Intro

1. Name
2. Occupation
3. Listeners can expect discussions on different technologies which will help listeners to understand

--- what technology is,

--- how it can be used,

--- how it can help in a certain way

1. What is IoT? is it really another internet or just protocol something else?

Iot in simple words stands for Internet of Things.

This technology is a network of interconnected devices which have some hardware or software components embedded which allow them to collect, encode and exchange data in real-time.

Those components could be any type of sensors as in temperature, humidity, PIR or any type of necessary networking components which enables the devices to record data and send it across its network of interconnected device.

So IoT can also be called as internet of virtually connected things to collect and exchange data in real-time.

2. How does it communicate? little intro about the layers of communication

Its communication architecture is same as other devices communicates i.e. Open Systems Interconnection model (OSI model) that means its network has

1. Layer 1 - Physical.
2. Layer 2 - Data Link.
3. Layer 3 - Network.
4. Layer 4 - Transport.
5. Layer 5 - Session.
6. Layer 6 - Presentation.
7. Layer 7 - Application.

For example, your phone is a device that has multiple sensors (camera, accelerometer, GPS, etc), but your phone is not *just*a sensor.

However, whether it’s a standalone sensor or a full device, in this first step data is being collected from the environment by *something*

Then that data is sent to the cloud  (*what’s the cloud?*), but it needs a way to get there!

The sensors/devices can be connected to the cloud through a variety of methods including: cellular, satellite, WiFi, Bluetooth, low-power wide-area networks (LPWAN), or connecting directly to the internet via ethernet.

Once the data gets to the cloud, software performs some kind of processing on it.

This could be very simple, such as checking that the temperature reading is within an acceptable range. Or it could also be very complex, such as using computer vision on video to identify objects (such as intruders in your house).

3. what are benefits of using IoT?

1. Automation and Control - Due to physical objects getting connected and controlled digitally and centrally with wireless infrastructure, there is a large amount of automation and control in the workings. Without human intervention, the machines are able to communicate with each other leading to faster and timely output.
2. Monitoring-The second most obvious advantage of IoT is monitoring. Knowing the exact quantity of supplies or the air quality in your home, can further provide more information that could not have previously been collected easily. For instance, knowing that you are low on milk or printer ink could save you another trip to the store in the near future. Furthermore, monitoring the expiration of products can and will improve safety.
3. **T**he biggest advantage of IoT is saving money. - Optimum utilization of energy and resources can be achieved by adopting this technology and keeping the devices under surveillance. We can be alerted in case of possible bottlenecks, breakdowns, and damages to the system. Hence, we can save money by using this technology.
4. The IoT allows you to automate and control the tasks that are done on a daily basis, avoiding human intervention. Machine-to-machine communication helps to maintain transparency in the processes. It also leads to uniformity in the tasks. It can also maintain the quality of service. We can also take necessary action in case of emergencies.

4. why not every use case apply IoT why only small devices?

If the price of the tagging and monitoring equipment is less than the amount of money saved, then the Internet of Things will be very widely adopted. IoT fundamentally proves to be very helpful to people in their daily routines by making the appliances communicate to each other in an effective manner thereby saving and conserving energy and cost. Allowing the data to be communicated and shared between devices and then translating it into our required way, it makes our systems efficient.

All the applications of this technology culminate in increased comfort, convenience, and better management, thereby improving the quality of life.

CLOUD

1. what is cloud?

Cloud is a technology which allows us to virtually access the computing services such as servers, databases, storage, networking on demand through the internet. As mentioned on demand it means it increases and decreases the amount of resources required for services on demand of the consumer.

2. what is role of cloud in IoT?

IoT devices generate intense amount of data, putting immense pressure on the internet infrastructure. This is where the role of Cloud Computing comes into play. Cloud Computing assists in storing, processing, and transferring data in the cloud instead of connected devices.

The cloud offers businesses more flexibility overall versus hosting on a local server. And, if you need extra bandwidth, a cloud-based service can meet that demand instantly, rather than undergoing a complex (and expensive) update to your IT infrastructure. This improved freedom and flexibility can make a significant difference to the overall efficiency of your organization.

Also Cloud computing allows user to pay only for the services they used with the help of

– Pay-as-you-go (PAYG) feature.

Pay-as-you-go Cloud Computing is a payment method, which allows users to be charged only for the services they used or data they store.

3. Is cloud really needed for IoT?

1. The IoT and Cloud Computing have become two most closely associated future internet technologies, which has accelerated the development and deployment of scalable IoT applications and business models.
2. When a business uses thousands of sensors for data collection, from machines and devices, which is later analysed in real-time with the help of analytics tools to identify faults to prevent any future failures. Cloud Computing helps by storing all this data from those hundreds of sensors and applies the required rule engines and algorithms to provide estimated results of those data points.

Cloud computing has entered the mainstream of information technology, providing scalability in delivery of enterprise applications and Software as a Service (SaaS).

1. Disaster Recovery: One of the factors that contributes to the success of a business is control. Unfortunately, in today's market, even a small amount of unproductive downtime can have a resoundingly negative effect. Downtime in your services leads to lost productivity, revenue, and brand reputation.

But while there may be no way for you to prevent or even anticipate the disasters that could potentially harm your organization, there is something you can do to help speed your recovery. Cloud-based services provide quick data recovery for all kinds of emergency scenarios, from natural disasters to power outages.

Conclusion

It can be said that the cloud is ‘the brain’ for much of the IoT, as most collected data is after all processed and analysed in the cloud.