

The Revolutionary Technology Power of the Internet of Things

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Introduction

Internet of Things is widely developing in the society with enhancing the communication and world networking effectively. It can be defined as connect to the internet, the sensors and embedded systems for the devices and objects are linking with wired and wireless networks. The term internet of things has not a very long history. It was coined by Kevin Ashton in 90s.

The three categories are existing in IoT as Things Oriented vision, Internet Oriented vision and Semantic oriented vision. Here the first vision support to track anything using sensors, actuators, wireless sensors, network and pervasive technologies using RFID. These objects are uniquely identified by specification of Electronic Product Code (EPC). Internet oriented vision is considering about the Internet Protocol(IP) to connect devices to the world internet. The Semantic Oriented vision is representing the huge amount of data that collecting by sensors and devices to manage, process and churn in to meaningful and understandable.

Technology of iot

the IoT systems are configured in various methods and technologies. Some systems are directly connected to the internet and some are connected to the internet by alternatively. In IoT devices consist of sensors and embedded systems with connecting to the internet. Arduino, Rasberi-PI, Micro-bit are mostly used for designing IoT devices and make smartness of the systems. Like Smart cities, Smart business, Smart home, Smart classroom concepts were come up with this technology and many people tend to do researches about the Internet of Things and Its technology.

IoT Device Security

The security if IoT devices are most popular because the business, people, society and any other uses are needed security and privacy is very highly. Here many devices are connected to the internet and most devices are collecting

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sensitive data through sensors and other embedded systems. Therefore, IoT security is most important and highly recommended to the implement security method for these systems. In the security process, developers are needed to design thread modeling, identify which threads may be mitigated and how the mitigation process should be done. Secure communication protocols must be implemented, tested, analyzed and updated which SSL/TLS and Diffie-Hellman key exchange protocols can be used. And algorithms such as public/private key cryptography algorithms, Kerberos, secure hashing algorithms can be reused for improving the security of the connectivity and systems. This security mechanism should be very high performance and it should prevent the system by many attacks.

Results and Discussion

Nowadays researchers and developers are deeply engaging with the Internet of Things systems. These are behaving as fully or semi-automated systems. There are large number of projects and ideas are implementing to achieve the IoT concept.

For Business Enterprises

The business perspectives are always tending to change and improve their business environment. In modern world, many businesses are adopting to IoT technologies to enhance their facilities, securities, efficiency, accuracy, etc. Specially, business field use IoT devices to reduce employees, reduce workload, and create smartness and interacted environment. Figure 1 is describing the how IoT technology enhance and archive the business purposes and perspectives.

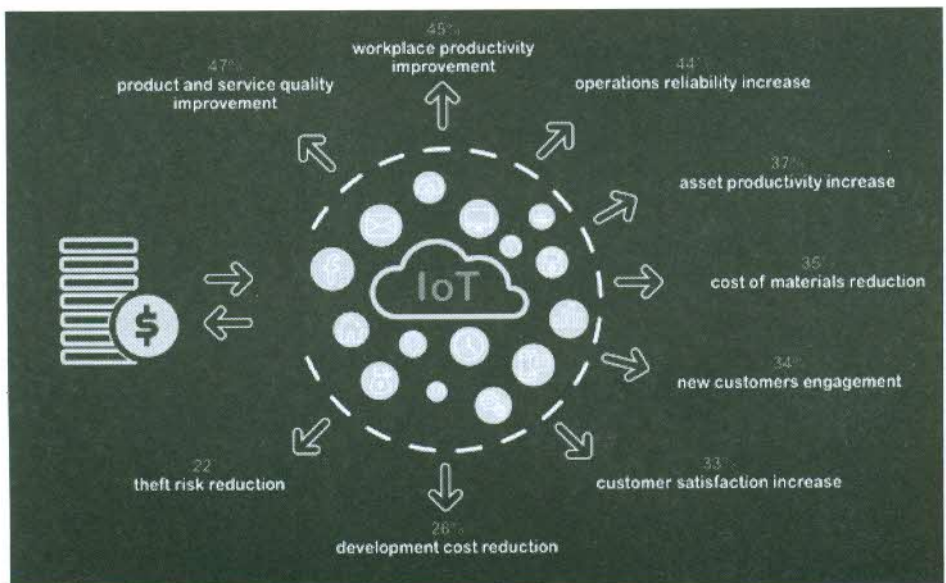


Figure 1: IoT enhance the business purposes and Perspectives

For Academic

The modern world education system existing as student centered and learner centered education. For that, IoT Technology is most motivated thing for the self-studies and distance learning. Smart class room, online education and learning management systems are come up with the IoT technologies for helping to future enhancements.

For Research and Experiments

The researches, academic students are used this techniques and systems to their experiments in many field. Some are use these devices to excavation, surveying, data collecting, analyzing and so on. The most of embedded systems are innovated for the special purposes for the scientists and researchers.

Conclusion

This paper shows about how the Internet of Things' revolution and this technology is enhanced for the modern and massive ideas. The modern society is an era of the internet and digitization. The world people always using this IoT systems to improve their efficiency, accuracy, save time, reduce people workload, save money, get profits, entertaining, mind motivations so on.

Although this technology has large number of positive impacts, negative impacts also build with these systems. The followings are some positive impacts for the usage of IoT.

Economic Growth

Every country is always planning to build the economy. The IoT is mostly used some countries for the Economy development. Smart cities, Smart business, Smart education are used for the enhance the economy development. Therefore, the Interconnection of technology may be industrial revolution.

Quality of life and accuracy

The IoT creates the smart life with enhancing the smart working instead of hard working. Therefore, people can live with motivational and relaxing mind and the people lives are always going on very enthusiastic.

Negative impacts in IoT.

Complexity

Some people, countries are being with low level of computer literacy. In this situation, The IoT technology implementation faces the unexpected problem with handling the systems with that users. And also that developed systems may be the not supporting for them.

Privacy/ Security

The data transferring is very dangerous in the unsecured ways because the devices are connected to the internet. The sensitive data may be transferring with these devices; the hackers or unauthorized people tend to theft those data for the unethical things.

Now, the people needs to use IoT for the development of their lives and economy. The hospitality and health, Astrology and rocket sciences, archeological and excavation, business industry and many fields may be developed rapidly using the IoT. In future the IoT is enhancing the human life cycle with growing the world smartness.

Keywords: Technology, Internet, Revolution

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