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A Review on Smart System for Security from Theft and Other Kind of Hazard

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ABSTRACT: In our day-to-day life Security is a too much important thing to be concerned with home or shop. As we concern with the security not only the theft but also we want to protect our home assets from any kind of hazard. Hence we required the system which detects the theft, fire, leakage of gas or smoke. Different methods and technologies like Bluetooth based, Voice recognition based, ZigBee Based, GSM Based, Internet of things (IoT) based and EnOcean based, etc. are used in the recent years to provide the security from theft as well as any kind of hazard. The main goal of this type system is to protect individuals and property from various hazards such as fire, crime and loss. This paper presents the theft prevention and security system in the recent years.

I. INTRODUCTION

In recent time Home monitoring and security systems are becoming very important and also applicable for any organization, Banks and homes. Due to the today's busy life style it is becoming very hard to keep home or office safe. Especially in industry areas there is need to protect certain goods and the electronic security based services are required. [1]. Day by day Home security is becoming necessary. Nowadays, as the possibilities of intrusion are increasing as well as safety from theft, leaking of raw gas and fire are the most important requirements of home security [2]. These types of systems provide the owner security, energy efficiency, comfort and convenience. The main goal of this type system is to protect individuals and property from various hazards such as fire, crime and loss. These types of system are integration of technology and services through home networking for a better quality of living and used different technologies to equip home parts for more intelligent monitoring and remote control. IoT based system provides the remote control of the user in an easier, more convenient, more efficient, safer, and less expensive way. These systems improve home comfort, convenience, security and energy management as well as it can be used for elder people and those with disabilities, providing safe and secure environments [3].

II. LITERATURE SURVEY

Ms. Devkar A. R. et al [4] designed the an advanced electronic security system by using small PIR and IR sensors built around the Arduino controller, in which PIR (Pyroelectric Infrared Sensor) and IR sensors sense the presence of intruder & Controller reads the signal from sensors and if intruder is detected it turns on the buzzer & the lights in the room as well as making a call to predefined number through a GSM modem. This system contains two types of sensors PIR and IR sensors and is used to detect the presence of human intruder in the room. When the sensor senses the presence of intruder it gives signal to the Arduino controller and immediately system turn on buzzer, lights & makes call through GSM modem. Dhara Gandhi et al. [5] implement a smart industry system by controlling the electronic devices at company remotely with an android app of smart phone and to receive alerts message on phone whenever any sensor is active. N. Sriskanthan, F. Tan, and A. Karande [6] develop a home automation system based on Bluetooth

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wireless technology, which allows the user to monitor and control different appliances connected over a Bluetooth network in home environment.

Abhishek Sharma et al. [8] make a mobile robot that would be able to alert and react to emergency situations, this proposed system detects the leakage of inflammable gases like LPG, PNG, Methane and respond to the gas department, fire throughout the premises and respond to the fire department Detect the presence of intruder in the premises and respond to the police and Upload the sensory data and connect to different devices on IoT network. Figure 1 shows the proposed system block diagram.

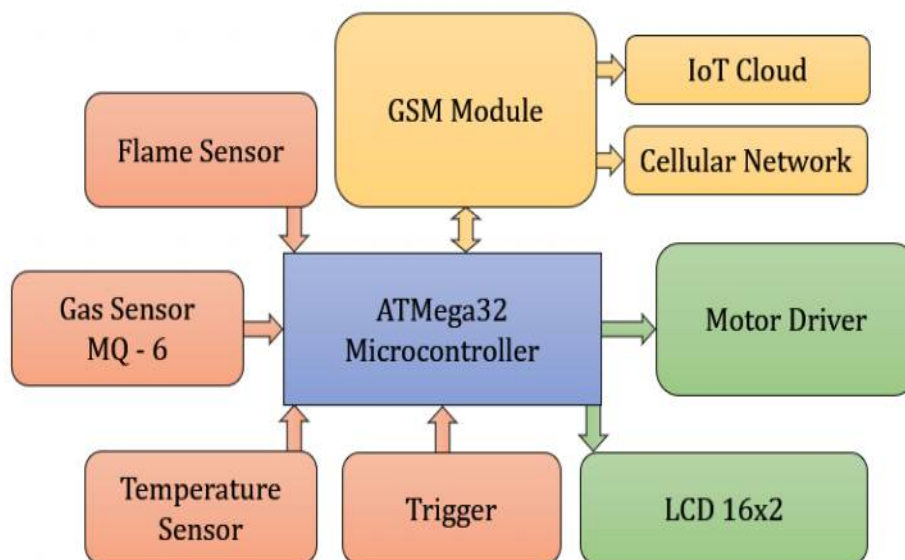


Figure 1 Block Diagram of the System

III. DIFFERENT METHODOLOGIES USED

Some popular methodologies for smart system for home automation are given in the figure 2 such as Bluetooth based Voice recognition based, ZigBee Based, GSM Based, Internet of things (IoT) based and EnOcean based. Table 1 shows the Comparison of Different Home automation system. From this comparison it is found that Bluetooth or ZigBee based home automation system gives complete control over home appliance within the coverage of Bluetooth, Voice recognition based home automation systems are most useful for handicapped and elderly persons, GSM based system communication between main module and appliances is done through text messages, and Internet of things (IoT) based home automation systems is flexible and reliable[7].

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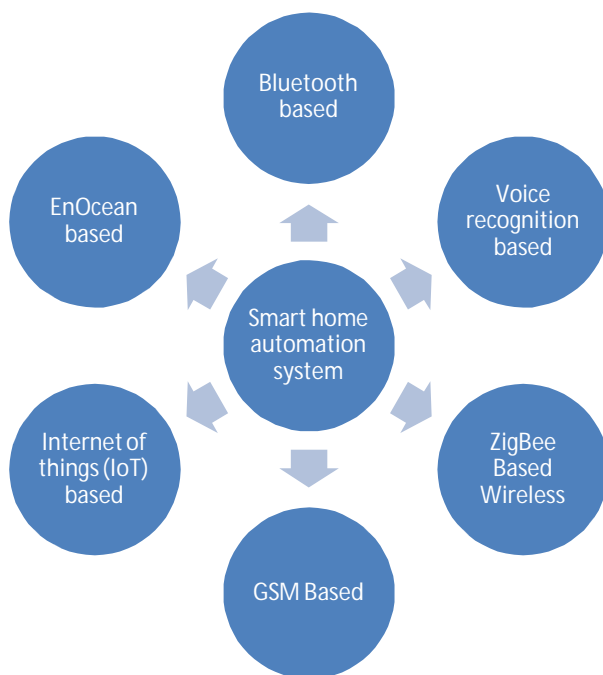


Figure 2 Smart Home Automation System.

Table 1 Comparison of Different HAS

System	Cost	Speed	Real time
Bluetooth	Low	High	Yes
Voice Recognition	Low	High	Yes
ZigBee	Low	High	Yes
GSM	High	Slow	No
Internet, Wi-Fi	High	Slow	Yes
EnOcean	Low	High	Yes

IV. CONCLUSION

In recent time Home/Industry monitoring and security systems are becoming very important because to protect individuals and property from various hazards such as fire, crime, loss and it is also applicable for any organization, Banks and homes. This paper presents the theft prevention and security system in the recent years.

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