

(IJNCAA)

ISSN 2220-9085 (ONLINE)

ISSN 2412-3587 (PRINT)

INTERNATIONAL JOURNAL OF
NEW COMPUTER
ARCHITECTURES AND
THEIR APPLICATIONS

Volume 9, Issue 3,
2019



www.sdiwc.net

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Publisher

The Society of Digital Information and Wireless Communications
20/F, Tower 5, China Hong Kong City, 33 Canton Road, Tsim Sha Tsui,
Kowloon, Hong Kong

Further Information

Website: <http://sdiwc.net/ijncaa>, Email: ijncaa@sdiwc.net,
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International Journal of
NEW COMPUTER ARCHITECTURES AND THEIR APPLICATIONS

The *International Journal of New Computer Architectures and Their Applications* aims to provide a forum for scientists, engineers, and practitioners to present their latest research results, ideas, developments and applications in the field of computer architectures, information technology, and mobile technologies. The IJNCAA is published four times a year and accepts three types of papers as follows:

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NEED FOR SECURITY ALARM SYSTEM INSTALLATION AND THEIR CHALLENGES FACED

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ABSTRACT

The household automation and security system permit us to curb house devices such as our lights, fans, air conditions (AC), door, and so on. The household automation system does not only reduce individual exertions but likewise, timesaving and energy efficiency. The main purpose of the household automation and security system is to help in controlling our household gadgets by the used of various methods such as the user of web pages, android application, and Global System for Mobile communication (GSM) when one is not at his home, office or organization. The system will inform you if theirs is an intrusion or abduction in the secured environment by sending a short message service (SMS) on the person's phone. The system can also assist old age individuals by helping them control their home devices with the aid of their smartphones because they old age will not allow them to go to these places and On or OFF this appliance or to regulate them. The rate of theft and abduction in some parts of Nigeria is increasing by the day; this imbibes fears that become a threat to the peace and economic development of the country. 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. This paper will review literature related to security alarm systems, different types of sensors used in the security system, advances in its technology, and the challenges homeowners faced,

and the importance of installation for security purposes.

KEYWORDS

Abduction, Alarm System, Burglar, Security, poverty, and joblessness

1. INTRODUCTION

The most basic definition of any security system is generated from its name; it is 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 a simple security alarm system and its various components it consists of [1]. Today, home monitoring and alarm security systems have become common. One of the motives for this is the increase in crimes, abduction, and robbery in Nigeria 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]. Case studies show 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. All over the world today, across different continents, a common conflict is always battle with the people living in different environments, which is the

mission of eliminating or controlling atrocity. In 2008 according to a television station name Zone Reality, in a survey the television, station did at least every ten years, about eighty-three point three percent (83.3%) of those peoples living in these metropolises with about nine hundred thousand (900,000) or even greater than that, citizens are usually victims of one form of crimes or the other. Not merely in regions or environments that are extremely developed such as in Asia, Europe, South America, North America, but likewise in African countries, where the metropolitan people are usually small when comparing it to the rural people. These types of misconduct, which occasionally vary from place to place, are not generally found in rural areas compared to urban areas. The fundamental dimensional differences frequently found in the metropolises and the development of city shantytowns and jobless subgroup produce the environment for the production of assault, mainly against the presence of reasonably huge stages of magnificence. Sadly, in part of African in Nigeria, criminal and violent doings are presumptuous treacherous trends as they may likely intimidate people's properties, lives, and the nationwide wisdom of peace, wellbeing, security, and social order are finally decreasing the residents' eminence of their lives. Discrimination frequently found in the metropolises housing neighborhoods triggered by variance in earning, education and employment normal frequently leads to illegitimate inclinations, majorly of which are insignificant burglary, molestation, adultery, grievous wounding, and murder. Connected with such an issue is Boko-Haram, which at present-day is intimidating the safety of the country Nigeria. An upsurge in the transformation of the country is the making used of the internet between new school graduates have likewise; highlight the upsurge of criminality in modern periods. The consequence of all this criminality is that it has dimensional and chronological spreading and whatsoever the spreading is in the metropolitan, the instant reaction of individuals to such common condition is anxiety. This is shown in the comparative method of safeguarding their households by building a tall fence wall, using exceptional gates and locks, likewise employing independent security clothes and organizations.

Authority, joint bodies, and individuals do dissuade capitals that could have been put to more creative usage to end the misconduct. Misconduct in part of African Nigeria, for instance, emblem in the mid-1990s this is because of joblessness, social inequality, and economic deterioration and brings about chaos in the habitat. Almost many of the crimes that are done are burglaries, break-ins, abduction, and thefts though armed burglaries are flagrant. This frightening upsurge for misconduct in the nation has then, brought menace to properties and lives in Nigeria. The profuse improvement of crimes in some of the areas coupled with a large amount of joblessness also upsurge in poverty is also another main reason that may result in misconduct and all types of unusual behavior in the community or country. In African Nigeria nowadays, all most many people in the country are sleeping with one of their eyes opened and influence to live one day at a time with tremendous uncertainty as dangerously armed brigands frenzy residence with imprudent spontaneity. The problem of lawbreaking some of the destructive significances of suburbanization cannot be unnoticed as is a universal dilemma. Since employment chances in metropolises have not kept measure with populace development, the amounts of joblessness in metropolitan regions frequently surpass fifty percent, and most unemployed individuals are uneducated and young males. This individual earns earnings from easygoing businesses such as selling magazines and newspapers, running errands, shining shoes, washing and gathering waste. Prostitution, begging, and robbery are likewise typical processes of making a living. The disturbing upsurge for lawbreaking in African Nigeria consequently has not merely brought chaos in the communities or environments where people are living but also menace the properties, lives and their housing generally. When we are talking of housing, and it is no more secure which is inimical to the meaning of the term. According to, the term housing it can be more than an apartment, the simple substantial lodging although the Urban Development and United Nations Ad Hoc group of specialists on Accommodation well-defined it, as the substantial surroundings in which a household, the simple entity in the community need to

progress. They additionally argue that accommodation is not household and shelter or amenities only, it can encompass several amenities, utilities, and services that combine individuals and his clan to the community in which it develops. Henceforth, from above, you can differentiate that accommodation is not just only a communal but it can be described as a pack of services and goods that can promote and improve good living. It is likewise significant to community eminence and safeguarding. Therefore, substantial facilities such as unwanted dumping, water supply, locational services and neighborhood roads tacit by the exceptional channel among essential economic and social frameworks such as health, education, and recreation are also amounts of the compendium of facilities labeled as accommodation. Therefore, accommodation insecurity in metropolises calls for burden as misconduct the key reason is a communal dilemma, which intimidates properties and lives and someday, decreases the eminence of life. Lawbreaking is not merely a communal dilemma but likewise, the greatest solemn of all communal evils. Misconducts likewise, are multifarious, systematized and could be encapsulated in 3 main groupings; these are economic influences/scarceness, communal surroundings, and clan configuration and the consequential consequence is that individuals developed a tactic of defending themselves through distinctive means between which is hindrance through Strategies and Design. It is against this circumstantial hence, that this research weighs the effects of using House Security procedures by the people living in African Nigeria towards the hindrance of Accommodation insecurity. 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 Nigeria, 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 initiated 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 observes 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 looked 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) has been combined in the thief security alarms system to recognize the existence of illegal personnel. 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 against 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 especially in Nigeria 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 a 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 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, organizations 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 the area within the electronic field. Movement in or out of the area that needs to be secure quickens the speed and triggers the alarm. (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. (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 an 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. (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. (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. (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 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. (7) Glass break detector: This type of sensor is used in electronic criminal alarms detectors if a piece of the glass is broken or shattered. The detectors are usually kept or fixed closed to glass storefront windows or glass doors in our houses, offices or organizations. The glass break sensors generally either use a microphone, which observer's vibrations or noise that is coming from the glass. If this noise or vibrations surpass a certain verge that is user-selectable, they are

evaluated by sensor circuitry. (8) Seismic detectors: This seismic sensor is useful for watching over armored cabinets, automatic teller machines, cash boxes, armored safes, night safes, and safe vault walls for all known break-in apparatuses such as oxygen lances, diamond-tipped drills, explosives, and hydraulic rams. Any mechanical vibrations triggered by a break-in attempt are scrutinized and detected by this seismic detector sensor, and an alarm will be triggered. (9) Magnetic Contacts: This magnetic contact is most usually use in electromechanical appliances that trigger when the magnet and contact are alienated. It is mainly used on windows or doors, these switches are the prevailing detecting gadgets in detecting closing or opening of windows or doors. The detectors are reliable and cheap. This type of sensors usually comprises of two sections, a contact that is usually installed on your window or doorframe and an activating magnet that is mounted on the door[16].

In this research, we have see how the rate of crimes is increased due to unemployment's in part of African Nigeria and how youths engaged themselves in various forms of business to make a living and how we informed our neighbors if an intrusion occurs since the previous years and the various types of sensors used in the security alarm system and its advancement using internet of things (I.O.T).

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 a 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, 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, 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 fail 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 can 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 uses 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 can 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 [17].

3. THE 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.

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.

4. CHALLENGES FACED BY HOMEOWNERS CONCERNING HOME ALARM SYSTEMS IN NIGERIA

This section of this research deliberates on some of the threats faced by the homeowners obtaining the factual security material for their houses. This is a result of a collection of home alarm security systems that are attainable in the market nowadays and are usually convene using various gadgets belonging to different producers, making it vulnerable to failure. Therefore, this challenges the homeowners faced are listed below:

- (1) One of the challenges faced by homeowners or security alarm users is that they are very expensive when buying it and mounting the whole security system.
- (2) Another challenge faced by users or homeowners is that many people are lacking interests concerning different security problems.

(3) Another challenge homeowners faced or users are that what kind of services are they going to be offered? These Services may include the maintenance, agreement and twenty-four hours response to repairs in case there is a system failure.

(4) The users or homeowners Understanding the security alarm system operations matters, the do and don'ts of the whole system.

(5) Another big challenge is having individuals who have made use of the security alarm system previously to share their views on the system services they have received from the manufacturers or producers.

(6) Another challenge faced by users or homeowners is that what is going to be the security alarm system maintenance or repair policy of the firm mounting the security alarm system?

(7) Another challenge faced by the users or homeowners is that what is going to be the services charges policy when the warranty of the system is over?

(8) If the security alarm system is mounted in offices, organizations, homes, and industries it users cannot depend on that folks will respond to any kind of sound alarm because people are used of hearing car alarms and false alarms which may make them disregard any kind of alarm they had, it may be the one which needs one attention but because of all these false alarms, one may ignore any alarm they heard.

5. CONCLUSION

The main objective of this review was to bring about awareness concerning the security actions people can make in their day-to-day life activities due to the rise in abductions and burglary in our Nigerian homes due to joblessness and poverty. This research also reviewed some papers related to security alarm systems, painted out the challenges of the security system to users or homeowners in Nigeria their faced, and the importance of installing it in our homes, industries, organizations, and government agencies for security, safety and easy access of our house appliances using modern technology.

REFERENCES

- [1] <https://www.safewise.com/home-security-faq/how-do-security-systems-work/>
- [2] I.K. Olarewaju, O.E. Ayodele, F.O. Michael, E.S. Alaba, R.O. Abiodun, "Design and Construction of an Automatic Home Security System Based on GSM Technology and Embedded Microcontroller Unit", *American Journal of Electrical and Computer Engineering*, Vol. 1, No. 1, 2017, pp. 25-32, Doi: 10.11648/j.ajece.20170101.14
- [3] A.M. Zungeru, J.G. Kolo, I. Olumide, "A Simple and Reliable Touch Sensitive Security System", *International Journal of Network Security & Its Applications*, ISSN 0975-2307, Volume: Four; Issue: 5; September 2012, pp. 149-165, DOI: 10.5121/ijnsa.2012.4512
- [4] British Security Industry Association (BSIA), "Journal on security system section strategy for intruder alarm system", April 2005, Page 1-3, Accessed at <https://www.thenbs.com/PublicationIndex/documents?Pub=BSIA>
- [5] "History of Security Alarms", http://www.icee.org/organization/history_center/fire_alarm.html
- [6] J.A. Koenig, L. Taylor, "Perimeter Security Sensor Technology handbook", *Electronic Security Systems Engineering Division*, North Charleston, U.S.A, pp. 67-86.
- [7] V. Karri., J. S. Daniel Lim, "Method and Device to Communicate via SMS After a Security Intrusion", 1st International Conference on Sensing Technology, Palmerston North, New Zealand, 2005, pp21 -23.
- [8] Z. Bing, G. Yunhung, L. Bo, Z. Guangwei, T. Tian, "Home Video Security Surveillance", *Info-Tech and Infonet, Proceedings, ICII Beijing*. International Conference, vol. 3, 2001, pp. 202-208.
- [9] S.A. Mahmud, G.A. Mohammed, "Development of a Simple Sound Activated Burglar Alarm System" *Leonardo Journal of sciences*. 9, July-Dec 2006,
- [10] A. Elfakhany, J. Hernández, J.C. García, M. Reyes, F. Martell, "Design and Development of a House-Mobile Security System", *Scientific Research Vol.3*, December 2011, pp.1213-1224, DOI:10.4236/eng.2011.
- [11] S.R. Khan, A. Al Mansur, A. Kabir, S. Jaman, N. Chowdhury, "Design and Implementation of Low-Cost Home Security System using GSM Network", *International Journal of Scientific & Engineering Research* Volume 3, Issue 3, March – 2012.
- [12] S. Kaur, R. Singh, N. Khairwal, and P. Jain, "HOME AUTOMATION AND SECURITY SYSTEM" *Advanced Computational Intelligence: An International Journal (ASCI)*, Vol.3, No.3, July 2016, pp. 17-23.
- [13] R. Hasan, M.M. Khan, A. Ashek, I.J. Rumpa, "Microcontroller Based Home Security System with GSM Technology" *Open Journal of Safety Science and Technology*, Vol.5, 2015, pp. 55-62, Published Online in *SciRes*. <http://www.scirp.org/journal/ojsst>
- [14] G.C. Nwalozie, A.N. Aniedu, C.S. Nwokoye, and I.E. Abazuonu, "Enhancing Home Security Using SMS-based Intruder Detection System", *International Journal of Computer Science and Mobile Computing*, Vol.4 Issue.6, June- 2015, pp. 1177-1184, Available Online at www.ijcsmc.com.
- [15] I.N. Adeline, E.O. Innocent, A. Nkechi, "Insecurity Question and Crime Statistics in Nigeria: A Case of Anambra State, *Specialty Journal of Humanities and*

Cultural Science, 2017, Vol, 2 (1): 1999-2015, pp.30-45.

Available online at www.sciarena.com.

[16] M.B.Ahmad, A.A.Abdullahi, A.S.Muhammad, Y.B.Saleh, U.B.Usman, "The Various Types of sensors used in the Security Alarm system" International Journal of New Computer Architectures and their Applications (IJNCAA) 9(2): 2019, pp. 50-59.

[17] M.B.Ahmad, M.Cavas, "A review advancement of security alarm system using internet of things (IoT)" International Journal of New Computer Architectures and their Applications (IJNCAA) 9(2), 2019, Pp.38-49.