DAYANANDA SAGAR COLLEGE OF ENGINEERING
COMPUTER SCIENCE & ENGINEERING

Minor Project- Report
Aug-2021-2022

Course Faculty: Swapna R

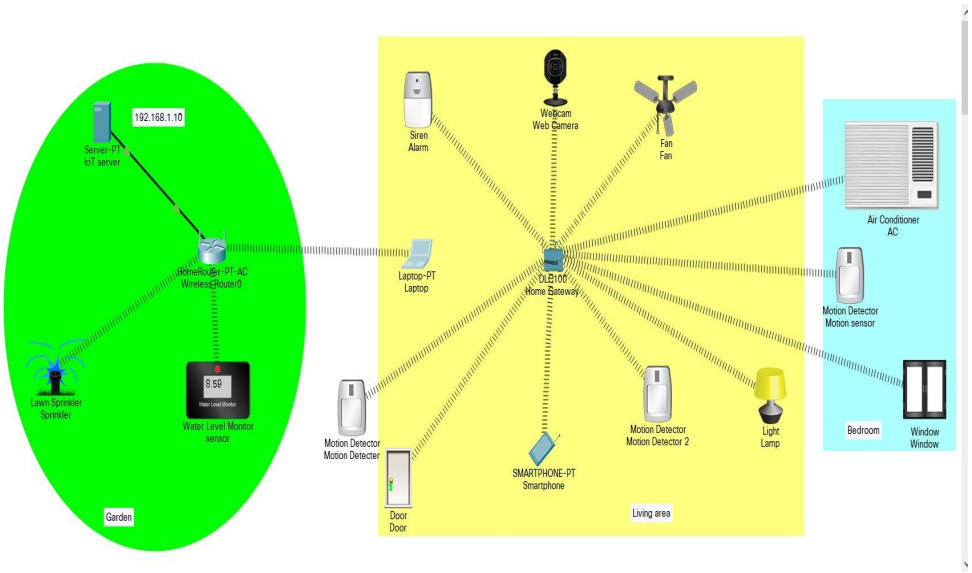
Course Name & code: Computer Networks & 19CS5DLCNL

Semester: 5

Date: 11/01/22

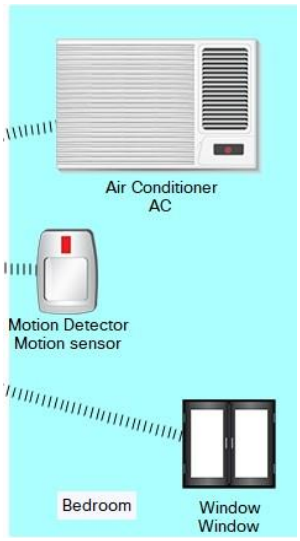
TITLE OF THE PROJECT	Smart Security and Automation System			
STUDENT NAME	Ranjita Naik	Rashmika Satish	S. Jaishree	
USN	1DS19CS125	1DS19CS126	1DS19CS134	
INDIVIDUAL CONTRIBUTION	Smart garden	Smart security	Room automation	
GUIDE	Prof. Akshatha R Prof.			
PROJECT ABSTRACT:	In order to implement smart security, we used different smart object used for security automation such as motion detectors, siren alarm and a webcam. Home Gateway is used to provide controlling mechanisms by registering smart devices to Home Gateway respectively. The smart security system can identify who tries to enter your restricted area and gives you the flexibility to have the control of permitting them in or not. Room automation is implemented using a fan, light, AC, window and a door. Here, room automation ensures a reduction of energy consumption while simultaneously enhancing comfort. In order to implement the smart garden, we have used a wireless home router and an IOT server, a sprinkler, a water level monitor sensor and a laptop. The sprinkler is set to on or off depending on the water level.			

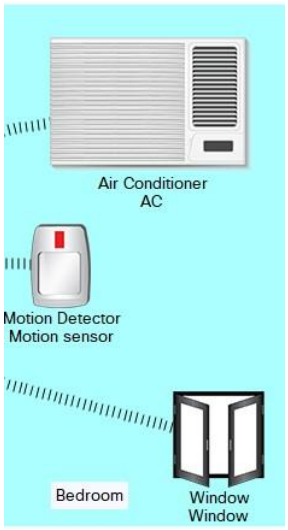
INTRODUCTION	Cisco packet tracer is being used to implement this project because it allows us to simulate different types of networks virtually, especially, wireless networks and Internet Of Things (IoT) devices. In the Cisco Packet Tracer, the devices appear as they are in reality, and users can monitor and interact with various wireless and IoT devices. Smart security system is used in a home that include smart object to improve security activities in advance, that can be automating activities of security without user involvement such as monitoring home environment conditions by various sensors like motion detectors etc. Room control is characterized by simple operation, high flexibility and the smooth integration into building automation. Smart garden involves the use of technology and automated systems that provide watering in an optimum manner for the plants to grow.

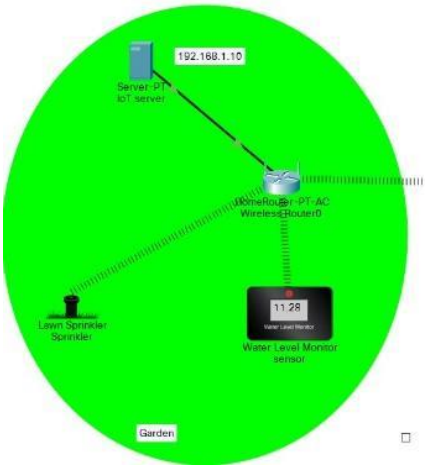
DESIGN	
PLATFORM USED (H/W & S/W TOOLS TO BE USED	Cisco Packet Tracer

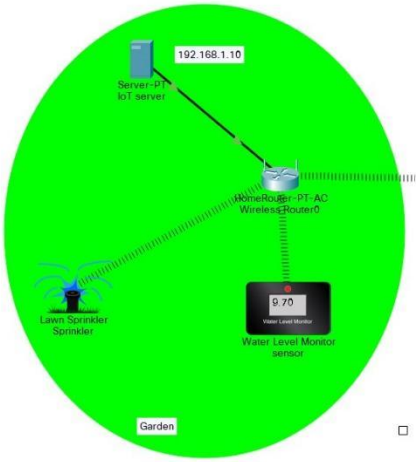
PROJECT SOURCE CODE LINK (GITHUB/ GOOGLE DRIVE)	https://github.com/Ranjita103/Smart-security-and-automation-system
CONCLUSION /FUTURE ENHANCEMENT	This project demonstrates the control over home operations while automating and optimizing processes to reduce costs and increase satisfaction. It provides ease for people to control different home appliances. As a future enhancement we shall add many IoT supporting devices for complete home automation in the regions like kitchen, balcony etc.

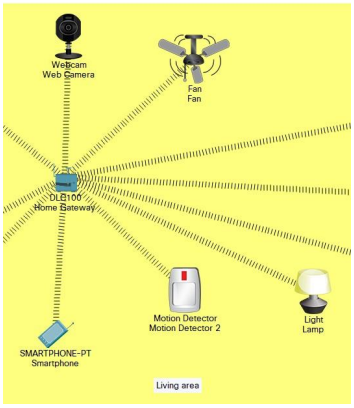
UI SCREENSHOTS

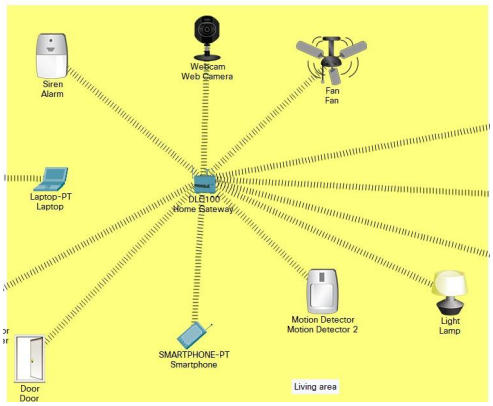




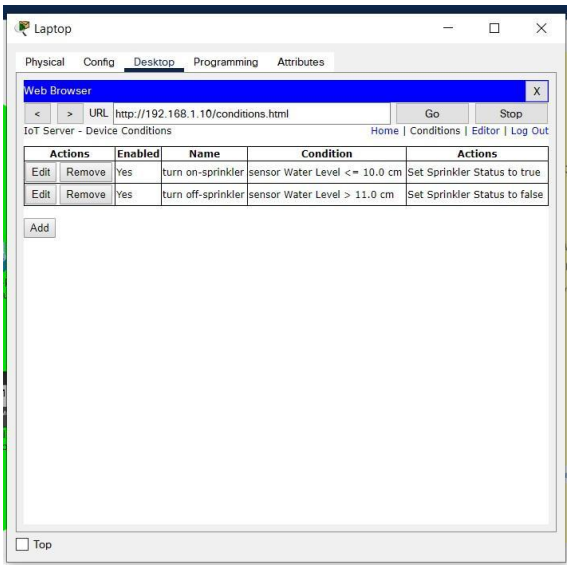


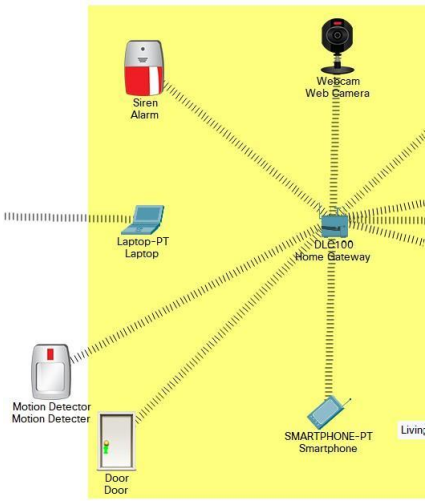


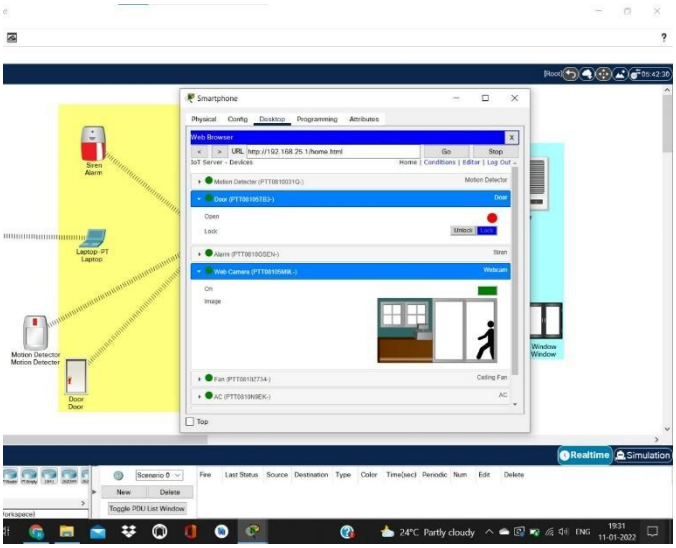


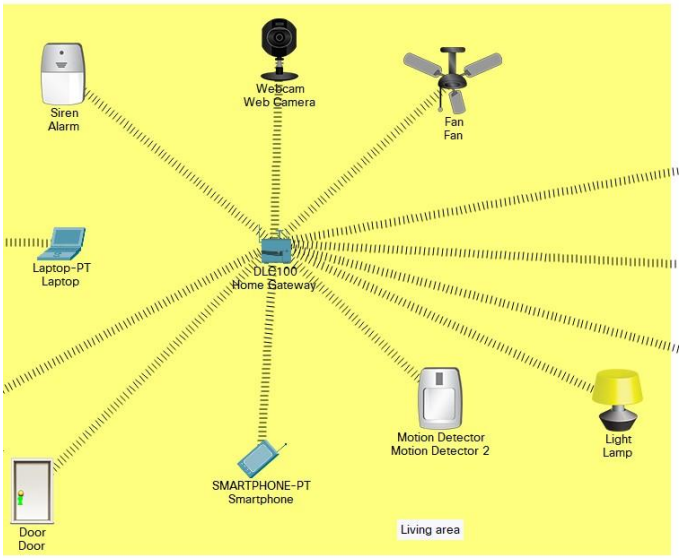



Smartphone
Physical Config Desktop Programming Attributes
Web Browser
URL http://192.168.25.1/conditions.html
Go Stop
IoT Server - Device Conditions
Home | Conditions | Editor | Log Out
Actions Enabled Name Condition Actions
Edit Remove Yes Person present Motion Detecter On is true Set Alarm On to true
Set Web Camera On to true
Edit Remove Yes No person Motion Detecter On is false Set Alarm On to false
Set Web Camera On to false
Edit Remove Yes No person in living room Match any:
• Door Open is false
• Motion Detector 2 On is false
Set Fan Status to Off
Set Lamp Status to Off
Edit Remove Yes No person in bedroom Motion sensor On is false Set AC On to false
Edit Remove Yes No person in living room Match any:
• Door Open is true
• Motion Detector 2 On is true
Set Fan Status to High
Set Lamp Status to On
Edit Remove Yes Person in bedroom Motion sensor On is true Set AC On to true
Edit Remove Yes window open Window On is true Set AC On to false
Edit Remove Yes window closed Window On is false Set AC On to true
Add


Laptop
Physical Config Desktop Programming Attributes
Web Browser
URL http://192.168.1.10/conditions.html
Go Stop
IoT Server - Device Conditions
Home | Conditions | Editor | Log Out
Actions Enabled Name Condition Actions
Edit Remove Yes turn on-sprinkler sensor Water Level <= 10.0 cm Set Sprinkler Status to true
Edit Remove Yes turn off-sprinkler sensor Water Level > 11.0 cm Set Sprinkler Status to false
Add
Top


Siren
Alarm
Webcam
Web Camera
Laptop-PT
Laptop
DLE100
Home Gateway
Motion Detector
Motion Detecter
SMARTPHONE-PT
Smartphone
Door
Door


Smartphone
Physical
Config
Desktop
Programming
Attributes
Web Browser
Realtime
Simulation


Siren
Alarm
Webcam
Web Camera
Fan
Fan
Laptop-PT
Laptop
DLE100
Home Gateway
Motion Detector
Motion Detector 2
Light
Lamp
SMARTPHONE-PT
Smartphone
Door
Door
Living area
