

Analysis of IOT in Daily Life

Sangamithra A^{1*}, Margaret Mary J²

^{1,2}Dept. of Computer Science, Kristu Jayanti College, Bangalore, India

Corresponding Author: sangamithraa@yahoo.com

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Abstract— One of the major key roll concepts in today’s technology is internet of things ,IOT which plays a very major role in daily life , with the help of IOT we can make our surroundings in the automated way. IOT is the concept of machine to machine communication , all the devices can be monitored and controlled in an automated way without the human presence, In this paper we discuss about the use of IOT , various applications of IOT , security issues in IOT. This survey will be helpful for the researchers to know about the IOT as well as introducing the new techniques for implementing the IOT in different applications with more advanced way.

Keywords—IOT,Applications,Attack

I. INTRODUCTION

Internet of Things is a major technology through which we can produce the useful internet applications. Previous era and all where the humans will be having the ability to control and monitor the machines in a simple it was a human to machine communication.[1] But now with the help of IOT where the machine has the ability to control and monitor the other machines , in a simple it is a machine to human communication. With the IOT everything has come in the automated way , where there is a less work of human.

IOT plays not only in single application but also in various applications, in all day today applications IOT plays a very important role. Due to the IOT there is no much stress for the humans because everything is in the control of machine. [2]The basic principle of IOT where all the physical data are connected through the network and exchange the data. It is the combination of the sensors , devices data processing and user interface. These four components is the major core of the IOT , [3]which is interconnected to demonstrate the IOT concepts in the trending technology world.

The main core of IOT is collecting and exchanging data We can convert the devices like goods , animals buildings etc into a smart thing , this part of the IOT is called collection of data. Whatever the data that we have collected it will be exchanged to the cloud or with other smart things ,[4] the smart things has to give respond to the request which was sent by the cloud or other smart devices. Fig[1] depicts the flow of the basic working principle of IOT

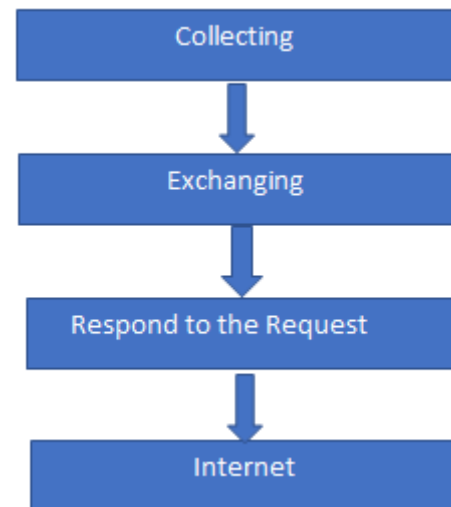


Fig:1: Working Flow of IOT

II. APPLICATIONS OF IOT

As we mentioned IOT used in various types of applications in day to days life. [5,6]All th things in this world is currently depending on the concept of IOT.

a. IOT in Smart Home

Smart home application is the one which is ranking highest as highest in all channels. Here day by day the human usage of smart home is increasing. This smart home is very much useful for the person who is working and the old age people. Because when we convert the home into the smart home using IOT techniques the devices which are there in the home will become automated. We no need to worry is

everything is in the proper way or not , everything will be taken care of an IOT. For eg: we no need to worry whether the light is switched off or not , once the light is connected to the IOT , the IOT will take care to off or on the light whenever needed.

b. Connected Car

Connected car is another main trending topic in IOT. We knew that we are not in the same century. Our century is increasing side by side the technology also growing. In previous days we can see only bicycle , cart in transportation , cars , bikes will be hardly seen. But now a days each and every person are using cars , bikes etc for transportation. When we implement IOT technique in cars , the speed of the cars can be maintained automatically based on the road and other transport travelling on the same place.[9] Due to IOT implementation in transportation it can detect if any unwanted things are there in the road , and it will make an alert to slow down the Vechicle , so these are the benefits of the connected car.

c. IOT in Health

IOT in health care also one of the blooming concept in todays world. Here where the patient health system can be monitored automatically. IOT in healthcare allow the patients to interact with doctor more. We have come across the devices like wrist watch which will keep on monitoring the persons blood pressure ,[7] like wise we can implement so many automated devices to monitor the patients health with the help of an IOT. If any emergency the device which is monitoring will send the alert to the specific doctor , so that the doctor will be helpful to suggest the treatment as earliest to the patients.

d. IOT in Retail

The main concept of IOT in retail which will reduce the theft in the retail shop , by using certain type of sensors. The person can escape from the humans but when everything is monitored by the system it is very difficult for that person to escape.[8] So IOT in retail will be very helpful to reduce the theft in retail.

e. IOT in Farming

Agriculture is main objective for our country , here how the IOT can be induced in agriculture. The basic form of agriculture is we have to check the soil where we are going to crop , if the soil is good enough then only the crop will grow. So this type of work and all can be made easily if we induce IOT in agriculture. Where it will intimate the farmers about the soil before they crop. Again this will be connected to the climate , because when we say about agriculture it relates to the climate and soil.

These are some of the main applications of the IOT in todays technology.

III. SECURITY ISSUES

When we talk about technology , security issues plays a role in that.[6] There is no technology without threats or security issues , atleast 1% of issues will be there in all the technology. So here we are discussing about the issues in IOT. IOT which makes all the devices to communicate in the same way without a human intervention , so there will be a lot of issues will be in IOT.

a. Lack of Testing

Lack of testing and updation , is one of the major problem in IOT devices. Once the IOT device is bought by the customers , it is prone to the hackers. Once they manufactured there is no updation in the devices.

b. Brute Force Attack

This attack which will retrieve the password and personal identification number of users. The device is dispatched with the fake password by the hackers , so as soon as the IOT device received by the customer they can hack it by using that password.

c. Man in the Middle

In this type of attacker , interrupt the communications between two devices. Here without knowing to the main person ,the attacker secretly transmit the information between them , so there is a lot of chances to interrupt the IOT devices and get the data's where the attacker can easily attack the devices. Due to this attack many vehicles can be hacked.

d. Botnet Attack

This type of attack which will spread the malware to all the devices. This malware which allows the hackers to control all the IOT devices. This botnet which is used to execute the ddos attack also.

e. Sybil Attack

This type of attack which will give the more identity to the single device. A single device with more identification number. This can be done again by inserting the malicious code to the IOT based device.

IV. PERCENTAGE OF COMMON ATTACKS IN IOT

In this paper we have discussed common attacks in IOT. Fig 2 depicts the percentage of common attacks in IOT.

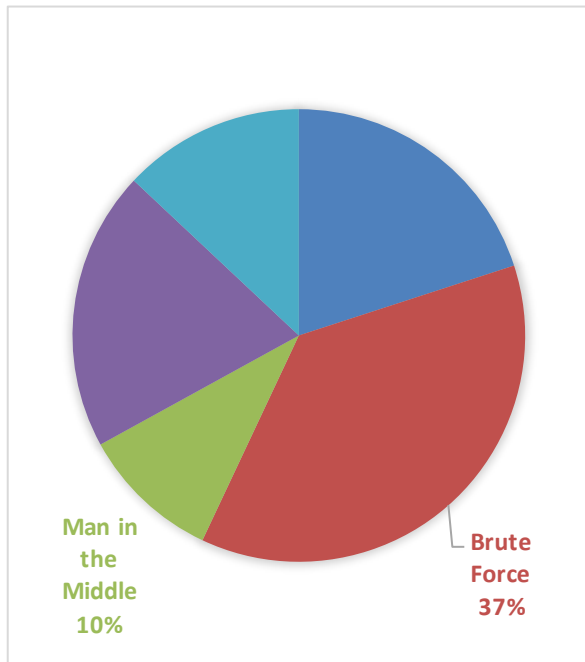


Fig:2: Common Attacks in IOT

V. CONCLUSION

Today's world from smaller thing to the bigger thing everything is under the automated way. To implement this automated technique we are implementing the concept of IOT. So IOT where it will make the device to work in the automated way without the human intervention. Though the devices are communicating in the automated way, there is a lot of chances of attacks. In this paper we have briefed some of the common attacks in IOT. Wherever the technology grows there will be an increase of hacker. Security issues are one of the complicated issues in today's technology. In order to overcome the issues in IOT, we have to implement the newest technology and updating the old techniques to get rid of the attack. The only solution of the attacks is to updating the techniques.

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