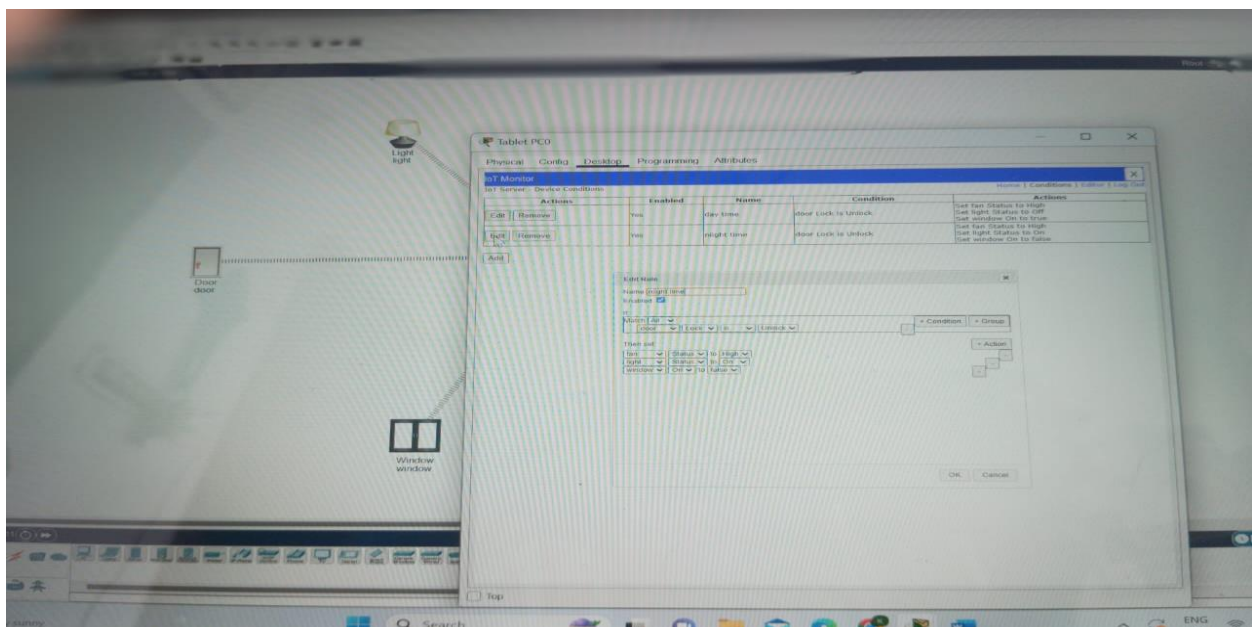
The bottom of the screen shows a taskbar with various icons and a status bar indicating 'Realtime Simulation'.

The screenshot displays the Cisco Packet Tracer software interface. The main workspace shows a virtual environment with several IoT devices: a 'Light' (yellow dome), a 'Fan' (black propeller), a 'Door' (white rectangle), and a 'Window' (white rectangle). A 'Tablet PC1' is connected to the network. The 'Tablet PC1' window is open, showing a 'IoT Monitor' application. The application has tabs for 'Physical', 'Config', 'Location', 'Programming', and 'Attributes'. The 'Physical' tab is selected, showing a list of IoT devices and their status. The list includes: 'Light (PT1001010101010101)', 'Door (PT1001010101010101)', 'Window (PT1001010101010101)', and 'Fan (PT1001010101010101)'. The status of each device is indicated by a green dot. The bottom status bar shows the time as 03:39:54, the temperature as 88°F, and the weather as 'Mostly clear'. The bottom right corner shows the system clock as 9:31 PM on 5/9/2024.

8. For daytime let us say, we must open the door, if door is open window must be ON, fan must be ON and light must be OFF.

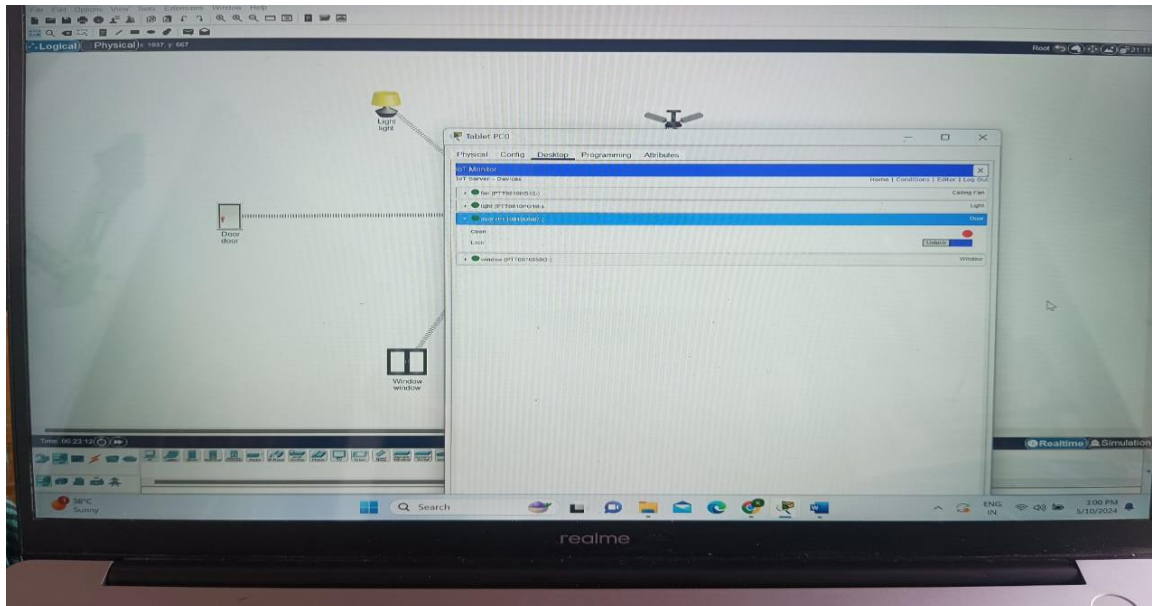


9. For night time conditions, Add given name as night time, we must close the door. If door is closed windows must be closed, fan must be ON, light must be ON set the conditions for night time.

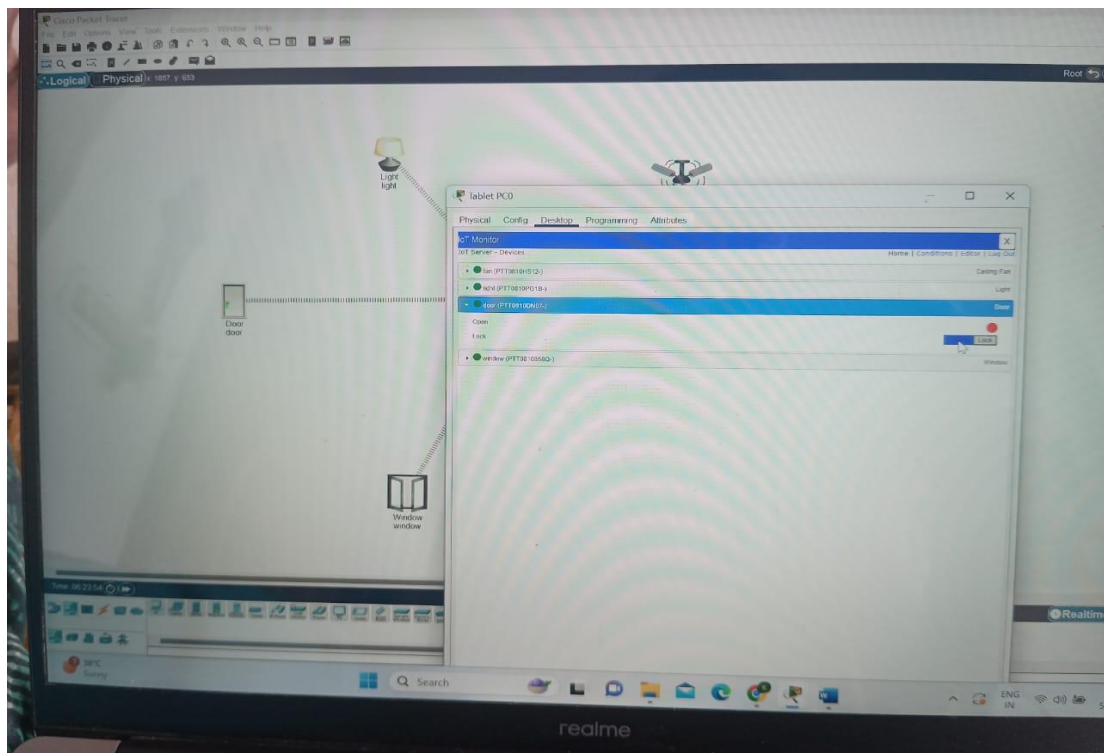


10. Then go to tablet ,desktop, IOT monitor and change the condition of door.

- Door is lock condition.



- Door is unlock condition



CONCLUSION:

Home automation offers convenience, efficiency, and security by integrating smart devices and technology into our living spaces. With features like remote access, energy management, and automated routines, it enhances comfort and simplifies daily tasks. As technology advances, the possibilities for home automation continue to expand, promising a future where our homes are more interconnected and responsive to our needs.

LICENSE PLATE RECOGNITION SYSTEM

STATEMENT:

Providing a process flow for license plate recognition system for a IT park , where the safety team needs to monitor the number plate.

FLOWCHART:

