INTRODUCTION

Internet of things can be anything in the world that are actually connected to the internet so if a person at this moment is reading a book or some article from a mobile phone or laptop it will definitely being connected to the internet. IOT is simply means gathering or collecting everything in our world to basically connect all things to the internet (Sengupta, Sawant, Dhanawade, Bhosale, & Anushree, 2019).

The concept of IOT is all about the internet and how power extended it is in the specific area beyond the mobile phones and computers to contain an entire group of things, environments and processes. All connected things are then being used to make a group of information or sending information or it can be for both processes. The internet of things is predicted to provide businesses and people with better visibility and has the power to control 99% of environments and available objects that are at this time out of reach of the internet. So therefor, IOT make opportunity to people and businesses to be attached with the outside world even more than before that will achieve more meaningful work in higher levels (Sengupta et al., 2019).

In this research paper aims to design a Smart Fire Alarm System using IOT which will speed of evacuation from the building, control and prevent the spread of the fire, provide a direct method to contact the building administrator and security and guide people to the safe and fast way out (Kang et al., 2017)

ABSTRACT

Safety is significant in this day and age and it is vital that acceptable wellbeing framework be executed in spots of Structural Health Monitoring of structures. This system is used in building and home dwellings for the fire detection and prevention

purpose. And it should be implemented in all the establishments where the risk of fire accidents is very high .The sensor nodes are placed in important areas of the building, which we create a network and the monitored data is transmitted to control unit through wireless sensor network and if the temperature or pressure reach above the threshold value and building damage is detected automatically, alerts the surroundings and take necessary precautions to prevent the disaster. This, safet,y system that can be used in any Constructing and constructed environments. The sensor nodes detects the maximum level that it can withhold, in the mean time it calculates where the damage is occurring and remaining time that the building can offer further resistance to damage.

LITERATURE SURVEY

(1) Ahmed Imteaj et.al. Studied the problems faced by factory workers in times when fire breaks out. They proposed a system using Raspberry Pi 3 which is capable of detecting fire and providing information about area of fire. The Raspberry Pi controls multiple Arduino boards which are connected with several motors and cameras to capture the fire incident.In this, they discussed about the modern technology that can be used to reduce extremely unfortunate accidents caused by fire. We designed the whole system and calculated its effectiveness.

(2) Ondrej Krejcar proposed a model for location enhancement and personnel tracking using Wi-Fi networks. In this, he has represented the control system concept that is used in handling information of location and control unit operations. The location of the user present in the building, is obtained through Wi-Fi access points [3]. We have studied this to understand the usability of the Wi-Fi networks in live tracking and then have utilized this functionality to track fire and give information about location of fire to various devices intimating people about the mishap.

(3) Authors in have studied the safety features in home and industrial areas. They

have designed new model using WSN. Not only have they incorporated temperature and humidity sensors but also included fire and smoke sensors while developing the model. They present a preceding study of WSN is able to detect fire alarm. It is for setting up a wireless sensor network with three sensors. An application was developed for getting home information

(4) Azka Ihsan Nurrahman, Kusprasapta Mutijarsa have proposed a prototype for a centralized management system for homes or offices which helps better in managing the safety features. In this, home management system is required. This system controls the room lights by turning on and off automatically, it keeps the record of use of electronic device status, turning on and off the ac regulator automatically, it displays the room temperature in home. If fire is detected in the house, it turn on sprinkler at home, it supervises at home via surveillance cameras, take photos and store them including recordings of surveillance at home, it detects the movements of people at home, and provide notification when someone enters the house.

(5) Building Fire Emergency Detection and Response Using Wireless Sensor Networks Yuanyuan Zeng, Seán Óg Murphy, Lanny Sitanayah, Tatiana Maria Tabirca, Thuy Truong, Ken Brown, Cormac J. Sreenan Department of Computer Science, University College Cork :

Wireless sensor networks (WSNs) provide a low cost solution with respect maintenance and installation and in particular, building refurbishment and retrofitting are easily accomplished via wireless technologies. Fire emergency detection and response for building environments is a novel application area for the deployment of wireless sensor networks. In such a critical environment, timely data acquisition, detection and response are needed for successful building automation. This paper presents an overview of our recent research activity in this area. Firstly we explain research on communication protocols that are suitable for this problem. Then we describe work on the use of WSNs to improve fire evacuation and navigation.

ADVANTAGE

- ❖ Low-cost
- ❖ less complex Circuitry
- ❖ Simple and efficient.
- ❖ easy to install

APPLICATION

- ❖ home security,
- ❖ theatres ,
- ❖ all electric departments.

RESULT

Fire alarms are prime necessity in modern buildings and architecture, especially in banks data centres and gas Stations. They detects the fire in ambience at very early stage By sensing smoke or slash and heat and raise an alarm which warns people About the fire and furnish sufficient time to take preventive measures it not only prevents a big losses caused by deadly fire but sometime proves to be live savers. Fire alarm is a device that detects the presence of fire and atmospheric changes relating to smoke. The fire alarm operates to alert people to evacuate a location in which a fire or smoke accumulation is present. When functioning properly, if fire alarm will sound too naughty five people on and immediate fire emergency. The distinct sound exist to allow the notification to be hard the fire alarm constructed by this project Is reliable at low-cost.