

A REVIEW ADVANCEMENT OF SECURITY ALARM SYSTEM USING INTERNET OF THINGS (IoT)

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ABSTRACT

The objective of today's pervasive computing is implanting a wireless and computational transmission unit into every physical item that individuals need to intermingle with starting from house appliances, refrigerators to a regular chair. This idea of universal transmission also popularly known as (IoT) Internet of Things, can leads to the development of innovative origination of the Internet. Internet of things (IoT) environment has made one-step further movement in the way of pervasive connectivity. The application of IoT in organizations, industries, homes, and society has transformed the whole outlook on foreseeing, monitoring, and different phenomena and processes against intrusion or abduction. However, this constant advancement of the internet of things (IoT) usefulness is extremely cherishing; the seeing of its security disputes is likewise significant mainly in the state of pervasive accessibility of the internet The rate of theft and abduction in some parts of the world is increasing by the day; this imbibes fears that become a threat to the peace and economic development of any society nowadays. It is paramount to find viable technologies that will secure the lives of humans as countermeasures to tackle this kind of problem. With the help of the latest development of technology, it is possible to secure people's lives, industries, schools, organizations, and homes using an alarm security system that will monitor, guide and protect against burglar and abductors and make life easier using internet of things (IoT). This paper will review related works on the security alarm system from its origin, its advancement in technology using internet of things (IoT); challenges faced using the internet in the security alarm system and its impact of installing the security alarm systems.

KEYWORDS: Abduction, Advancement in Technology, Internet of Things (IoT), Security and Theft.

1. INTRODUCTION

The most basic definition of any security system is generated from its name; it is literally a means or method by which something is secured through a system of interworking components and devices. In this instance, we are talking

about home security systems, which are networks of integrated electronic devices working together with a central control panel to protect against burglars and other potential home intruders figure one below shows a model of an advanced security alarm system and its various components it consists of [1].

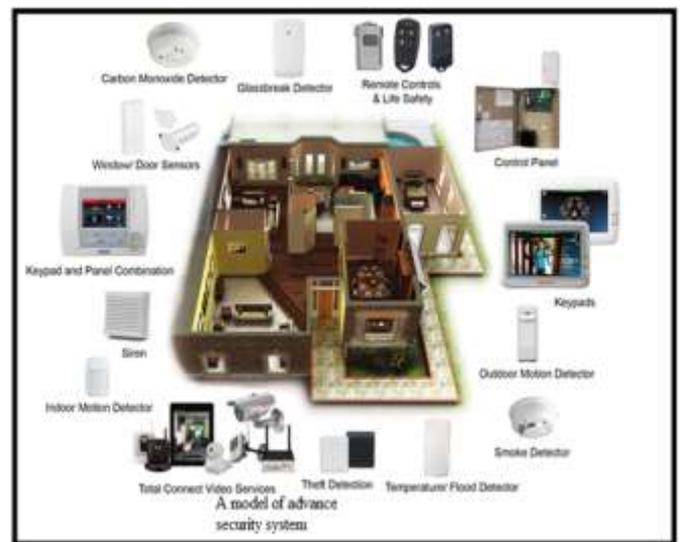


Figure 1: A model of an advanced security alarm system.

Today, our home monitoring and alarm security systems have become common. One of the motives for this is the increase in crimes, abduction, and robbery in the world today. Many of our homes, industries, schools, and organizations today are invade mostly by force either through a criminal entry or through breaching a window, entering through a cutting ceiling or even entering through a closed door or sometimes even an open window [2]. Circumstance has shown that most criminals are usually cut off by the help of the simple existence of an alarm security system in our homes hospitals, schools, organization, and industries. Criminals usually invade far more defenseless constructions compared to those guarded by security alarm systems. The improvement of the security alarm systems started with the creation of man. To give threatening information, human being

implements a form of a signal, shout, and sound. It was then replaced with the help of the clapping of hands and with the instilling of signals to notify society or to blowout a certain message during the early periods of some African society [3]. All these methods of warning are fundamental, unreliable and unsystematic. With the help of advancement in technology today, these undeveloped methods of producing security alarm systems were changed by programmed security alarm systems in the late eighteenth period. These types of electronic security alarm systems usually work without the aid of any human being energy. When the modern security alarm system senses a positive signal which may be a sign of intrusion or breakage, it normally gives a warning of a very high sound or sends an alert to the owner subject to the type of security design [4]. The earliest electronic fire, security alarm system was developed by a man named William .F. Channing. Late on an electrical electronics engineer, Mr. Moses G. Farmer invented the construction. This alarm system uses automatic indicator boxes to label the position of the outbreak fire and was first lunch in Boston, United States of America. The development of this alarm system by Dr. William was then followed by the improvement of various stylish and difficult fire and intruder security alarm system technology that is so many to deliberate [5]. The most significant among these security system technologies is the use of remote signaling thief security alarm. This type of security alarm system was design in the early 1970s. This administers a fast inventive reaction to alarm calls. However, organizations and industries are based on the supply of security service apparatus that usually come in dissimilar designs to keep burglars and thugs away from the environment that are not built for them. Today, we have an innovative group of electronic security alarm system with complexity at various levels [6]. With the latest flow in crime rates in the world, it has become very essential to safeguard our buildings and our property with the aid of sophisticated stages of various advanced security alarm devices. The prices of such kinds of security alarm devices depend on the apparatus technology and solicitation desires. These alarm security system devices are characterized by present electronic security

alarm systems. Some of nowadays-modern security alarm systems are housebreaker alarms, threat alarms, industrial alarms, speed limit alarms, and anti-theft vehicle alarms [7]. The intruder alarm security is initiate by a cycle, from a comprehensive automated circuit loop that is close with an alarm at its output, or an indication to inform the owner of danger. They are a central control box that normally observer different gesture indicators and the perimeter protections that give an alarm or notify the owner when any of this sensor is a trigger [8]. Some of the intruder's security alarms system normally functions delicately on the conception of a magnetic contact and others. For those types of security systems working with the sensors, these devices are usually positioned at any entering of the industries, organizations, and building. In this case, the sensor will activate an alarm if the device gets a signal above its set inception [9]. In the case of motion detection, the ultrasonic sensor is normally used; the point indicator can be used in the concession of a criminal alarm, theft or illegal individuals at certain points such as doors or windows [10]. For instance, when a precise environment needs to be look over the awareness of the burglar in the protected environment is used, which is executed with the help of ultrasonic sensors and is normally fixed at an appropriate location. Presently, closed-circuit television (CCTV) shown in figure two below, has been combined in the thief security alarms system to recognize the existence of illegal personnel.



Figure 2: A model of closed-Circuit television (CCTV)

The output of the intruder alarm system can differ from a siren or loud bell cautionary to automatic telephone buttons and flashing outdoor rays [11]. It accomplishes the warning purpose possible of informing neighbors of an illegal individual and at the same time, it will function as a signal to the police. Automated dialers linked to the burglar alarms are set to call the police officials and to play a pre-recorded report notifying the police personal that the organization, industries or house has been broken into [12]. With the aid of advances in technological and scientific improvements, it has made significant advancements in the technology of the security alarm devices [13]. In this research, advances in security alarm system technologies using different types of sensors that are used in the security system and advancing the security system-using the internet of things (IoT) against abduction or intrusion are reviewed considering an intruder alarm. A security alarm system has been a great concern in the world nowadays, considering the surge in burglaries in different parts of the world today and the rise in abduction, everyone needs to take protective actions to avoid an illegal entering into their industries, organizations or homes [14]. The point that security alarm system exists in our environment or homes is often a hindrance to

frighten a burglar before trying to force an entry, making the possessions of it in our home or environments, will make you feel safe and increase peace of mind to the users [15]. These devices function as inputs that trigger the security alarm. Some of the security alarm sensor technologies that have been established over the centuries are (1) Microwave sensors: the microwave sensor, this is an electronic device that perceives signs and is used to control luminaires. The microwaves function differently from passive infrared sensors, by extruding microwaves, which bounce off surfaces and return to a sensor within the indicator. The microwave sensor can easily perceive any activities within its range and do all this in less than a microsecond. The microwave sensors can easily penetrate the hole and walls. Because of its ability, it can cover a very larger area of commercial properties, industries, organization and homes that needed to be secure. Because its properties are required to make use of it especially for, those who want to secure a very large environment. The microwave sensors are mostly less expensive to buy. The microwave sensor is a motion-sensing device that normally flows in a definite area or in the area within the electronic field. Movement in or out of the area that needs to be secure quickens the speed and triggers the alarming figure three below shows the image of the microwave sensor.



Figure 3: Microwave sensor

(2) Vibration Sensors: Vibration sensors are sensors that are used for displaying, measuring, and evaluating linear velocity, displacement, acceleration, and proximity. Vibration sensors

are usually fixed on ceilings, floors, and walls to sense mechanical vibrations produced by drilling, chopping, or because of any physical attack figure, four below shows the image of the vibration sensor.

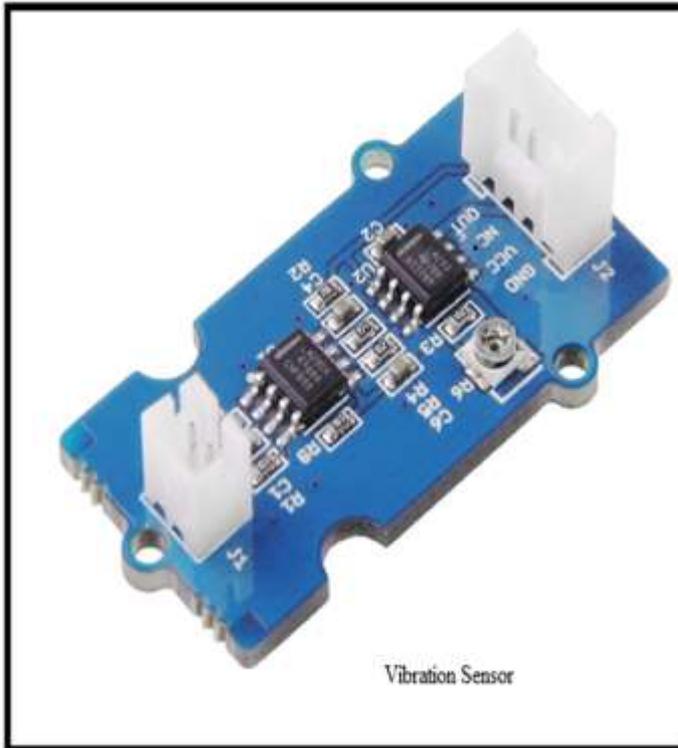


Figure 4: Vibration sensor

(3) Photo electrical ray sensor: The photoelectric sensor usually discharges a light ray infrared or visible from its light-emitting element. A reflective-type photoelectric sensor is usually used to notice the light ray reflected from a certain target. While a thru beam, type of sensor that is to measure the changes in the light magnitude caused by the target passing through the optical axis. The photoelectric sensors usually transfer infrared beam to the receiver, usually in the form of a light ray, in a remote area, thus forming an electronic fence. These types of sensors are usually used to close openings, such as corridor paths or doorways, which are broken open. Whenever the light ray is disturbed or interfered, it will automatically produce an alarm signal figure five below shows the image of the photoelectric sensor.



Figure 5: Photoelectric Sensor

(4) Electric field sensors: The electric field sensor is a micro-electronic based device that can normally notice the existence of both stationary and moving objects through solid materials. Its facility to function through any non-conductive material permits complete invisibility. The electric field sensor function by noticing any small changes in an ultra-low-power electromagnetic field produced between two remotely positioned antenna electrodes. These sensors normally create an electrostatic field between and round a series of conductors and an electrical ground. Is for identifying up and down or degradation in the field. The sensor can be activated by anybody touching or approaching the sensor figure, six below shows the image of the electric field sensor.

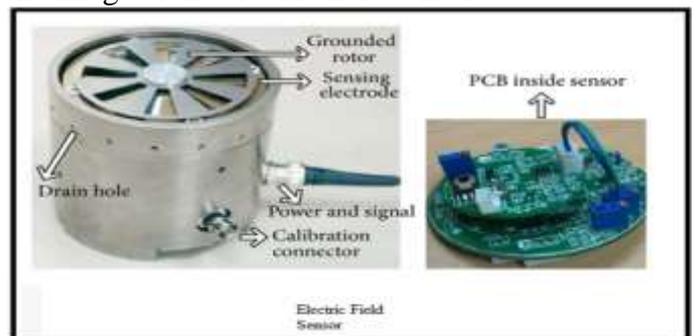


Figure 6: Electric Field Sensor

(5) Sound sensors: The Sound Sensor is usually a minor board that is merging with a microphone and some processing circuitry. It produces not merely an audio output, but also a binary sign of the presence of sound, and an analog exemplification of its amplitude. These sensors usually react to the sound generated by intruders entering through the secure environments figure seven below shows the image of the sound sensor.

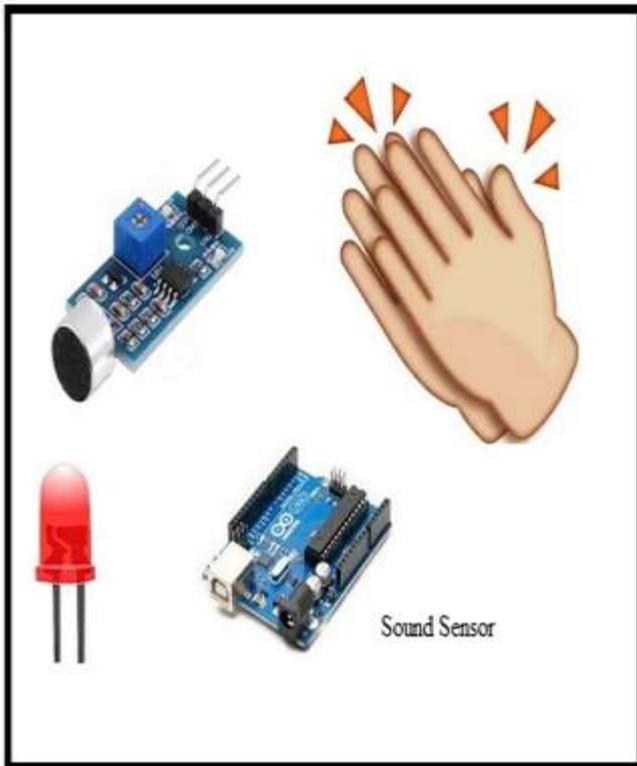


Figure 7: Sound Sensor

(6) Capacitance sensors: Capacitive sensors can normally be used to identify metallic substances as well as close all additional tools like liquid and solid substances. The capacitive sensors are frequently used as a limit switch, for flow control, object detection and for counting purposes. The capacitive sensors notice variations in the electric field. Whenever an intruder gets closer to it or by direct contact with the sensor wire, it brings about changes in the capacitance of the field, which can either be a higher or lower level than the verge signal level, this will automatically generate a signal figure-eight below shows the capacitive sensor.



Figure 8: Capacitive Sensor

Internet of Things this is the network of linked physical items that can convey and transfer information between themselves without the desire of any human being involvement. It has been officially well defined as an “Infrastructure of Information [16] Society”, this is because the internet of things permits us to gather data from different types of avenues such as animals, humans, kitchen appliances and vehicles. Therefore, any item in this real-world which is been administer with an internet protocol (IP) address to allow information communication over a certain network can be made part of the internet of things system by embedding them with automated hardware like a sensor, software, and networking gear. Internet of things is distinct from the Internet as in a way it transforms Internet connectedness by permissive everyday items that use embedded circuits to communicate and relate with each other applying the current Internet infrastructure [17]. The internet of things framework has assisted in administer actual period data analysis and gathering using correct sensors and seamless connectedness, which may aid in making effective choices. With the initiation of the internet of things, both consumers and manufacturers have profited. The producers have obtained awareness on how their commodities are used and how they execute out in the actual world and upsurge their incomes by administering value extra services that elongate and enhances the lifespan of their commodities. The consumers usually have the capacity to control and assimilate more than one gadget for a more modified and improved consumer experience [18]. The word (IoT) meaning

“Internet of Things” and was first originated by a businessperson name Kevin Ashton, he is one of the originators of the Auto-ID Center at MIT. The term internet of things (IoT) and its idea can be drawn back to the year 1985 when Peter .T. Lewis talked about the idea during a speech he is delivering at Federal Communications Commission (FCC). Ever since the choice of using the internet of things (IoT) has developed enormously as presently it comprises more than 12 billion linked gadgets and according to professionals, it will continuously be increasing up to 50 billion by properly the end of the year 2020 [19]. Ashton Kevin was among part of the group that learned how you are going to link items to the internet through an (RFID tag) the RFID is the Radio Frequency Identification Tag; this is an electronic tag that exchanges information with a radio frequency identification tag (RFID) reader through radio waves. Most of the radio frequency identification tags are usually made up of two main parts [20]. The first part of the radio frequency identification tag is the antenna, which usually receives the radio frequency (RF) waves. While the other part of the radio frequency identification tag is, an integrated circuit (IC), which is responsible for the storing and processing of the information to be used, as well as demodulating and modulating the signal of the radio waves sent and received by the antenna. Ashton Kevin was the first individual that makes use of the phrase Internet of Thing (IoT) in the year 1999 presentation and it was fixed around ever since [21]. Kevin Ashton may have been the first person to make use of the term (IoT) Internet of Things, but the idea of linking of devices mainly linked machines has been on existence for a very long period. For instance, the machines we know have been communicating with each other ever since the initial electronic telegraphs were established in the late 1830s. Additional technologies that were fed into the internet of things (IoT) were the radio voice transmissions, wireless (Wi-Fi) technologies and the supervisory control and data acquisition (SCADA) software. Then in the year 1982, an improved Coke device at Carnegie Mellon University became the earliest linked smart machine. Using the university’s internet students might likely find out, which drinks were provided, and whether the drinks were cold for consumption [22]. Currently, we are now

existing in a world where there are lots of internet of things (IoT) linked gadgets than people. This internet of things (IoT) linked machines and gadget that ranges from wearables gadget like smartwatches to radio frequency identification (RFID) inventory-tracing chips. The Internet of things (IoT) linked gadgets that communicate through networks or cloud-based podiums linked to the Internet of Things (IoT). The real-time vision gathered on this internet of things (IoT) is that it will collect information fuel digital revolution. The Internet of Things assures numerous progressive changes such as safety and health, operations, business, global environmental and humanitarian issues and industrial performance. In this research, we are concerned with the importance of the internet of things (IoT) in the security system. The internet of things in the security system, this is the technology part concerned with the protection of linked devices and networks in the internet of things (IoT). The internet of things (IoT) comprises adding internet connectivity to a system of interconnected figuring gadgets, digital and mechanical machines, items, people or animals. Each "object" is to provide an exceptional identifier and the capacity to immediately broadcast information above a certain network. Being linked over the (IoT) Internet of Things to receive, send and frequently perform on information outcomes in many of the smart internets of things (IoT) things that we normally use to build a more secure, suitable, creative and smart world. Previously, (IoT) Internet of Things abilities performs an important role in the security alarm system, businesses, and digital revolution efforts [23]. In the process, we can mix internet of things (IoT) information with advanced data and leading to the (AI) Artificial Intelligence, the Artificial intelligence can increase the rate of the internet of things (IoT) by making use of all the information from good akin gadget to encourage learning and shared brainpower. Some of the essential methods that artificial intelligent (AI) use are deep learning, machine learning, and natural language processing and computer idea [24]. The capabilities seem that the (IoT) Internet of things security has become the topic of research after a sum of unusual cases where a simple internet of things mechanism used to penetrate and raid the largest network. Wi-Fi

internet connectivity and communication technologies have upgraded, so approximately every type of electronic machinery can deliver Wi-Fi information connectivity. This normally allows internet of things (IoT) sensors, implanted in (IoT) Internet of Things linked gadgets and apparatuses, to rapidly receive and send internet of things (IoT) information over a certain network [25].

2. LITERATURE REVIEW

Designing and Implementation of Security alarm system for organizations, industries, and houses based on Global System for Mobile Communications (GSM) technology was review by Govinda et al. (2014) that administer double ways to implementing security alarm system-using internet of things. Firstly is by the use of web cameras shown in figure 9, in a case when there is any motion sensed by the camera, it will sound an alarm and sends a message to the industries, organizations, or homeowners that they are an intrusion. This technique of identifying intrusion against burglary or abduction is reasonably good, although costly as a result of the price of the cameras used in the development of the security system. The camera that is going to be used in the security system needs to be of great value which means it has to have a very wide range and the image quality should be good enough to identify. likewise, if you going to work with a moving camera such as dome cameras shown in figure 10, they are normally expensive more than the ones that are fixed in one place. Short message service (SMS) based system using Global System for Mobile Communications (GSM) was suggested by Daniel and Karri in the year 2005, they suggest to use internet facilities to deliver an alert or messages to the place an intrusion took place rather than the ordinary short message service (SMS). Arvind and Jayashri 2013 have carried out a fingertip or fingerprint-based verification system to unlock a certain closed place or door. This type of security system aids users to unlock a certain place because they are the ones whose fingerprint is register to the system so if you put the unregistered fingertip it will not unlock the place or anything the finger is registered to. This type of security system is connected with some more alarm security protection features this includes fire accidents and gas leakage sensors

or detection devices. Though a great system, fingertip devices are complex and expensive as they want amplified sensor resolution to join into the internet of things system. Some professionals likewise argue that merely depending on a fingertip sensor is not wise because it is quite simple to put someone fingertip on something and reproduce it, that is why it is consistently considered to make use of fingertip scanners in a two ways authentication systems whereby an added layer of security system is made in the form of passcode, PIN, or voice recognition. Some researchers suggested an idea of a powerful internet of things security system whenever a defect in one of the components used in the security system will not result in the failing of the whole security system. The knowledge of making use of numerous gadgets which may not be directly or may be suitable with one another, however, it can be made to work in such a way that they can interchange a present item of the security system in case they are a failure. In a lineup with this, the prototypical has the capacity to use connection among several appliances, which may result in conserving energy, therefore, making the prototypical more effective. An illustration administers of this said prototypical will use a temperature sensor, Wi-Fi component and an entrance sensor to change a defective came. Light-dependent resistor (LDR) and Laser rays sensor are also used to identify an invasion using the intruder's movement were suggested in the year 2016. The method the system will work is that a light ray is face towards the light-dependent resistor (LDR) sensor and if they are an interruption between the light ray and the light-dependent resistor (LDR), the alarm linked to the sensor start alarming and sends a short message service (SMS) to the house owner or place where the intrusion takes place. This type of system will assist in solving the problems of securing the spaces, which may be out of range from your immovable cameras, but may face the same problems, which is faced with systems involving of Global System for Mobile Communications (GSM) components to send a short message service, which is that the transmission of the message is reliant on network coverage. Likewise, due to the condition of the light rays, which is a straight light beam, it can be avoided by the intruders who knew about the

security system and will be capable of dodging the light beams, rendering the whole security system useless. An innovative method of implementing and design an electronic lock security system using the internet of things technology and Morse code. The authors said that this is a unique awareness, which has never been done previously and is going to the first of its kind “optical Morse code-based electronic locking system”. This type of system makes use of Light-emitting diodes (LED) as an encipher intermediate to send signals. To make it more available to the overall community, the light-emitting diode (LED) in our mobile phones has been made use of. On the side of the receiver a photosensitive resistor as well as a microcontroller such as an Arduino processor, which normally has the capacity to crack the photosensitive signal after collecting it from the light-emitting diode (LED). Upon untangling this signal it can then transfer the present situation of this lock to a cloud system this will be going to be from where these owners of the house, organizations or industries can be monitoring the whole security system. This author has made an experiment on the system in real-life time and it has shown to perform underneath various brightness surroundings with all the features functioning, as they are designed to operate. These authors said the system is user-friendly and it has an easy user interface when making use of it. The internet of the things security system (IoT) developed in this research here operate very well, and it can be made use by everybody and is as well suitable to make use of due to the use of mobile phones as a light-emitting diode (LED), which likewise makes it a costly option. A researcher by name Anitha et al in the year 2016 suggested a security alarm system using artificial intelligence and suggested a prototypical for cybersecurity systems.



Figure 9: Web camera



Figure 10: dome (moving) camera

In this, we have seen how essential the home automation system is very important. How its main uses range from expanded relieve and larger security and safeness, and to additional reasonable usage of other resources and energy, granting major savings. The security alarm system likewise offers a great means for supporting and helping different needs of folks that have disabilities precisely old age people or individuals with a certain illness that will not allow them to be moving around either in offices, organizations or homes. The user of the home automation and its application area is very significant and will keep on steadily upsurge

even in the future [26]. The security alarm system or home automation is also known as the automation of the placed is installed or household activity. The home automation or security system usually explains a house or an area that is a link with technology and services through networking to watch over the area needed to be secured and increase the eminence of living of people. The security alarm system or home automation comprises centralized control of lighting, appliances, temperature, and other systems, to provide better relaxation, ease, security, and efficiency.

3. Challenges faced when making use of the internet of things (IoT) in the security alarm system and how to secure your system against criminals attacks

Our linked gadgets are information collectors. Our private data stored and collected with such gadgets such as our location, names, health data, may help culprit in pilfering our identification. The Internet of Things (IoT) is now a developing drift, with a flow of innovative commodities hitting the market today. However, here is the problem: Whenever you are linking to everything, there are more ways to access your information. This can properly make you an eye-catching target for those criminals or individuals who want to make an income of your own information. Each linked gadgets you have can add additional privacy concerns, specifically since most of them are a link to your smartphone. Here is how it is working. In case you want to checkup the closed-circuit television cameras at your industries, organization or homes, unlock or lock a certain door, regulate temperature or lighting, pre-heat the oven, or turn ON or off an electronics appliances you can have access to them all remotely with just a little taps on your mobile phone or smartphone. However, the additional features you increase no your mobile phone or smartphone, the additional data you store in the gadgets. This might make mobile phones, smartphones, or whatsoever link to them defenseless to a throng of various kinds of intrusions. Below are the security measures one needs to take to aid secure your security system against criminals or hackers. That is the reason why it is a perfect concept to safeguard your ordinal life by safeguarding your internet of things linked gadgets.

1. You have to install trustworthy internet security software on your tablets, computers, smartphones or mobile phones. For example, Norton Security Deluxe can offer real-time safety against current and initial malware, including viruses and ransomware.
2. By making Used of tough and matchless security PINs for your gadgets accounts, Wi-Fi networks, and linked gadgets. You should avoid making use of common passwords to protect your devices that can be guest by anyone for instance 123456 or ABCDE.
3. You should be very careful with the types of applications you make used to monitor your devices or security system. You should make sure you go through the privacy policy of the applications you are going to make use of to see how it is designed to make use of your personal information.
4. Gadgets become insolent because they gather much private information. Although gathering information is not necessarily an evil thing, you have to know what kinds of information these gadgets gather, how it is protected and stored if it is shared with third parties and the guidelines or protections regarding information breaches.
5. You should make sure you know the types of information the gadgets or applications need to have access to your smartphone. If it seems pointless for the application performance or too dangerous, then you have to reject authorization.
6. By making use of a virtual private network (VPN), like Norton Secure VPN, which will aid in securing the information conveyed to your home or public Wi-Fi.
7. You should make sure you check the gadget producer's website frequently in case they are firmware updates.
8. You should use carefulness when making use of social sharing features with the applications. The social sharing features may likely disclose your data like your location where you are currently are and let people know that you are not at the place needed to be secure or your home. Cybercriminals may likely use this to track your movements.
9. You should make sure you never neglect your smartphone if you are making use of it in open or public places. In congested places, you should make sure you turn off Bluetooth or Wi-

Fi access since you do not need such functions. Because someone may likely have access to your network and this may lead to hacking on your system especially when the Wi-Fi or Bluetooth do not have passwords.

4. Importance of installing the security alarm system

The rate of Crime in the world is increasing day by day due to urbanization, unemployment, poverty, economic recession, and social inequality, which will bring chaos to the country. Most of the crimes that are usually done are abduction, robbery, theft and housebreaks, but the most common one done today is armed robbery. This disturbing increase rate of crime in the world today, thus, threatened the life and properties of the people. A security alarm system should be installed as a standard device in our homes or the environments needed to be secure. The need for an operative and cost-effective system that caters to catastrophes and accomplishes safety concerns while one is away from their home is essential.

Therefore, a security alarm system is an essential device in protecting organizations, industries or buildings and improving the quality of people's life since is going to be an actual means of decreasing the threat of abduction, burglary, and thefts in the world today. Therefore, the importance of installing the security alarm system are listed below;

1. Research has revealed that the installation of a security alarm system at our homes can prevent criminals from entering the secure area. As a result of this, you can leave comfortably with your family at all times or even if you are away from your home or the environment needed to be secure.

2. With the help of modern technology today, security alarm systems may include many computerization features. These features will allow you to monitor your energy consumption and turn off all the utilities when you are not going to make use of them or no longer in the room. This may help in less monthly billing of the electrical appliances and less lost energy that is by the use of the internet of things (IoT).

3. With the help of the installation of the security alarm system installed, one can watch over his house and what is happening around the environment or surroundings to be secure.

4. The sound of the installed security alarm system can secure the thief especially if the system is connected to a buzzer, which will make a sound if they are an illegal entering.

5. Many of the security insurance companies or agencies usually offer discounts to those who are interested in installing the security alarm system which is a great way to reducing the costs of installation and it encourages people to install it because of the discount of installation.

6. The alarm security systems usually give an early warning in the case of a fire outbreak which will call the attention of the house-owner or people living in the area the system is installed and necessary measures will be taken.

7. With the help of the security alarm system installed, it may prevent the loss of valuables and properties which can lead to gigantic financial damage.

8. The installation of the security alarm system may provide the environment to be secure or homeowners with self-confidence and relaxation of the mind that their properties or homes are secured.

5. Conclusion

The objective of this review is to give awareness of the advancement in technology using internet of things (IoT) of the security alarm system and to create awareness regarding the security measures one has to take regularly due to increasing in break-in and abduction in the world nowadays and the challenges faced when the security system is linked to an internet and how to protect the whole system against cybercriminals attacks. This research reviewed some study on security alarm system from how it is originated which has not been done in most of the research papers and its advancement in technology aspect and list the importance of installing the security alarm system in the environment we need to be secured or our homes. The research also fills the gap for the need of installing a security alarm system against invasion in our homes today and the area needed to be secure. Especially with its advancement in technology using the internet of things (IoT), one does not need to get a security guard or hired someone to be watching the environment needed to be guarded.

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