COMPUTER NETWORKS

smart security alert system

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INTRODUCTION

- The objective of this project is to come up with a simulation of smart security devices that can be controlled by the end-user smart device remotely and then show the concept called smart security alert home.

- Use of Cisco Packet Tracking Features Simulated smart security alerts home and IoT devices are monitored.

- This gives protection and Safety to home and reduces exposures to common hazards and theft,it alerts the user as soon as they occur.

With the increase of thefts and the speed of their spread,peop1e’s fear and anxiety increased,concern and afraid of being psychologically or physically harmed by the robber,the developers of computer technologies began to create different and diverse protection and security system to protect and secure home by informing owners that a stranger is in their house or alarm them when danger occurs.

LITERATURE SURVEY

In this section, we are presenting earlier home security system suggested by various researchers. Following are the contributions of various researcher done in this domain: K. Balasubramanian et al. proposed home automation and security system which can remotely control the home appli-ances and alert owner on presence of intruder and occurrence of fire at home. Dey S. et alworked with web based home security system utilizing Arduino Uno microcontroller with Wi-Fi switch. Router was used to provide an IP address through an Ethernet module to the device.

REQUIREMENTS

- **Webcam:** Webcam is used in a proposed approach that captures the images of any inactivity happening at home while the user is not available at home.
- **PIR Sensor (Passive Infrared Sensor):** PIR sensor is used in a proposed approach that is frequently utilized as a part of movement detectors by measuring infrared lights which are transmitting from the object over sensor range.
- **Alarm:** A burglar alarm system consists of a series of electrical components that are connected to a property. Via sensors and contacts, they detect movement or the opening of doors and windows, upon which a loud alarm is produced to alert those nearby of the unauthorized entry.

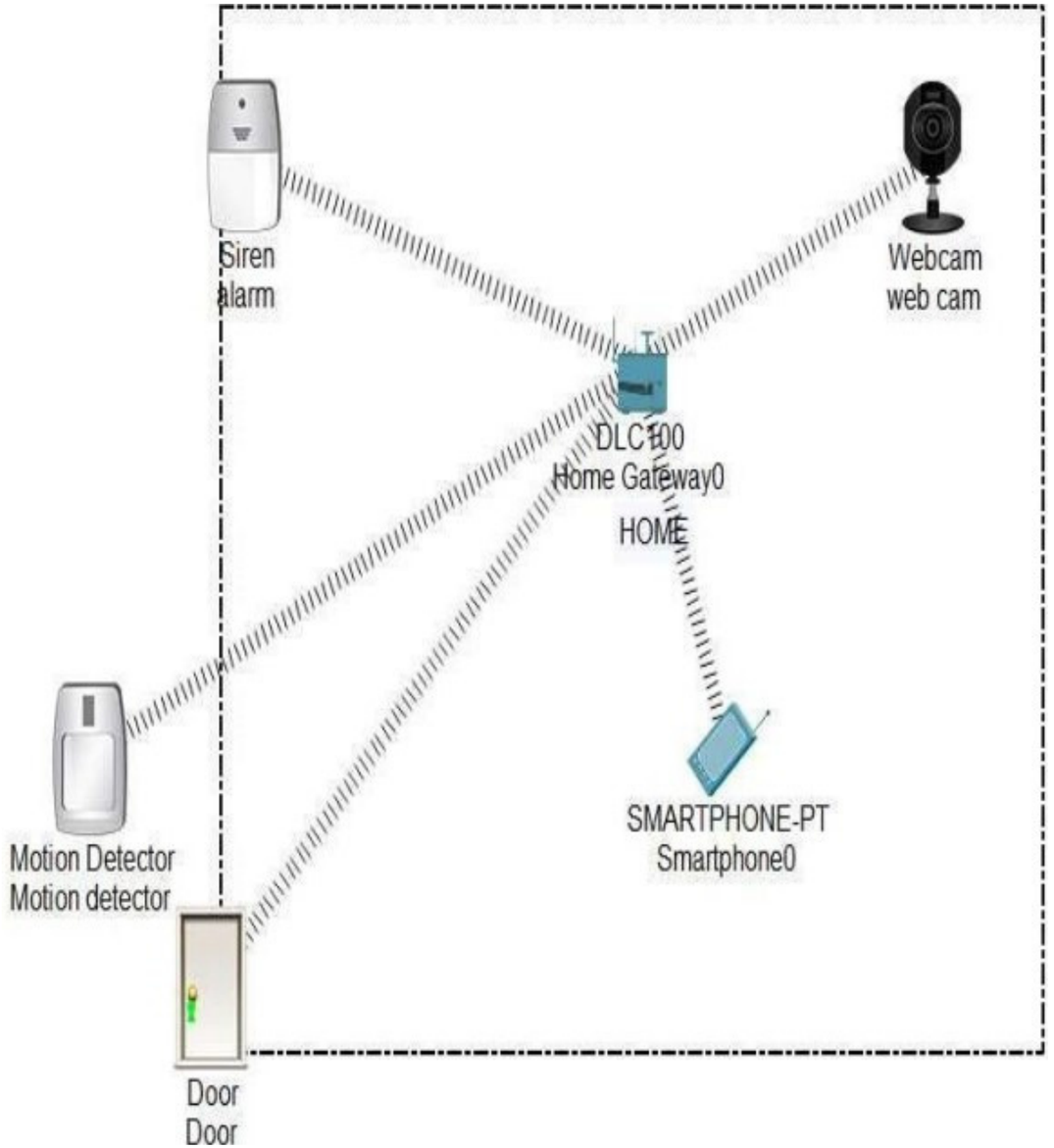
- **Door Rules**:Different conditions and rules are programmed based on the smart object connected to the home gateway. These steps have to be repeated for all objects.

- **Device Led Conversion**:Device Led Conversion (DLC) is the process where a new device or a product instance is upgraded from Traditional to Smart Licensing when registered in Cisco Smart Software Manager (CSSM). All licenses on the device automatically convert from Classic or Perpetual Right-to-Use (RTU) License to Smart License without the need for any manual conversion.

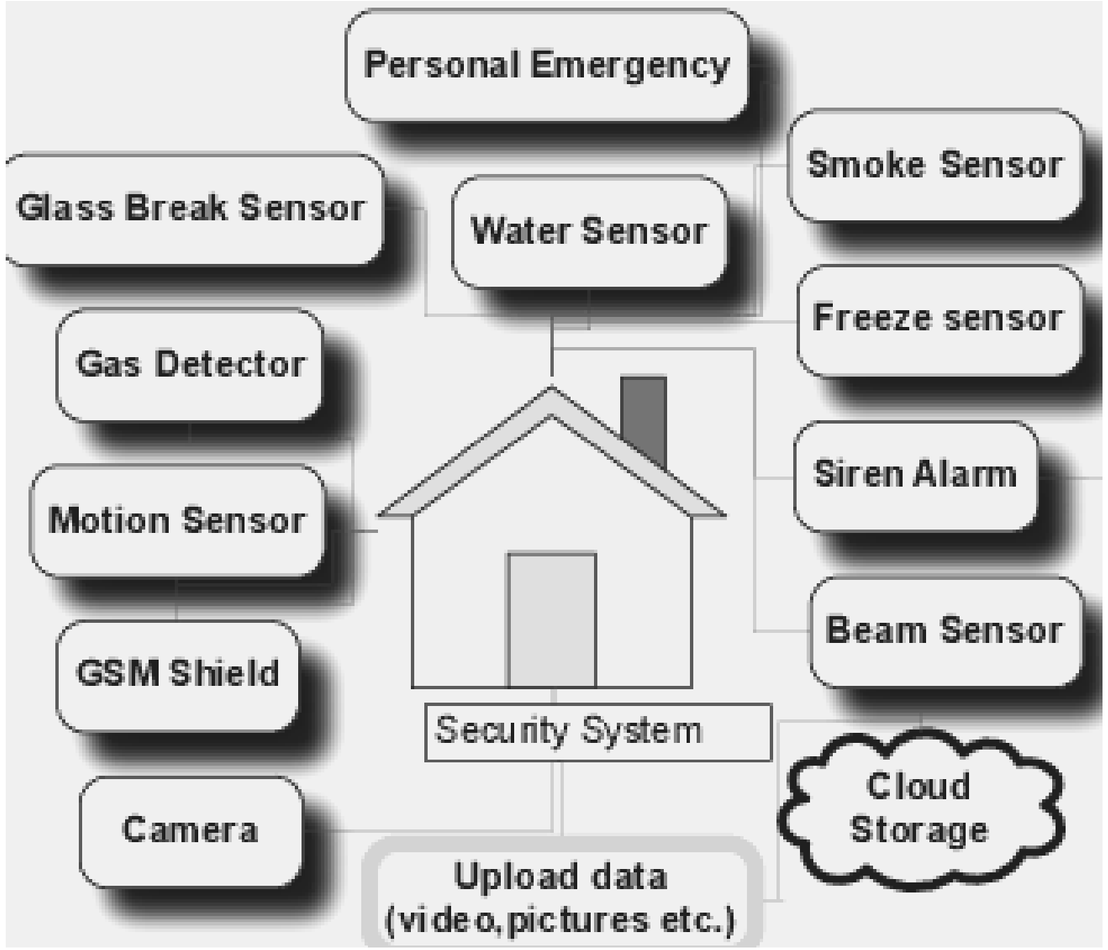
ARCHITECTURE AND DESIGN

The architecture consists of four major networks:

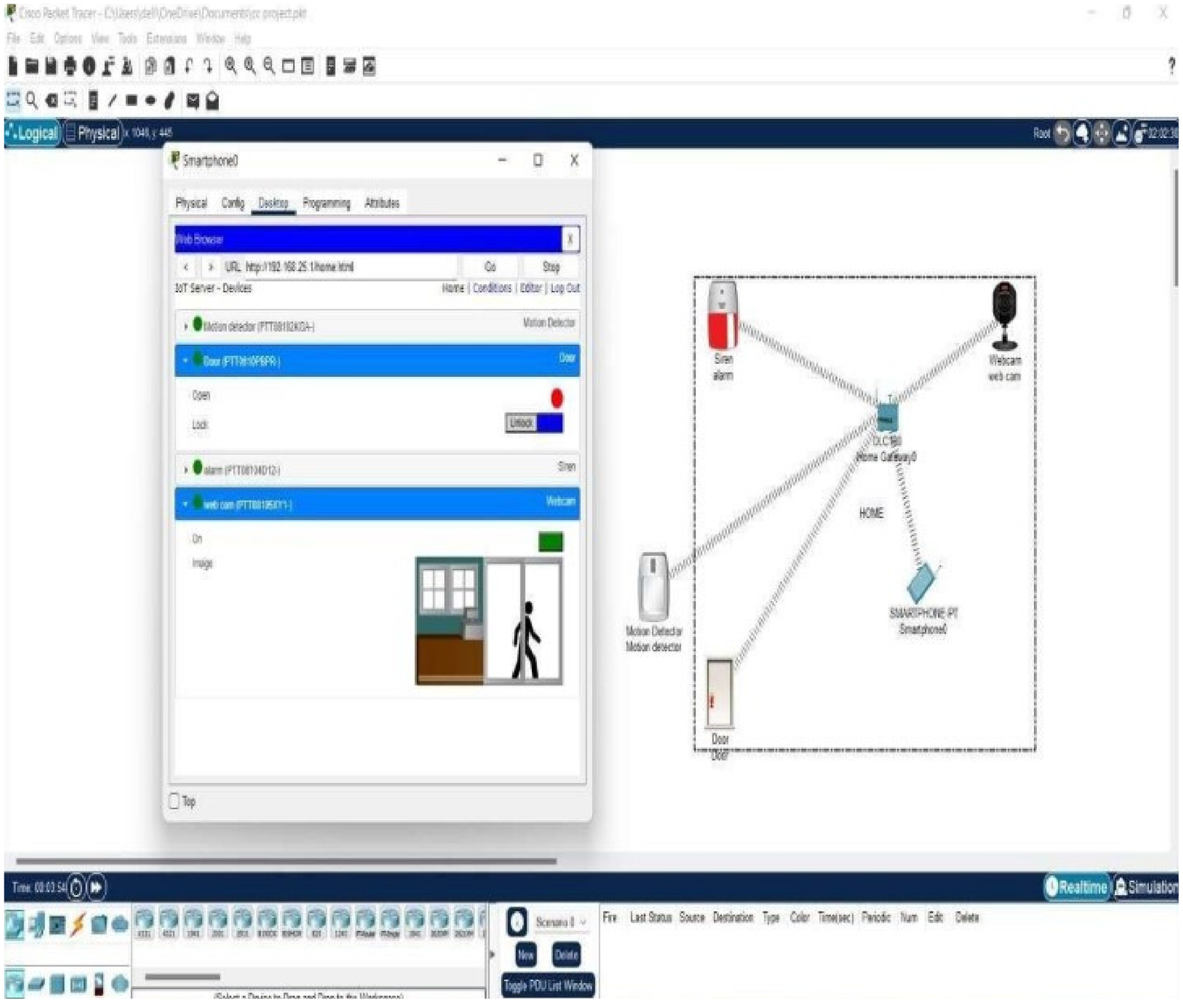
- Motion Detector
- Smartphone
- Webcam
- Siren



IMPLEMENTATION



The system can be connected with a smart house be associated with a government system to report by the competent authorities if there is a dangerous situation for a particular area such as earthquakes or volcanoes by sending an alert message to the homeowner's number associated with the system.


Cisco Packet Tracer - C:\Users\dell\OneDrive\Documents\pc project.pkt
File Edit Options View Tools Extensions Window Help
Logical
Physical
Root
Smartphone0
Physical
Config
Desktop
Programming
Attributes
Web Browser
URL http://192.168.25.1/home.html
Go
Stop
IoT Server - Devices
Home | Conditions | Editor | Log Out
Motion detector (PTT0810ZKDA-)
Motion Detector
Door (PTT0810P6PR-)
Door
Open
Lock
Unlock
alarm (PTT0810MD12-)
Siren
web cam (PTT0810E0Y1-)
Webcam
On
Image
Top
Siren
alarm
Webcam
web cam
HOME
SMARTPHONE-PT
Smartphone0
Motion Detector
Motion detector
Door
Realtime
Simulation
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
New
Delete
Toggle PDU List Window

Result Analysis

To create a Smart Home Security Alert System we have modules like Home gateway,Doors, Web camera,Siren,Motion Detector and Smartphone. First select Home Gateway 100(DLC) from wireless devices, from end devices select smartphone and from home select Door, Motion Detector, Web Camera and Siren.All the home devices will be connected to Home Gateway automatically. To create a better view for Smart Home Security Alert System we need to create home by making rectangle and name it as Home.Put every home components inside home box except Motion Detector.

CONCLUSION AND FUTURE ENHANCEMENT

- We designed a smart home security alert system using Cisco packet tracer and tried to make it as secure as possible by linking it to the owner of the house. All the information of anything happening in thc house will bc sent to the owner via text message or phone alarm.

- It is one of the most important ways of protecting the majority of society that seeks to own their homes and use because it is one of the latest way for protection of homes and the most easy use has been established, the system of the protection of the home using cisco packet tracer.

- It can be concluded that the proposed system present the basic level of home security and remote monitoring while the required objectives of home security system have been achieved. This low-cost home security system has minimum delay during process of email alert. In future, we will enhance the security level of smart home. By addressing the issues of flexibility, low cost home security and monitoring system

REFERENCES

1) https://www.researchgate.net/publication/337720828 Smart Home Security Based on S mart phone Using Cisco Packet Tracer 72

2) https://www.researchgate.net/publication/319871364_An_advanced_Internet_of_Thing_based_Security_Alert_System_for_Smart_Home

3) https://www.studocu.com/en-gb/document/kingston-university/network-security/smart-ho me-using-cisco-packet-tracer/14467719

4) K. Balasubramanian and A. Cellatoglu, ”Analysis of Remote Control Techniques Employed in Home Automation and Security Systems”, IEEE Transactions on Consumer Electronics, 55(3), 2009, pp. 1401- 1407


thank you!