At Initial Stage Forest Fire Detection through Internet of Things

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Abstract: **Now a day's number of trees will be reduced very fast. Trees are use full for the healthy human life the main reason of the trees reducing is fair attacking into the forest. At that time we can loss the valuable trees .at the time of information reached to relented office. We can face the more problems control to fail. And also chance to loss more amount of tree. It is main problem in green society. In this paper we proposed is identify the reputably fair attacking areas and more important areas. We can set the one physical object that is fire detector sensor. If any reason to attack fair into the forest. Immediately that information sends to the related offices and nearest living peoples. So easy to control the fair and also save the trees at this time only human will be live healthy.**

Index terms- **IoT, smart phone, RFID.**

I. INTRODUCTION

Internet of things is a interaction between the things that consists of sensors and human. The main concept of the IoT is to allow things to be connected any time, any place with anything and any one, and any network and any service. By developing this we need a common operating platform that is middle ware. The middle ware platform enables sensor data collection, processing and analysis. Presently we design and implementation details of our proposed middle-ware solution namely mobile sensor data processing engine (MOSDEN).

MOSDEN is designed to support sensing as a service model natively. MOSDEN is a true zero programming middle ware. That means user do not need to write program code this MOSDEN middle ware is used for push and pull data streaming. For data transaction between android mobile and sensors we can develop a special plug-in that is used for the better communication between the sensor and human.

II. BASIC INFORMATION ABOUT IOT WORK

in this section, we briefly discuss the background and our motivation behind this work.

By using IoT we can connect to billions of thing to the Internet. This method is not possible and practical to connect all of them to the Internet directly. This is mainly due to resource constraints (ex. network, communication capabilities and energy limitations) connecting directly to the Internet is expensive in term of computation bandwidth usage and hardware cast point of view. Enabling persistent Internet access is challenging and also negatively impacts on miniaturization and energy consumption of the sensor. due to such difficulties, IoT solution need to utilize different type of devices with different resource limitation and capability.

We believe that an ideal IoT middle ware solution should be able to take advantage and adapt to these different type of devices in order to make the solution more efficient and effective. One of the most critical decision that need to be taken in the domain of IoT is where and when to process the collected data.

without IoT:

Fig1: this is the simple figure representation for fire occur

Above figure is the simple figure representations for fire occur. At the time fire attacking we have no information at that time this will be happen. At this time we loss the more number of tree, forest fire is most effect on the society. Now a day's forest fire identification equipments are very rare. Present technology using we can identify has taken more time that the reason we can loss the more trees and more valuable equipments. Presently identification technology is any one of the human directly identifying and then call to the related office that the time those are control the fail. In this process we can't chance to identify at very little stage of the fire present. So we can skip too easy to control the fire at the initial stage. These are the major miss take in the existing technology and also hear we can allocate the separate person for identification of fair. In these problems over come we can try to develop the different technology.
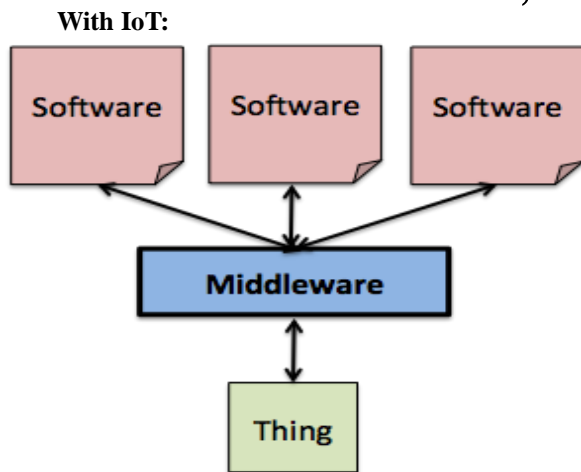
With IoT:

Fig 2:

Figure is simple architecture about the IoT

at the stage of the fire attacking in the forest identification is very critical . Reasons are different. By using advanced technology we can easy to identify the fire attacking at the less time by developing this. We can use the one gases sensor by using this we can easy to find out the fire attacking or not. Because at the time tree burning forms the gases CO, CO2, temperature, humidity values are increases in environment. This gases sensor is easy to identify that changes and immediate that information send to the related office and nearest peoples. Related offices are easy to control the fair because it is initial stage of the fair. And nearest peoples are try to secure our property and also try to control the fair. In this proposed methodology is very useful for find out the fair attacking at initial stage .we can easy to control the fair.

III. IMPLEMENTATION:

In this paper implementation we are taken the some physical objects that are arduino uno board for sending the signal from forest. That signal will be receive the some other place. This signal will be alert the peoples.

Now let's start for implementation of this paper firstly we can concentrate on the connection of arduino uno chip that is gases sensor. This gases sensor has easily find out some gases. That gases evolves at the time burn the tree. Gases sensor will be attached at some different areas like find out repeatedly occurring areas. That is useful for the alerting the nearest peoples if suppose any chance to fair attacking.

Now comes to the programming side implementation. In this paper is implementing on the android platform because this program run on the smart phone. So defiantly we are developing the program in the android platform.

In this paper smart phone will be receive the signal from the arduino uno chip that is gases sensor in this chip in side one web server is presented and it have the capabilities to send the signals request. The signal is useful for the alerting the nearest peoples and related office.

By using the IP (Internet protocols) address of the chip and Ethernet server functionality programming will be developed. Mobile receive the HTTP request in JSON(Java server on net) format signal will be send from chip inside server will be sending that signal and chip server will be work on the given states environment. After that for more user convenience we can create one audio bell for alerting the peoples. In this bell signal will be receive on HTTP protocols format and this program will be run on the web server.

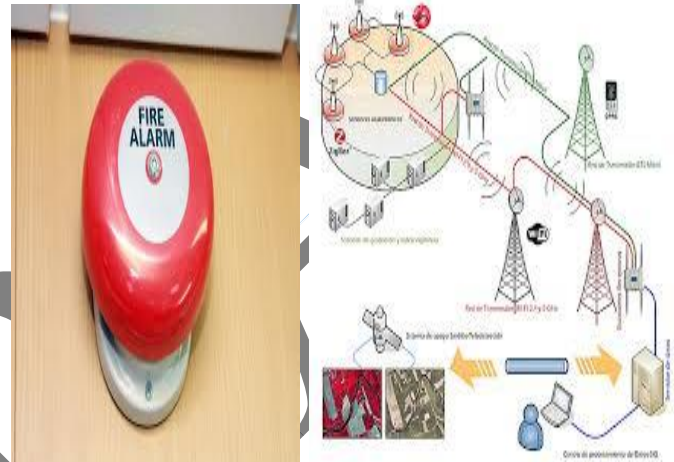### IV. RESULTS AND DISCUSSIONS:

fig 3: output representation and interaction between smart phone and chip interaction.

In this above figure we can easily analysis what is the process is going on and how it is used total representation in the fig 3. It is very easy processing to control the fair. By using this problem we can save the valuable trees and time and in some cases documents without tension. In this technology is very useful for forest offices and nearest peoples for to protect them self and try to control the fair.

Just observe above figure that has presented how to process is going on and how to reached the destination. It is very helpful for the at the initial level of fire attaching identification. So it is very helpful for the controlling the fair

No need tension about the IoT basics etc... It is just mobile operating. It can operate uneducated peoples also.

V. CONCLUSION:

We hope in this proposed methodology is very useful for the all type of peoples like repeatedly fire attacking areas. at the stage of the fire attacking in the forest identification is very critical . Reasons are different. By using advanced technology we can easy to identify the fire attacking at the less time by developing this. We can use the one gases sensor by using this we can easy to find out the fire attacking or not. Because at the time tree burning forms the gases CO, CO2, temperature, humidity values are increases in environment. This gases sensor is easy to identify that changes and immediate that information send to the related office and nearest peoples. Related offices are easy to control the fair because it is initial stage of the fair. And nearest peoples are try to secure our property and also try to control the fair. In this proposed methodology is very useful for find out the fair attacking at initial stage .we can easy to control the fair.

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