

## ANALYSIS ON WIRELESS SENSOR NETWORK

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### ABSTRACT:

Wireless sensor network is refers to a spatially dispersed and dedicated sensors. It is used to monitoring and recording the physical conditions of the environment. And it will organizing the collected data at a central location. WSNs is helps to measure the environment conditions like temperature, sound, pollution levels, humidity, wind, and so on. it is similar to wireless ad hoc networks. WSNs are spatially distributed autonomous sensors to observe physical or environmental conditions, temperature, sound, pressure, etc. it helps to know the environment conditions. And this paper include what is wireless sensor networks, how it works, about its applications, advantages and disadvantages.

**Keywords:** *monitoring the environmental condition, data detections.*

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### Introduction:

Wireless sensor networks were developed by military applications such as battlefield surveillance, and nowadays such networks are used in many industrial and consumer applications. The WSNs is built in hundreds or even thousands of nodes, where each nodes is connected to one sensors and it has typically several parts. The cost of sensor nodes is similarity variable, ranging from few to hundreds of dollars, depending on the complexity of the individual sensor nodes. The topology of the WSNs will vary from a straightforward star network to a complicated multi hop wireless mesh networks. WSNs result in corresponding constrains on resources such as energy, memory, computational speed and communications bandwidth. And it has many applications to know the monitoring of the environment position.

### Area Monitoring

Area observance space observance could be a common application of WSNs. It is used to detect the particular area of we want. Using this technology for finding enemies. WSNs are monitoring the particular region of area. This application is mostly used by army sector. A military example is the use of sensors to detect the enemy intrusion.

### Health monitoring

In health care monitoring there are several sensor networks for medical applications. Using this technology it has several device of wearable and non wearable devices are implemented. It will helps to body fitness and to measure the body positions. Wearable devices are used on the body surface of a human. It helps to measure the human body positions and locate the persons, overall monitoring of ill patients in hospitals and at somewhere else. The sensor devices are embedded in the environment track the physical state of a person for continuous

health diagnosis. So using this technology for monitoring the patients and get fitness of our body.



Example Scenario for Wireless Sensor Networks

## Environmental sensing

There are several applications for monitoring the many objects from the environments and to implement the architecture of the environments. Examples of which are given below. They share the extra challenges of harsh environment and reduced the power supply.

## Monitoring of pollutions

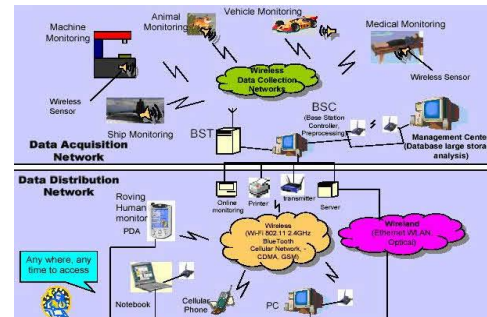
WSNs have been deployed in several cities for monitoring the concentration of dangerous gasses. So its helps to aware the peoples and protect from non living gasses. And this type of sensor networks is to detect the forest area when a fire has started. And it will measure the temperature, humidity and gasses which are produced by fire in the trees or vegetation. And this technology the fire brigade will be able to know when a fire is started and how it is spreading.

## Monitoring the data

In monitoring the data is used by a WSNs. There is high density of server racks in a data center. And this technology is helps to overcome that problem more and more racks

are fitted out with wireless temperature sensors to monitor the intake and outtake temperature of racks. Wireless sensor networks also are used to collection of data for monitoring of environmental information.

## Process of WSNs



## Advantages

- Wireless networks are scalable.
- Helps to monitoring all health care units.
- WSNs are used in those harsh and hostile environments.
- On the other hand, wireless sensor nodes can easily be deployed without any hustle.
- It will contain the all positioning of environments.

## Disadvantages

- This technology is not possible to connect in wired network.
- Limited computations and communication resources.
- Limited battery power and storage.
- Non capable of security alerts.
- It will cover the particular range of location.

## Conclusion

We finally conclude that the Wireless sensor networks are the solution for interacting with the virtual environment and used widely in many applications. A wireless sensor network is used to monitoring and gathering the information of environment positions. It can be defined as a network of devices that can be communicating the information gathered from a monitored field through wireless links. And the WSNs are a wireless network that consists of base stations and numbers of nodes. These networks are used to monitor the physical conditions like sound, pressure, temperature. This technology must be made available for the affordable cost and the sensor nodes must be made simpler and easier to use.

## References

- [https://en.wikipedia.org/wiki/Wireless\\_sensor\\_network](https://en.wikipedia.org/wiki/Wireless_sensor_network)
- <https://www.elprocus.com/introduction-to-wireless-sensor-networks-types-and-applications/>
- <https://www.quora.com/What-are-the-advantages-of-wireless-sensor-network-What-are-the-disadvantages>
- [https://www.google.com/search?q=wireless+sensor+networks&source=lnms&tbm=isch&sa=X&ved=0ahUKEwjCvuqP9fbgAhVXU30KHey5CikQ\\_AUIDygC&biw=1032&bih=599#imgrc=Hb0WNPcOgwx-iM:](https://www.google.com/search?q=wireless+sensor+networks&source=lnms&tbm=isch&sa=X&ved=0ahUKEwjCvuqP9fbgAhVXU30KHey5CikQ_AUIDygC&biw=1032&bih=599#imgrc=Hb0WNPcOgwx-iM:)