DATA COMMUNICATION AND NETWORKS

SMOKE DETECTION AND FIRE PREVENTION

SUBMITTED TO:

BSCS 4-A

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1.ABSTRACT:

Fire is the major cause of accidents claiming valuable lives and property. Smoke detectors play an important role in a fire prevention management program. Timely detection of the fireplace is vital for avoiding a serious accident. In this project, a Fire prevention and Smoke detection system is developed. It can sense smoke and the rise in temperature and alert the user by activating the siren and also send commands on the virtual terminal of the android phone through the wifi module. Fire hazards are not uncommon. To avoid injury from fire accidents, smoke detectors are put in high-security places. The hardware used is HomeGateway, Switches, Smoke detectors, Fire sprinklers, Smoke sensor, Wifi Module, and Siren. Software used HomeGateway for mobile applications. These smoke sensors detect smoke because the fire break associated invokes an early alarm. This way, before the fire spreads to different components of the building, people can be evacuated and countermeasures can be done immediately. The detection system operates as a fire detector and smoke detector sensor. In this, we discuss the design and implementation of a smoke detection system using the HomeGateway which operates the entire system.

2. INTRODUCTION:

Home or offices fire detection is a matter of great concern, and thus many efforts are devoted in most developed countries to the design of automatic detection systems. A fire prevention system should reliably and in a timely way notify building occupants about the presence of fire indicators, such as smoke or high temperatures. A fire detector is usually implemented as a smoke sensor due to its early fire detection capability, fast response time, and relatively low cost. Other options for fire detection are based on gas sensors or temperature sensors fire detectors that use a single sensor, generally a smoke sensor, and present high false-siren rates due to temperature changes.

3.PROPOSED SYSTEM:

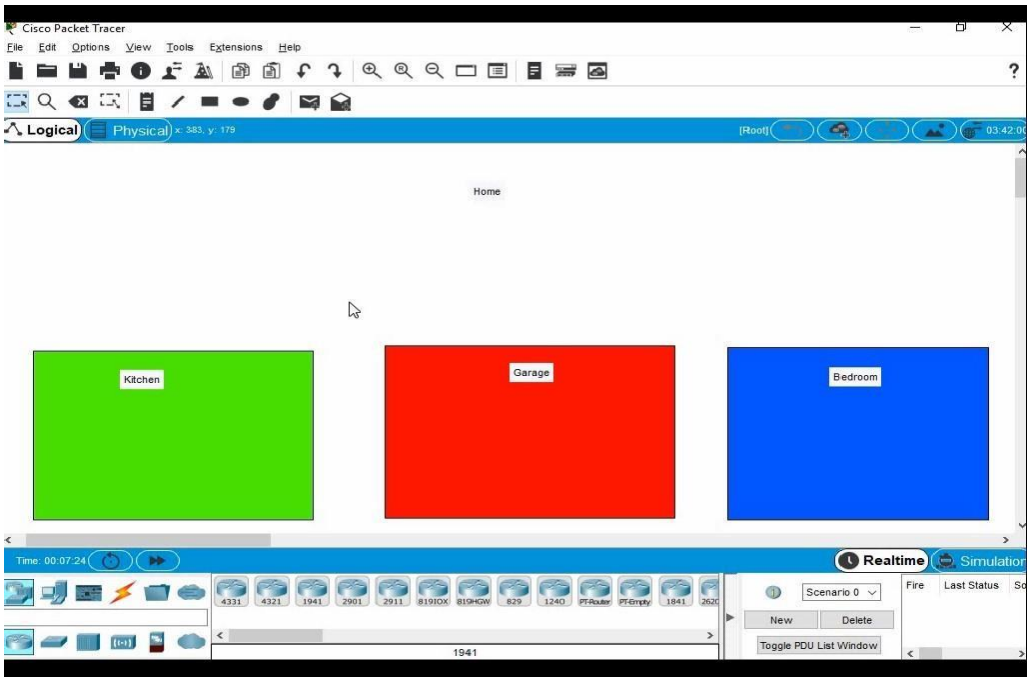
These smoke & fire detection systems use automatic functions to detect the occurrence of an event that may result in a fire. They receive a sign from a fireplace sensing smoke and mechanically transmit it to the fireplace siren panel. The fire siren panel activates sprinklers and opens all windows and doors.

4. COMPONENTS REQUIRED:

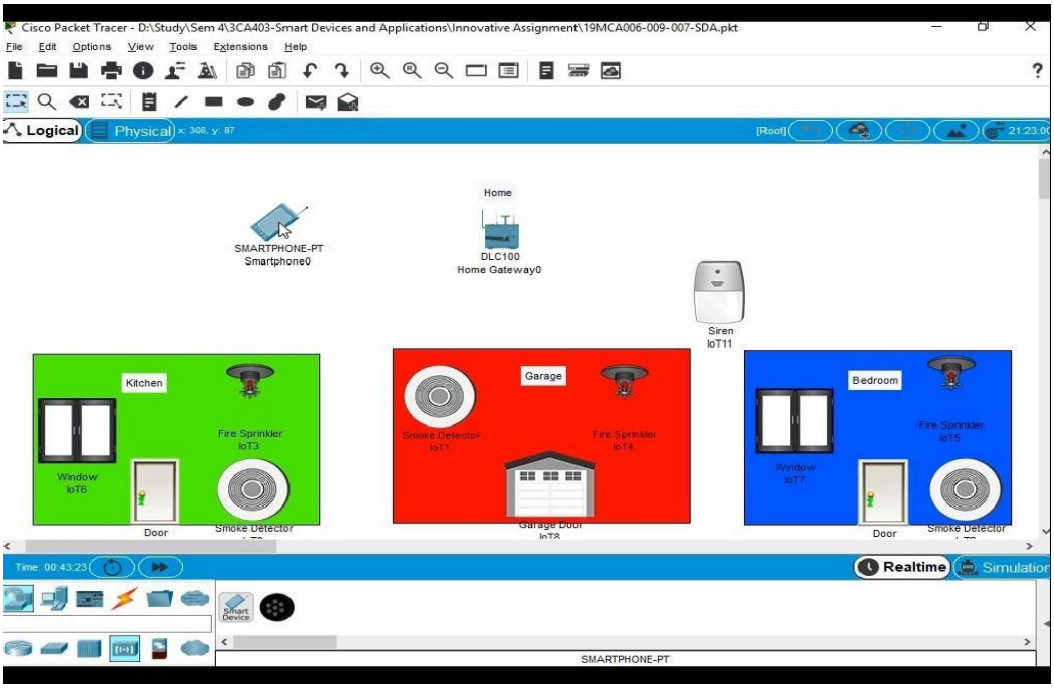
- Smoke detectors
- Fire sprinkler
- Windows
- Doors
- Garage door
- Siren
- Home Gateway
- Switch
- Smart Device

5. IMPLEMENTATION:

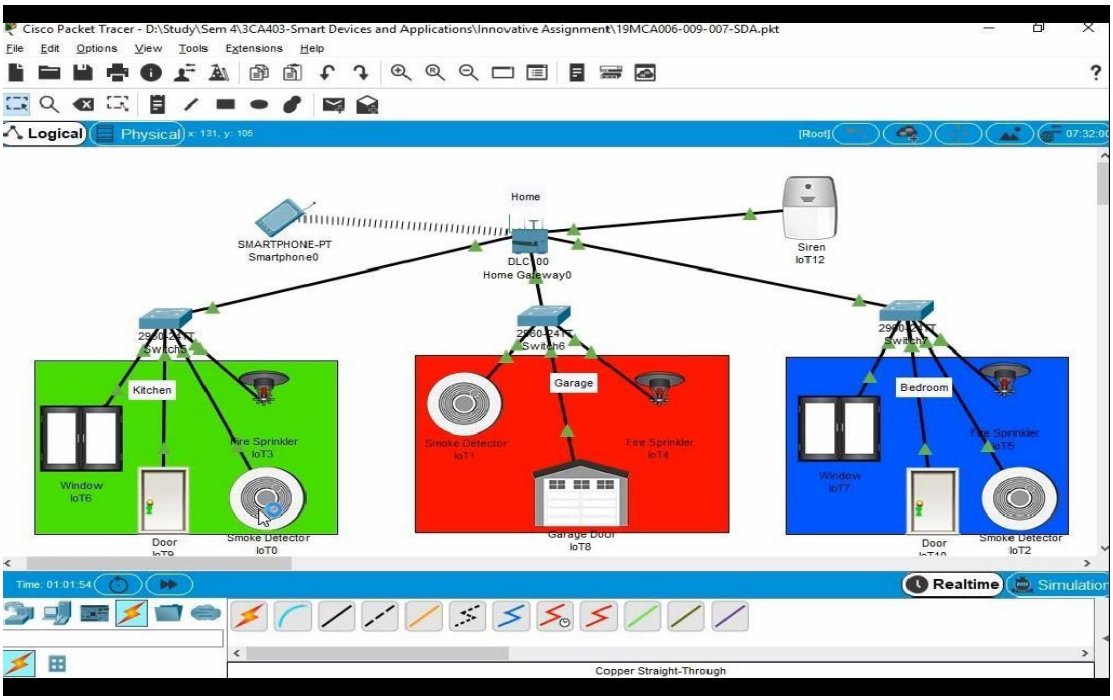
Create a Floors:



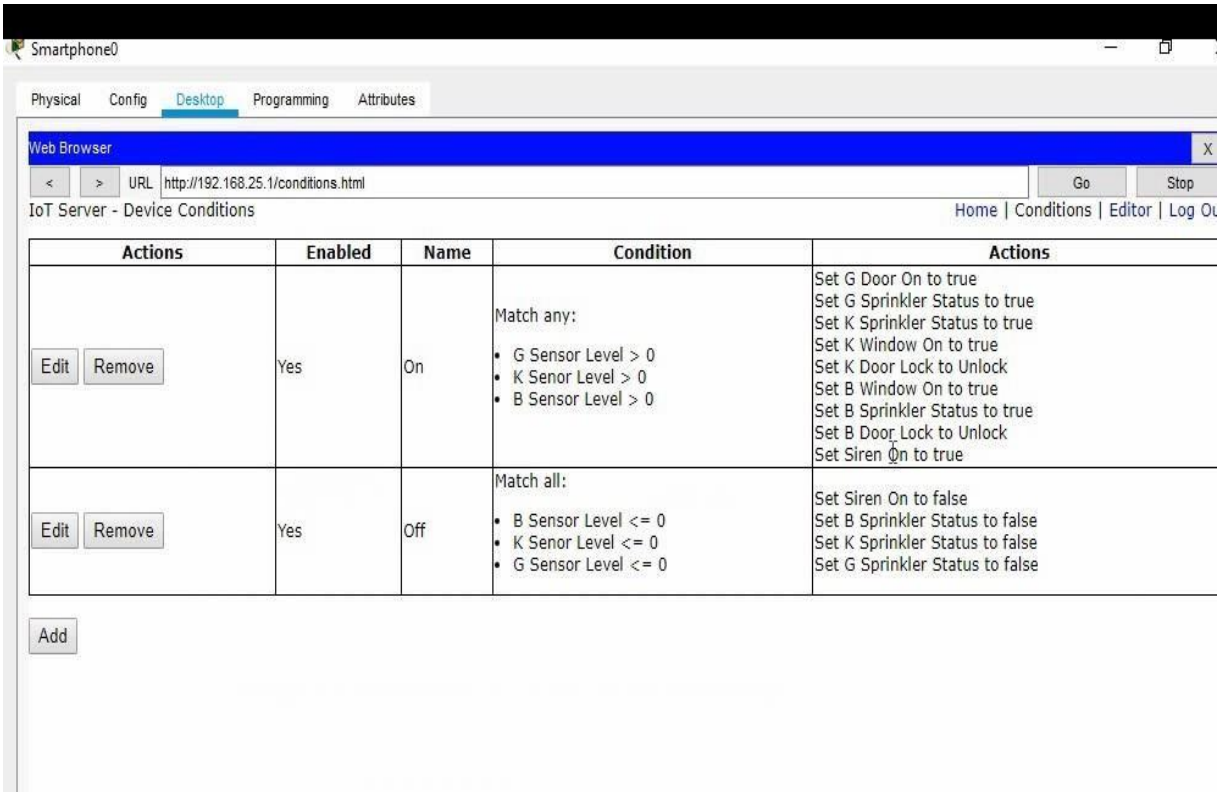
Place the devices in the system:



Connect/configure all components with the home gateway:



Conditions for automation of fire prevention:



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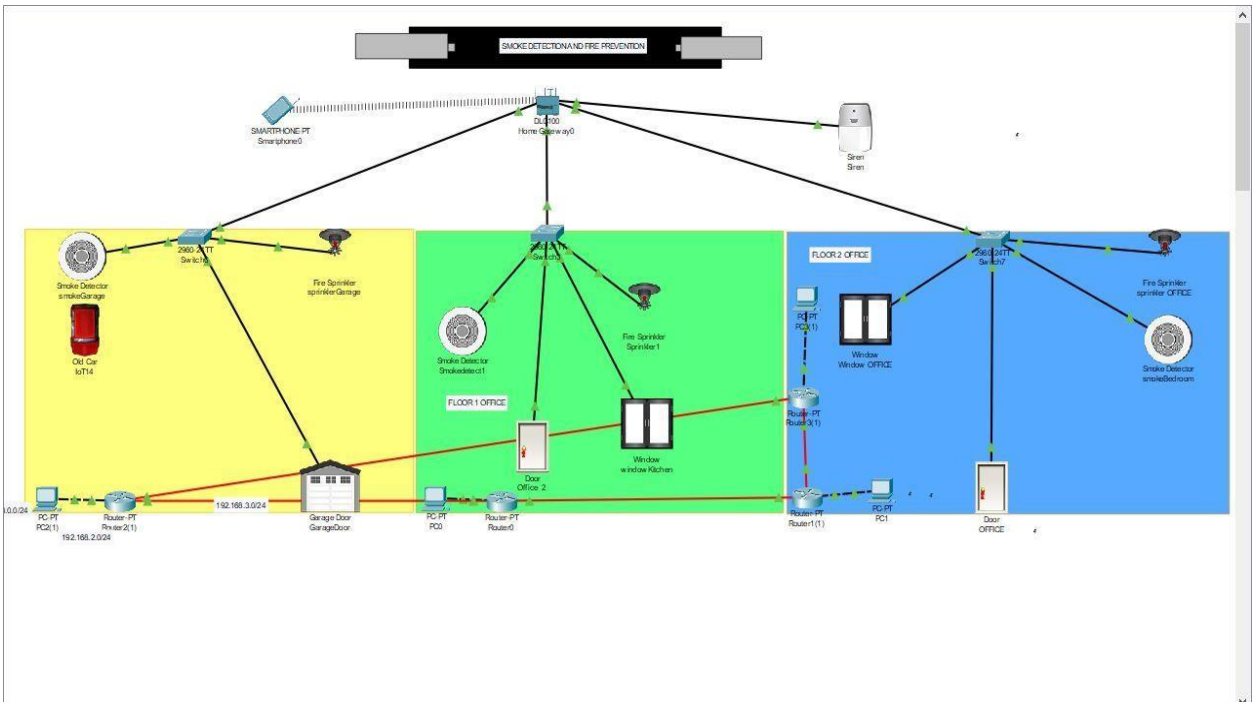

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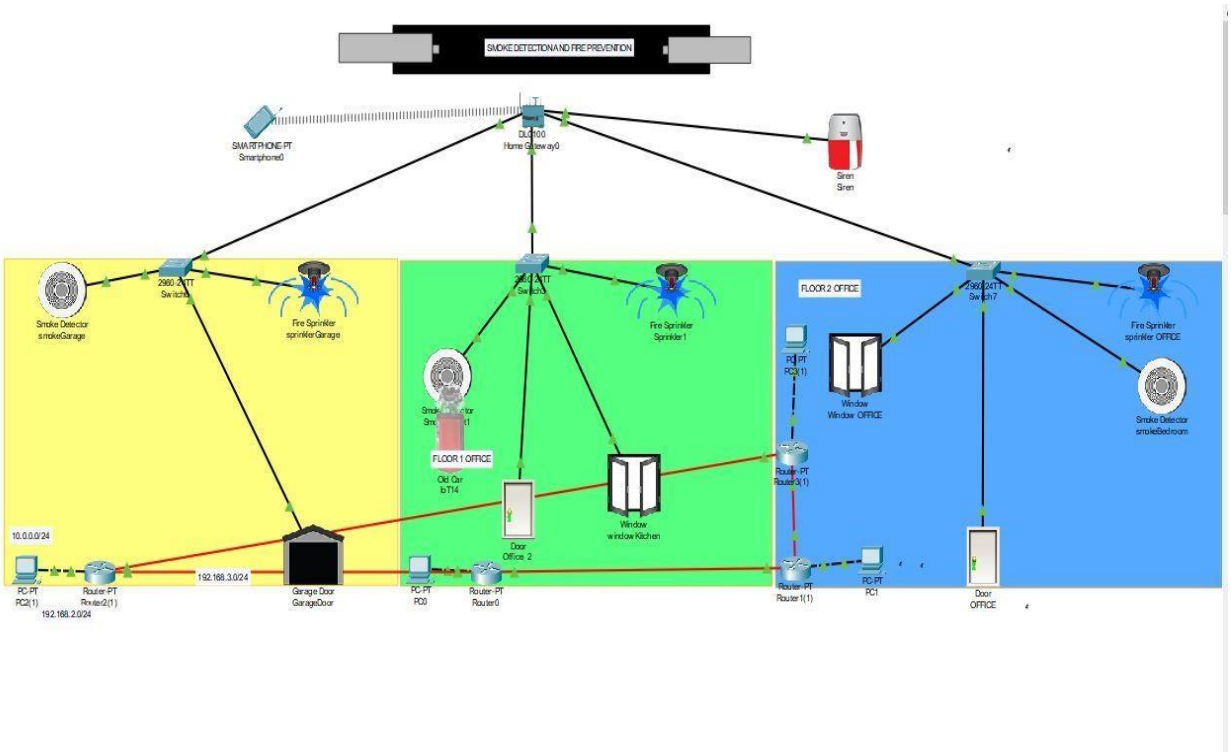
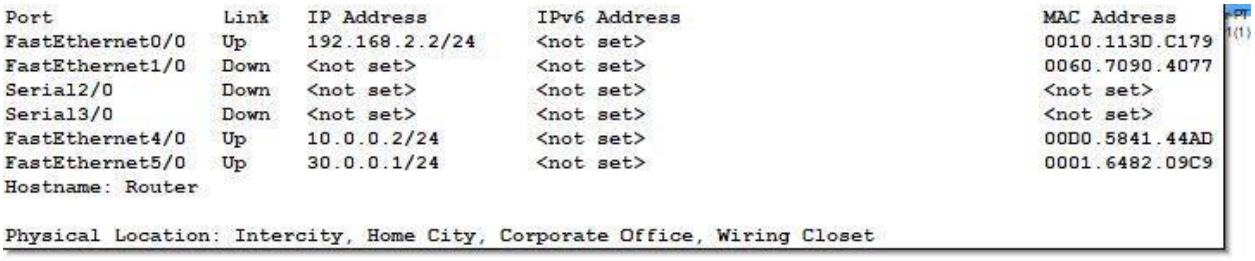


Simulation and Configuration:



6. PROJECT SUMMARY:

Smoke detectors are great because they save lives. There are smoke detectors formed as noses, to smell for smoke. There should be a minimum of two or three smoke detectors in your home or offices. You should install a smoke detector on each floor of a house or office. Always have a smoke detector and fire prevention system in your home for your safety.

7.REFERENCE:

https://youtu.be/PYqIvoPEmRA