SMART HOME

A COURSE PROJECT REPORT

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BONAFIDE CERTIFICATE

Certified that this mini project report "**SMART HOME**" is the bonafide work of
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Table Of Contents

S.No	TITLE	Page.No
1	ABSTRACT	3
2	OBJECTIVE	4
3	INTRODUCTION	5
4	MODULES	8
5	DEVICE CONFIGURATION	9
6	COMPONENTS	10
7	RESULT	11
8	REFERENCES	12

ABSTRACT

The technology has been growing from day to day in human life. The necessity for the development of technology is to lead human life comfortably. The basic need of human to lead his/her life comfortably is a home. A home with updated latest technology which means a smart home. This paper gives the basic idea use cisco packet tracer to implement smart home. One is needed to create a smart home when electronic devices are switched on and off. Smart home development is achieved by simulation via testing system, network setup and wireless home gateway computer network equipment required by a smart home network cisco packet tracer. The software chosen for the simulations is Cisco Packet Tracer, the tool's main strength is to offer a variety of network components that represent a real network, and then interconnect and configure devices to create a network and add all the smart devices, sensors and actuators

OBJECTIVE

The main objectives of the smart home is to ease daily life by increasing user comfort. It does this by automating typical routines as well as giving homeowners the power to manage their home systems remotely. By automating many aspects of daily living through remote technology, a smart home provides the ability to control electronics and appliances from a smartphone, tablet or laptop. It adds an extra level of convenience and comfort while eliminating the burden of manually maintaining home systems.

A smart home with integrated e-health and assisted living technology can play a pivotal role in revolutionizing the healthcare system for the elderly, the disabled and those with functional limitations.

The big advantages of smart house

1. **Managing all your home gadgets from a single venue: -** The convenience factor here is enormous. Being able to keep all of the technology in your home connected through one interface is a massive step forward for technology and home management.

2. **Flexibility for modern appliances and computers**: - When it comes to accommodating modern gadgets and appliances and other technologies, smart home solutions seem to be wonderfully versatile. No matter how state-of-the-art your appliances seem today, as time goes by, newer, more amazing versions will be created.

3. **Maximizing comfort at home**: - Your home security can skyrocket when you integrate security and surveillance features into your smart home network. There are lots of possibilities here—only a few hundred of which are being discussed at present.

4. **External Home Feature Power**: - Do not underestimate the strength of being able to control the operations of your home from a distance. You will order your house to become cooler in just enough time on an unusually hot day before you get home from work.

5. **Increased quality of electricity**: - It’s important to make your room more energy efficient based on how you use your smart-home technology.

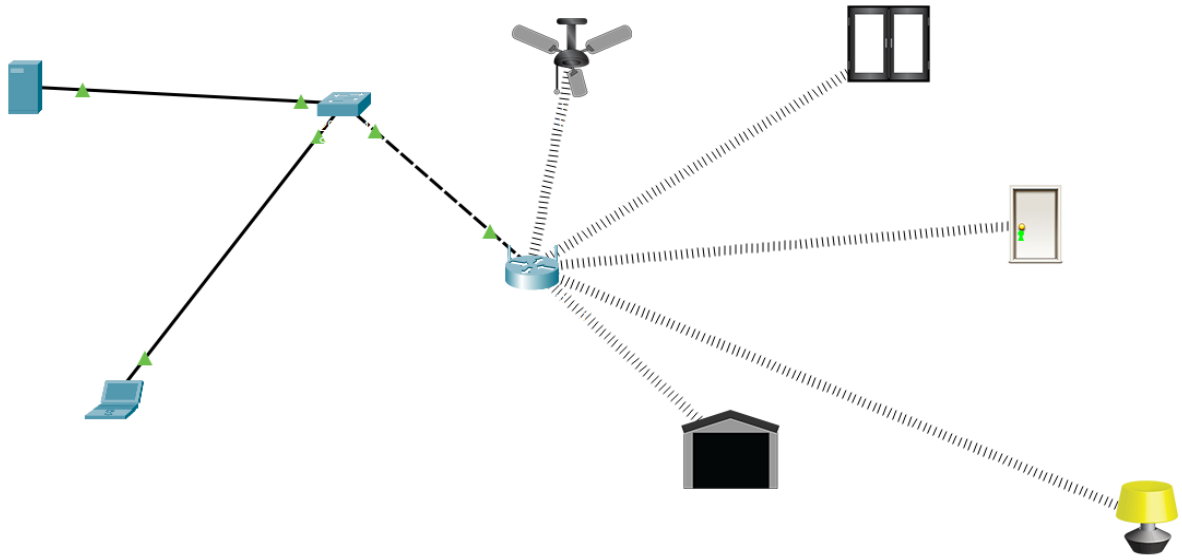
6. **Insights into Home Management**: - There's also plenty to be said for your desire to think about how your house works.

INTRODUCTION

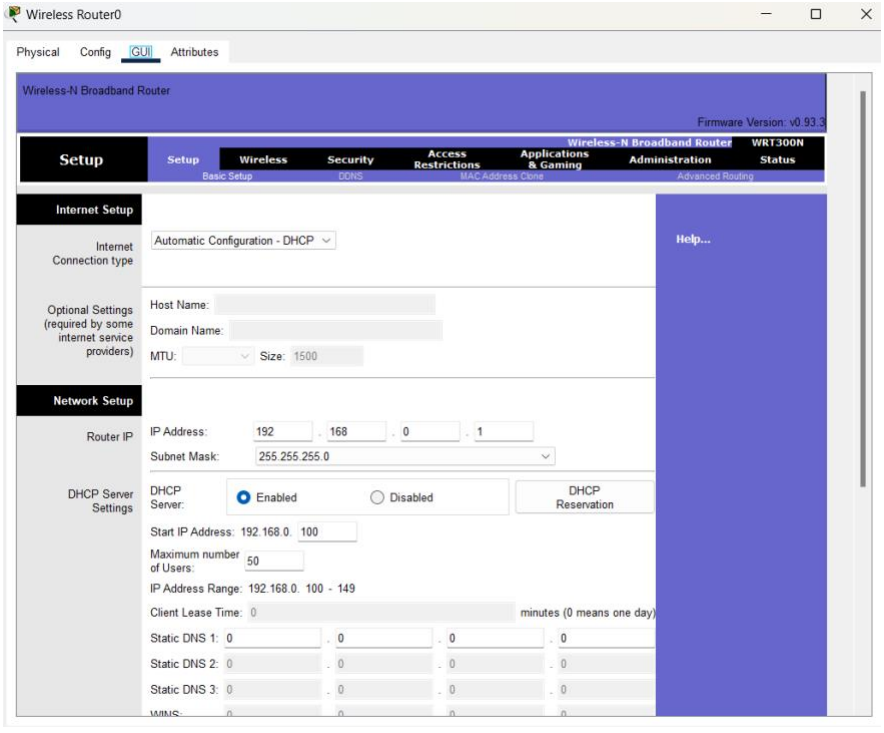
In today's technologically growing world technological development without becoming a requirement that is frequently used in today's human life. Living home that includes smart objects with specific functions is called smart home. i.e aimed to improve safety, comfort and efficiency, which can be used to automate home activities without users using various sensors (Temperature, Humidity, Smoke, Wind, Sound) to monitor the home environment. And there are usually monitoring tools, and the devices that are controllable and automatic this can be accessed via an internet-connected computer or smart mobile device. Instead of providing security that is safe, smart home can provide different features to provide automatic security using various alarm systems, as LCD display and siren sound and by sending email to valid users if sensor detects security issues. Home automation states handling and monitoring home items using microcontroller or computer technology. Automation is common because it makes the process simple , productive and secure. All smart devices are registered at the home gateway in this paper and operated by a legitimate person. By including different sensors in home automation, Smart Home eliminates user engagement in tracking home settings and operating home appliances. This paper describes the implementation of smart home with the use of latest version of cisco packet tracer as this version includes different sensors, actuators and smart devices used for home automation. Chic lights, chic windows, chic fans, chic doors with different detectors and sensors are some of the devices .

MODULES

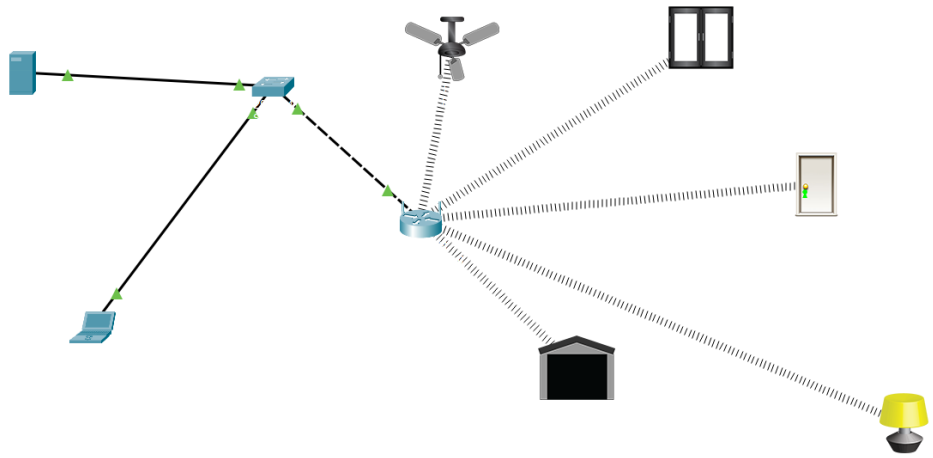
1. The above figure indicates that the smart entity is connected via Ethernet cable and wireless media to the home gateway to manage the smart system locally and remotely



2. In addition to a wireless access point equipped with the "Home Gateway" SSID, the Home Gateway has 4 Ethernet ports (see Fig 2). WEP / WPAPSK / WPA2 can be configured on the home gateway for secure wireless connection.

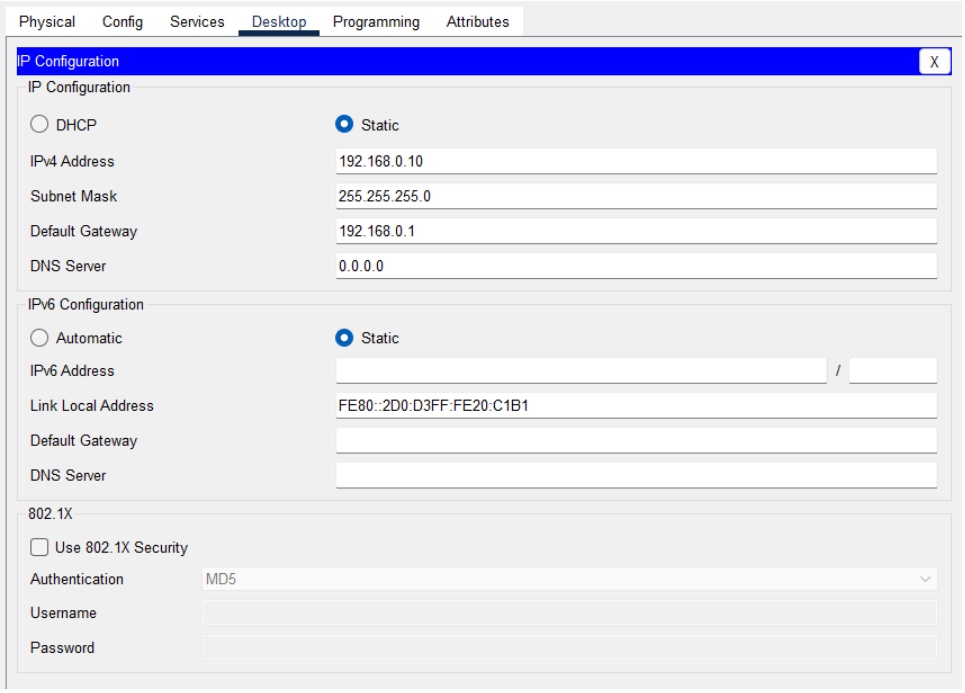


3. We used multiple sensors, smart devices to make them smarter to incorporatesmart home using cisco packet tracer. The following figure represents the home architecture that uses wireless media to communicate with each other.

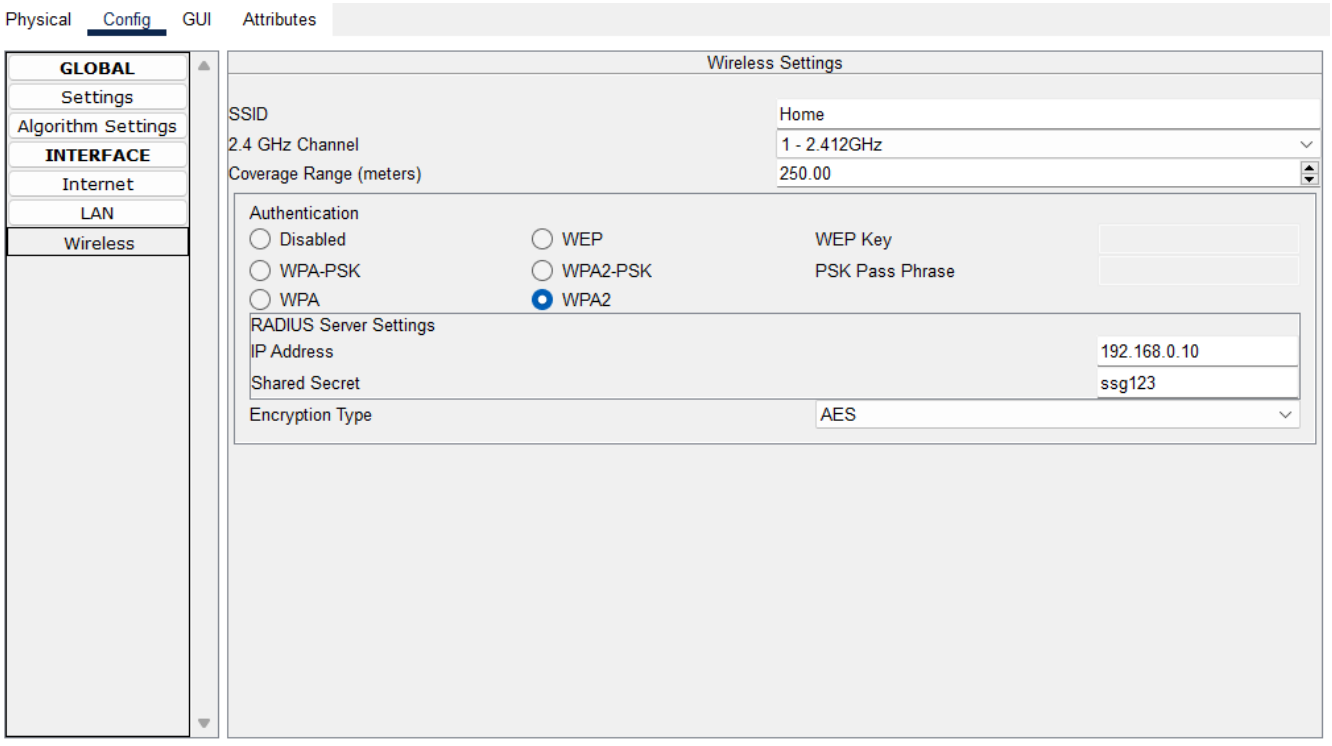


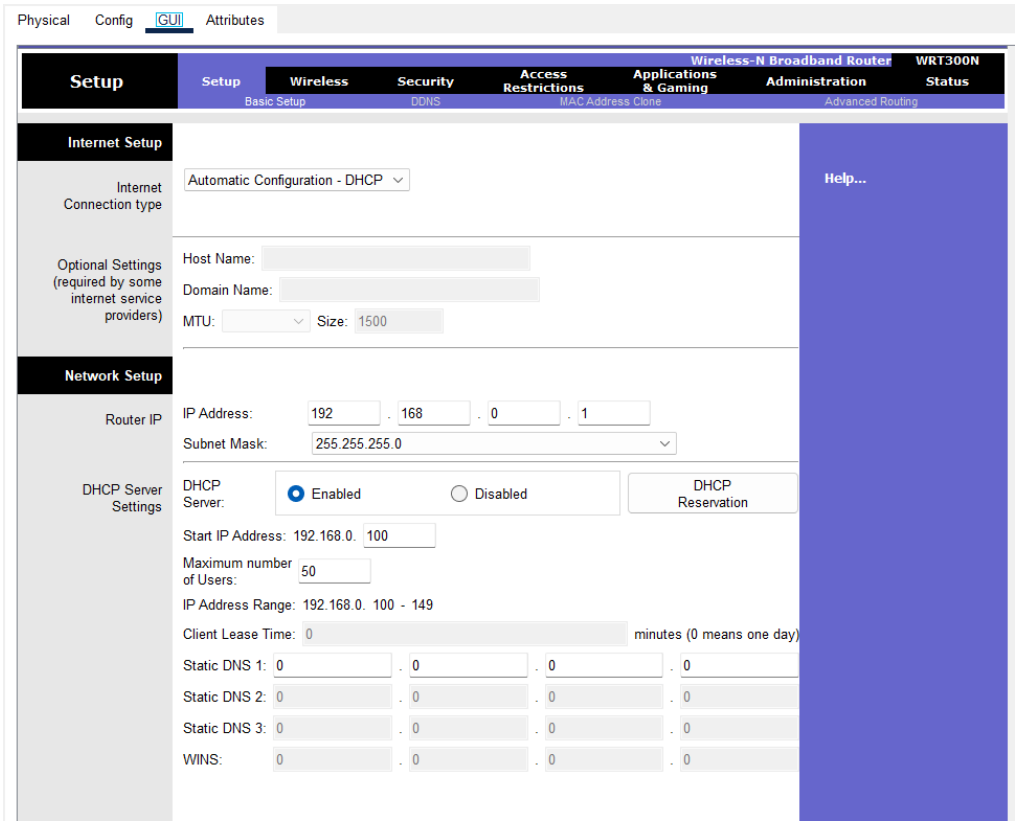
DEVICE CONFIGURATION

Server Configuration:
Assigning IP Address for Server



Router Configuration:
Assigning IP Address for Router



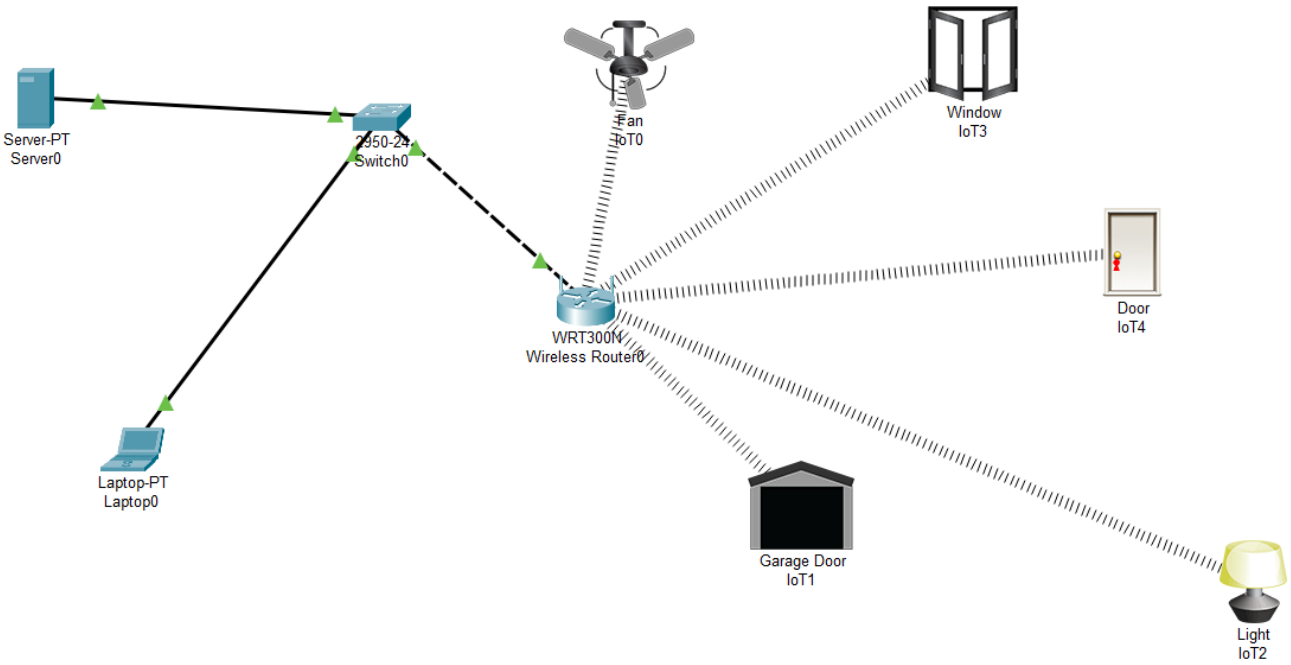

Physical
Config
GUI
Attributes
Setup
Wireless-N Broadband Router
WRT300N
Setup
Wireless
Security
Access Restrictions
Applications & Gaming
Administration
Status
Basic Setup
DDNS
MAC Address Clone
Advanced Routing
Internet Setup
Internet Connection type
Automatic Configuration - DHCP
Optional Settings (required by some internet service providers)
Host Name:
Domain Name:
MTU:
Size:
1500
Network Setup
Router IP
IP Address:
192
168
0
1
Subnet Mask:
255.255.255.0
DHCP Server Settings
DHCP Server:
Enabled
Disabled
DHCP Reservation
Start IP Address:
192.168.0.
100
Maximum number of Users:
50
IP Address Range:
192.168.0.
100
-
149
Client Lease Time:
0
minutes (0 means one day)
Static DNS 1:
Static DNS 2:
Static DNS 3:
WINS:
Help...

COMPONENETS

- Smart door- our home getaway and have event-based features
- Light- provide light
- Fan- Centered on a certain state, used to ventilate the home air
- Garage Door- Garage gateway
- Laptop- Link to a home gateway for smart object control
- Server- Used to connect to the router's cellular device
- Home gateway- Used for smart object registration and smart object IP address transmission
- Cable - Use for connect home to the internet

RESULT

The paper outlined the steps involved in structure network design and deployment for a small office home office need. It presented the steps (or phases) of a structured network design and demonstrated a practical implementation of the steps. The design was first simulated using Cisco Packet Tracer software



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THANK YOU