Leaving in the Present and Future with IOT (Internet of Things)

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Abstract

Technology in today's world offers us the extraordinary of everyday life. An electronic device user can turn off the light from one place or another while sitting another part of the globe using a simple device like the smart phone, a personal Computer or a tablet PC. Cars that are driverless are just around the corner, leaving in the world today means we are leaving in not just the present but the future, something few years ago will have been impossible. The new revolution is here with us and we are living with it, and that is the magic of IOT (internet of things) the present and the future is made possible with IOT.

Keywords: Making the impossible; possible with IOT;   Leaving the dream with IOT.

1. Several definition of IoT

Many technologist and internet experts have given different definitions to the IOT. (Internet of things) since its inception, some experts and technologist define IOT, the internet of things as where systems are connected to the internet. Others also say, IOT offers intelligent smart devices that bring the risk and the threats that we always see in the industrial and digital control systems based brings into the lives of real people.I will define IOT, as the technological discovery that made the impossible possible, using simple technological devices to control the present and the future while being in different parts of the globe.

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2. Some of things iot offers

Take for example a fridges, our fridges can remind of what of what to put or pick at the store.

Figure 1

Example is and an ultrasonic sensor in a compartment of milk vessel or bottle will helps detect the presence of milk and its level in the fridge. If the milk level in the fridge is low then 'milk finished' message will be generated and send to the user through Wi-Fi module on Android app with auto order link [3].

3. IoT use for medical professionals

Medical doctors can check on patient's status from the other side of the world, cities can monitor very thing from trash disposal and trash cans to the traffic light to anything while sitting in another part of the globe thanks to IOT (internet of things)
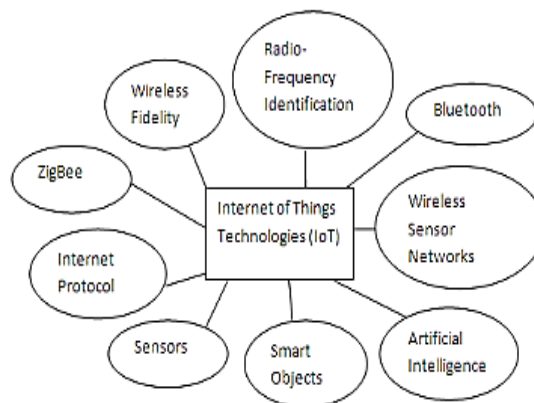

Figure 2: IoT based Technologies

One of the most reliable IoT application is RFID, it plays a vital role in IoT applications Radio-frequency identification (RFID): It identifies the objects and the people in real world environment attaching a tag with real world object which consist of a small chip. RFID reader is normally used to communicate with tag through some of the incoming and outgoing query signals which can be sent to a database. The database can be connected to the processing center to identify the objects with the help of these signals [2].

Decision makers can as well monitor the trains and its schedules this is just some few benefits of IOT, the IOT offers us uncountable benefits.

According to research the Sweden's railway COtenance expenditure rose from just about 200 million Euros to almost 600 million Euros within a 10 year period.

The Railway bridges are subjected very intense vibration and great dynamic stress. _x000D__x000D_Internet of Things (IoT) and sensor technology can help to monitor railway bridges, providing a more detailed and timely picture of the actual health of bridge infrastructure.

Accurate monitoring on structural behaviors and a more environmental ambient conditions, functional ability of bridge bearing and expansion joints and other structural members can assist COtenance assessments and improve COtenance procedures and planning._x000D__x000D the project brought together leaders in IoT and wireless technologies and experts in the bridge monitoring.

 Together the combined team was able to develop a complete wireless sensor solution for bridge monitoring which can be used by national road/transport authorities or other end users._x000D__x000D_The advantages of such a solution include, but are not limited to: _x000D_• Reducing the number of field visits bridge engineers have to do _x000D_• Helping COtenance personnel focus their resources on critical situations _x000D_• Providing new insights to improving on the safety and thereby avoiding emergency COtenance situations in the long term. _x000D__x000D_The solutions we are developing are targeting bridge monitoring in general, but the specific use cases of the project will be Railway Bridge monitoring [1].

4. What internet of things (IOT) brings

With IOT it allows or offers you the opportunity to know in advance the bridges cars and so on that is out there are found.

Take for example ordering goods from ebay,taobao or alibaba.com and making phones and internet calls to overseas locations that in a way will be an enormous behavior for a life that shouldn`t be permitted that is why is it said that, with IOT the world of today, tomorrow and the future is here.

5. The amazing magic of IoT.

The fact that computing devices can execute codes that can now or in the near future, that is when it becomes fully functional by the bionic eye,
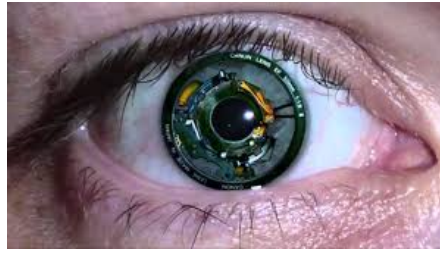
Figure 3

According to research the ***bionic eye*** is a retinal implant, placed at the back of the ***eye*** to restore a sense of vision for people with profound vision loss due to degenerative conditions of the retina [5]. An external camera captures the visual scene and sends data to the implant. Could see a QR code and then flip it into an executable file and that person happens to get a RansomeWare attack, can the person get the right eyesight back? That will be a big embarrassment, disgrace or a shame. Putting out a device out there, means you no longer have the ability to secure it and it lasts for a very long time, which will be a very dangerous thing.

6. Leaving a digital life

A digital life should become a natural life extension to the physical world. Digital life helps us to keep up with friends on social media, controlling our homes from our digital devices like smart phones and iPad and PC`s.Even if you leave your front door to your home unlocked eyes will be pretty low and people are going to be stopping by to check if you`re in or not. But in a cyber-world countless people are checking each and every door at all times [4]. From the button net for example checks this doors and in case they find them easy to open, they are able to infect the webcam and other video devices or recorders. And when hundreds and thousands of devices are compromised because most at time this is due to default passwords. Not to even mention about weak passwords or default username and passwords. Many Home smart locks consist of three most important components: which is an electronically-augmented deadbolt installed onto an exterior part of the door a mobile device that can be used to electronically control the lock, and a remote web server. The Users can use their mobile devices to control the lock by installing the lock's mobile app, and creating an account on the manufacturer's servers, and then pairing their mobile device with the lock using a local wireless channel, such as Bluetooth Low Energy (BLE).

7. Fast moving danger

Due to the fast moving nature of IoT many experts and researchers are not thinking of some of the security breaches of IoT devices, they busy them building only new IoT products. Experts in this fields should be thinking of building security differently. According to research And to also thinking of adding more security features in to the IoT devices as supposed to stopping it, in the end there is your data to consider many researchers have revealed that, there are 5 most difficult IoT security breaches most of them are actual incidents, while rest are IoT hacking demonstrations) that were able to threaten the integrity of the entire IoT system.

They are: STUXNET, MIRAI BOTNET and BOTNET HACKABLE SNIPER RIFLES,

8. Model data

Let's say going to a model where the data is been collected as a garbage can, and every traffic light, I think the world will view the ability to go out in the open road like in 1966 will be horrified.

9. Conclusion

Many of today`s life saving devices are connected and because of this, the devices are at risk of being hacked which make some of the works being in the device more important. The national cyber security center and some governments are working side by side in developing some of the practical solutions to some industry most pressing challenges. Most medical infusion pumps are lifesaving equipment's connected to the internet, this is why NIST and its partners are working 24/7 around the clock to improve the security so those IoT devices, one most important recommendation being recommended is to add a digital certificate to the pump, this will help limit the communication to only specific devices and servers. NIST(National institute of standards and technology , publishes IT security guidelines based on the above mentioned research to enable anyone in the industry to pick them up and follow the guide as an example for a proving method for addressing this rick. When NIST can solve the problem alone by collaborating, then the world of IoT can work towards a secure IoT future, where, what is so extraordinary today can truly and possibly become the everyday?

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