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Course – IOT using MS Azure

* **What is IOT(Internet of things)**?

**Defining Internet:** The global system that connects all the computer networks around the world so that they can interact with one another.

By **things** we are referring to the devices that are capable of communicating data electronically over an internet connection.

We can think of IOT as a system that uses the infrastructure of the internet to establish a connection to and between our electronic devices.

* **Insights into some of Azure IOT projects:**

1. Microsoft connected vehicle platform – Automotive is at a transformational moment:
2. Connected vehicles
3. Shared vehicles
4. Autonomous vehicles
5. Electric vehicles
6. Smart Buildings - What smart buildings can do:
7. Monitor entire building, everything from elevator to heating and cooling, room usage and some important machineries.
8. Can see what areas of the building are drawing most energy throughout the day and suggest ways to remedy inefficiencies, reducing utility costs.
9. Can see what areas of the building are most often used and can plan and optimize space utilization and maintenance based on work schedules.
10. Can also work with the building occupants, providing personal comfort regardless of the location, custom work space and collaboration environments, guidance to next meetings, etc…
11. Connected water filler stations – Scenario and problem solved:
12. Scenario – We know filling our bottles with water is a better option than buying water bottles every time. Thus, we often fill our bottles when we are travelling or are outside home. But we never know the quality of the water.
13. Advantages of using a smart water filler – Monitors and displays water quality and quantity at all times. Energy saving mode can be implemented. Remote monitoring and control is possible. Predictive maintenance possible. Also moving from scheduled based to condition based maintenance.(Hardware implementation was discussed in brief)
14. Connected waste management – Scenario and problem solved:
15. Scenario - Garbage trucks come by every once a week and clear the trash. Here the garbage agency is following a system. Regardless of the varying amount of trash i.e, some weeks, the trash cans are completely filled, overflowing or sometimes not filled. Regardless of the above mentioned variabilities the arrival of the garbage truck is fixed to once a week.
16. Advantages of connected waste management – Actions to regulate, coordinate the service amongst the trucks. Can decide where to send the trucks. Cans will be installed with sensors so as to notify the agency when full. Real time visibility. Coordinated services. New service opportunities. Thus, cleaner cities.