

# INTERNET OF THINGS

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## TITLE: IMPLEMENTATION OF SMART GARAGE SYSTEM USING CISCO PACKET TRACER STIMULATOR

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### ABSTRACT:

Internet of Things is a burgeoning field in the world of technology. It helps ease life for a person by means of internetworking physical devices, automotive, home appliances and other items embedded with electronics, software, sensors and actuators.

Smart garage is one such device that helps ease the access of the garage doors in domestic use.

Smart garage system controls its objects such as windows, doors, lights, and also few gas detectors, alarm using micro-controller or computer technology. Smart garage helps you to access your doors with the help of a computable device such as smart phones or tablets connected to a network, and access by means of secured pins to authorize the access

In this project we are implementing smart garage system with IOT and the implementation of smart garage system using Cisco Packet Tracer.

### DESCRIPTION:

This automation helps us to reduce the temperature in the garage by opening the doors and windows when the CO2 emissions reaches greater than the threshold.

As all are IoT devices, they can interact with one another based on the conditions defined by the admin. We can view the garage using the IP camera that is installed in the garage which reduces human effort of constant checking

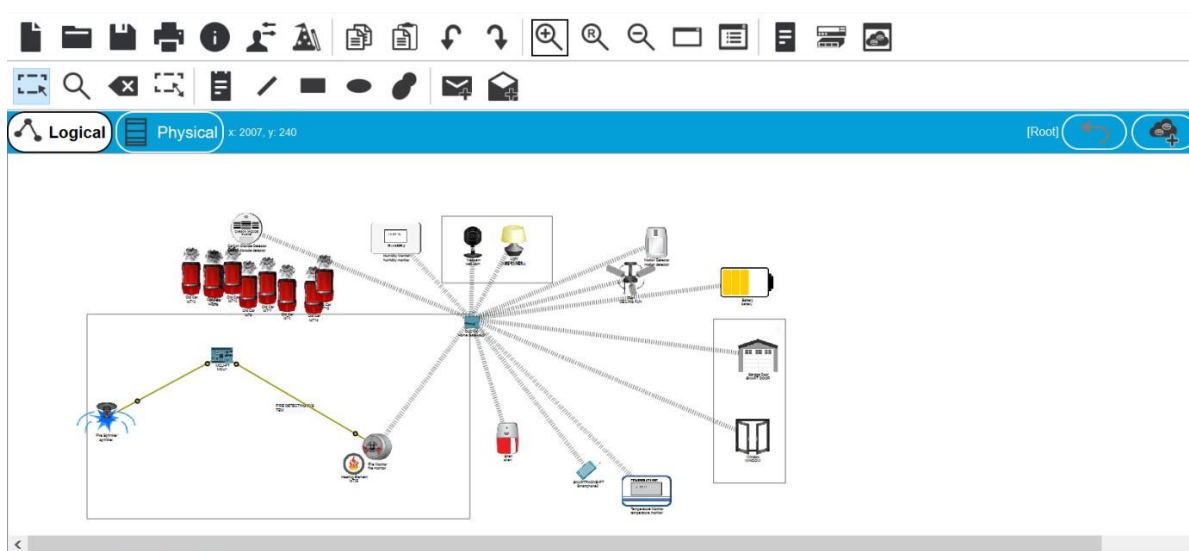
in the garage. Scheduling the lights to turn on/off based on schedule reduces the human effort as well reduces the power consumption.

Building a garage system which is smart and secure both at the same time will make our lives easier as these days humans are thinking smart rather than working hard, hence we are motivated to implement the same using packet tracer. To Implement Smart Garage System, we will be using cisco packet tracer, which includes different smart objects used for Garage automation such as smart door, smart window, smart door, smart light, smart sensors, fire sprinkler and different sensors are included.

To control these smart objects and sensors, microcontroller (MCU) and IoT server are used. To connect every smart object in the garage we use fast-ethernet cables and connect them through a switch which is connected to server and pc.

Different types of conditions are written on to the smart objects based on the user requirement to control the garage and security is assured to user by implementing the pin lock system in the mobile for automating uses

This is the implementation that have done for phase -1 which shows the smart objects are connected to the sever and PC using Ethernet cable and wireless medium to manage smart device local and remotely, before accessing the smart objects, we have to connect them to the garage gateway. After registering smart devices to garage gateway all devices are accessed through web by authorized user



## **RESULT:**

Opening of window when CO2 emissions are greater than threshold value set by the user

Activating the ceiling sprinkler when the temperature and smoke level increase

Automated the alarm when there is any problem related to fire .

Secured Authentications for IoT users by giving them username and password to control the smart objects.

## **CONCLUSION:**

In this project, I conclude that the Packet Tracer simulator is simple, easy and great for building smart garage depending on the wireless and IoT technologies. As future work, a comparison between the current model and another one can be established by measuring some metrics like the simulation time and the transmission delay. I would like to say that I have successfully achieved basic fundamentals and implemented in this project.